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Abstracts

18th European Congress of Trauma and Emergency Surgery

May 7–9, 2017
Bucharest, Romania

Congress President
Prof. Dr. Mircea Beuran
Bucharest, Romania

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Romanian Society for Trauma and Emergency Surgery

Contents

Dear colleagues, dear friends,

It is a great honour to welcome you to the 18th European Congress of Trauma and Emergency Surgery, due to take place from April 7–9, 2017 in Bucharest, Romania.

The 18th European Congress of Trauma and Emergency Surgery is organised by the European Society of Trauma and Emergency Surgery (ESTES) in close cooperation with the Romanian Society of Trauma and Emergency Surgery and the Romanian Society of Surgery.

The leading theme of this congress is:

"Give and take – share your experience"

Colleagues of all the national ESTES member societies in Europe and also from the other continents will share their knowledge about prevention and caring for trauma and emergency care patients during these three days.

The meeting will cover a wide variety of topics such as Damage Control Principles, Acute Care Surgery, Peritonitis, Management of Colonic Obstruction, Vascular Injuries, Acute Management of Pancreatic Injury and Disease, Polytrauma, Trauma Systems, Collective Burn Injuries, Multiple Fractures, Pelvic Injury and many others. Instructional lecture courses, keynote sessions, case presentations and poster sessions will present the state of the art in emergency and trauma surgery.

Also, the EBSQ trauma surgery examination as well as the emergency surgery examination exam will be held in association with the meeting.

Furthermore, several pre-congress courses will be organised such as the European Mass Casualty Incident Course (ECMI), the Modular Ultra Sound Estes Course (MUSEC) and the Polytrauma course.

During the sessions there will be time for discussion to share knowledge. The networking events will provide opportunities for renewing contacts and exchanging experiences between colleagues from all over the world. I am very grateful that so many experienced and young colleagues in Romania supported the organisation of this powerful event by investing a lot of time and effort.

Today Bucharest is a cosmopolitan city with a mosaic of the old and new, traditional and modern, Eastern and Western that all contribute to its originality and charm. There are contrasts and paradoxes; grandeur and simplicity, remnants of other times and other values.

I am honoured and proud to welcome you to Bucharest!

Prof. Dr. Mircea Beuran
Congress president

Oral Presentations

ABDOMINAL EMERGENCIES

O001

THE USE OF ROTEM IN PREDICTING THE SEVERITY OF SEPSIS IN PATIENTS UNDERGOING EMERGENCY LAPAROTOMY

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Introduction: ROTEM (rotational thromboelastometry) is routinely used for managing coagulopathic patients, mainly in trauma. The aim of this study was to determine the role of ROTEM in predicting clinical outcome in emergency laparotomies.
Material and methods: Prospectively collected data was analysed retrospectively in patients undergoing emergency laparotomy with intra-operative ROTEM in 2014. Statistical analysis was completed using unpaired t-test.
Results: ROTEM results, 30-day mortality and data regarding pre-operative physiological state of 59 patients was analysed, the median age was 65 (range 20-89). The patients were divided into 3 groups based on degree of sepsis (non-septic, SIRS and septic shock). ROTEM data regarding Clotting time (CT), clot formation time (CFT) and maximum clot firmness (MCF) was collected and correlated with each patient group. Mean CT, CFT and MCF for the septic shock group was 215.1 seconds, 131.8 seconds and 33.4 mm respectively, whereas the CT, CFT and MCF on the non-septic shock group was 112.7 seconds (P value=0.0738), 94 seconds P value=0.1175) and 50.3 mm (P value <0.05) respectively. These results demonstrate the hypocoagulable state of patient's in septic shock. Comparison of MCF between the different groups was found to be statistically significant.
Conclusion: A hypocoagulable state may be reflective of severe sepsis in the general surgical patient. MCF was the single strongest predictor for development of severe sepsis in patient's undergoing emergency laparotomy.
References:
Disclosure: No significant relationships.

O002

DAMAGE CONTROL SURGERY FOR NON-TRAUMATIC ABDOMINAL EMERGENCIES

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Introduction: Damage control surgery (DCS) was a major paradigm change in the management of critically ill trauma patients and has gradually expanded in the general surgery arena but data in this setting is still scarce. The study aim was to evaluate outcomes of damage control surgery (DCS) in with general surgery emergencies.
Material and methods: Between 2005 and 2015, 164 patients (104 men, age 66) underwent DCS for non-traumatic abdominal emergencies. The decision to perform DCS was triggered by the presence of at least one trauma DCS criterion: hypotension (<70 mmHg), hypothermia (< 35°C), acidosis (pH < 7.25), coagulopathy (INR ≥1.7) and massive (>5 RBC) transfusion. Statistical tests were performed to identify risk factors for operative mortality. Observed outcomes were compared to those predicted by commonly employed scores (APACHE II, POSSUM, P-POSSUM, SAPS II).
Results: DCS was performed for acute mesenteric ischemia (n=68), peritonitis (44), pancreatitis (n=28), bleeding (n=14) and other (n=10). Abdominal compartment syndrome was associated in 52 patients (32%). Seventy-four (45%) patients died and 150 patients (91%) experienced complications. On multivariate analysis, age (p =0.018) and INR≥1.7 (p =0.001) were independent predictors of mortality. Mortality was 24% (13/55), 48% (22/46) and 62% (39/63) in patients with one, two and ≥3 DCS criteria, respectively. Comparison of observed and score-predicted mortality suggested DCS use resulted in significant survival benefit of the whole cohort and of patients with pancreatitis and postoperative peritonitis.
Conclusion: DCS is useful in critically ill patients with general surgery emergencies especially in the setting of postoperative peritonitis and acute pancreatitis.
References:
Disclosure: No significant relationships.

O003

SEPSIS AS A DETERMINANT VARIABLE IN ESTABLISHING THE OPTIMUM TIMING FOR REINTERVENTION AFTER ABDOMINAL SURGERY

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Introduction: Sepsis has always been a challenge regarding its diagnosis and management. Multiple biomarkers are used for diagnosing and setting a prognostic. Also the mortality of patients with digestive anastomosis who develop a leak is mainly due to severe sepsis. Even though it is known that fast intervention can save the patient life there are cases that can be treated conservatively. The aim of our study is to check if sepsis could set a clear indication of surgical management in postoperative peritonitis.
Material and methods: We retrospectively analyzed consecutive patients during a year with leaks from digestive anastomosis who needed reintervention. There were studied demographic variables, the type of operation and anastomosis, the time to leak and to sepsis diagnosis and the prognosis of patient operated before, short after and long after the diagnosis of sepsis.
Results: There were patients receiving a colorectal resection, enteral resection, biliopancreatic resection and gastric resection. Overall leak rate was less than 10% (from 0.4 to 30%) differing to the type of anastomosis. Most of the leaks were after low coloanal anastomosis, eso-jejunal anastomosis and pancreatico-jejunal anastomosis. Also most of the patients developed sepsis after esojejunal anastomosis, pancreatico-jejunal anastomosis. Even though rare, ileo-colic anastomosis led to sespsis more often than colo-rectal anastomosis. Pacients who received surgical treatment before sepsis or severe

sepsis had lower mortality rates than those with a late surgical treatment.
Conclusion: Early surgical treatment in patients with sepsis or before developing sepsis after a leaked digestive anastomosis is a good choice in the postoperative management of these patients.
References: Sartelli et al. "Current concept of abdominal sepsis: WSES position paper" World Journal of Emergency Surgery 2014, 9:22 Castellanos-Ortega A et.al: Impact of the surviving sepsis campaign protocols on hospital length of stay and mortality in septic shock patients: results of a three-year follow-up quasi-experimental study.
Crit Care Med 2010, 38:1036–1043. Solomkin JS et. al: Diagnosis and management of complicated intra-abdominal infection in adults and children: guidelines by the Surgical Infection Society and the Infectious Diseases Society of America. Clin Infect Dis 2010, 50(2):133–164.
Disclosure: No significant relationships.

O004

THE EFFECT OF ABDOMINAL NEGATIVE PRESSURE WOUND THERAPY ON THE MEASUREMENT OF INTRA-ABDOMINAL PRESSURE

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Introduction: In critically ill surgical patients with abdominal negative pressure wound therapy (NPWT), it remains uncertain whether or not intra-abdominal pressure (IPA) should be measured when NPWT is activated. We aimed to determine agreement between IAP measured with and without NPWT.
Material and methods: In this analytic cross-sectional study, critically ill surgical adult (>17 years) patients requiring abdominal NPWT for temporary abdominal closure after damage control laparotomy, were selected. Patients with urinary tract injuries or with pelvic packing were excluded. Paired IAP measures were performed in the same patient, with and without NPWT; two different operators performed the measures unaware of the other result. Bland-Altman method assessed the agreement between the two measures. Subgroup analyses were performed in trauma patients.
Results: There were 198 IAP measures (99 pairs) in 38 patients. Mean IAP with and without NPWT were 8.333 (standard deviation [SD], 4.012) and 8.656 (SD, 4.048), respectively. Mean IAP difference was -0.323 (95% confidence interval [CI] -0.748 to 0.101) and reference range for difference was -4.579 to 3.932 (p =0.864). From 112 IAP measures (56 pairs) in 21 trauma patients, mean IAP difference was -0.268 (95%CI -0.867 to 0.331) and reference range for difference was -4.740 to 4.204 (p =0.427).
Conclusion: There were not significantly differences in IAP measures. IAP could be measure accurately with or without NPWT. In critically ill surgical patients with abdominal NPWT for temporary abdominal closure, monitoring and management of IAP either with or without NPWT is recommended to avoid intra-abdominal hypertension and abdominal compartmental syndrome.
References: .
Disclosure: No significant relationships.

O005

LEFT-SIDED COMPLICATED VERSUS UNCOMPLICATED COLON CANCER

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Introduction: The 2015 WHO report showed an increasing of colorectal cancer incidence worldwide. Objective: To compare the short-term perioperative morbidity and long-term oncological outcomes after resection for complicated with uncomplicated left-sided colon cancer.
Material and methods: Retrospective study of patients with complicated left-sided colon cancer managed between January 2011 – January 2016 in a tertiary emergency center.
Results: During the study period there were 620 patients with left sided colon cancer, out of who 275 (44.7%) presented complicated disease. The complication was represented by obstruction in 74.5%, hemorrhage in 20% and perforation in 5.5% of cases. There was no differences between the groups regarding patients' age (66.07 versus 67.53, p =0.102) or sex distribution (male 58.2% versus 55.9%, p =0.623). The in-hospital stay was four days longer for complicated cases. In emergency cases were performed more frequent Hartman's type resections and total colectomies (P<0.001). There was a higher rate of postoperative complications (32.4% versus 20.3%, P<0.001) and postoperative mortality (3.6% versus 1.8%, P<0.001) in the emergency group. There were no differences regarding anastomotic leakage between the groups (8% versus 6.5%, p =0.46). After excluding 15 patients with R2 resection, there were no diferences regarding overall survival (p Log Rank=0.537).
Conclusion: Despite an increase in 30-day morbidity, the long–term survival of patients with complicated colon cancer is similar to that of stage-matched elective patients.
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Disclosure: No significant relationships.

O006

A RETROSPECTIVE STUDY OF CLINICAL OUTCOME AFTER THE OPEN ABDOMEN MANAGEMENT IN OUR SINGLE CENTER

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Introduction: Open abdomen management (OAM) with temporary abdominal closure (TAC) is increasingly used for both trauma and non-trauma patients. Although many techniques for TAC have been described, the strategy for the safety abdominal closure is not established. In our facility, for the early and safe abdominal closure, the anterior rectus abdominis sheath turnover flap method has been performed for OAM patients who failed typical primary closure. Our aim is to determine clinical outcome after the open abdomen management.
Material and methods: We retrospectively reviewed records of OAM patients from April 2006 to October 2016 in our single center.
Results: Total of 98 patients were underwent OAM. Seventy eight patients succeeded abdominal closure. Fifty nine patients (75.6%) underwent typical abdominal closure, but nineteen patients (24.4%) required additional TAC techniques. Fifteen patients (19.2%) required the anterior rectus abdominis sheath turnover flap method, 4 patients (5.1%) became the ventral hernia without the anterior rectus abdominis sheath turnover flap method. Comparison between the anterior rectus abdominis sheath turnover flap method and typical abdominal closure, the mortality rate within 30 days was almost same (20.0% vs 21.1%), the duration of OAM was 3 days (2-57) vs 7 days (3-19). After the anterior rectus abdominis sheath turnover flap method, complications such as abdominal compartment syndrome (ACS) and wound dehiscence were not seen.
Conclusion: The anterior rectus abdominis sheath turnover flap method achieved high rate of abdominal closure without major complication such as ACS, wound dehiscence. There was no significant difference in mortality rate between with and without the anterior rectus abdominis sheath turnover flap method.
References:
Disclosure: No significant relationships.

TRAUMA EDUCATION AND SIMULATION

O007

IMPACT OF THE IMPLEMENTATION OF THE COURSE TEAM (TRAUMA EVALUATION AND MANAGEMENT) IN THE FINAL YEAR STUDENTS OF DEGREE OF MEDICINE

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Introduction: The "TEAM" program is an special program which aim is to start training in the management of trauma patient directed to medical students at sixth year. Our aim is assess the impact of the "TEAM" program on medical students in relation to the acquisition of skills and cognitive skills in trauma patient care.
Material and methods: Analytical, longitudinal and prospective study at the University Hospital Virgen del Rocio in sixth-of medicine students at the University of Seville during the year 2015/2016. We included an experimental group consisting of 20 students enrolled in the course TEAM and a control group consisting of 20 students who decided to join the study and had not received the course. One precourse examination, two surveys and post-course examination was performed. Both groups were compared using the Wilcoxon test and Bonferroni means
Results: In the experimental group the average of the note in the precourse examination was 6.20 ± 1.01 points, with 20% of students who had completed a course related. In the control group the examination precourse mean was 6.50 ± 1.19 points with 10% of students who had completed a course related. There were no differences in note precourse examination ($p = 0.698$), appreciating a significant difference between the notes of post-course exam of both groups: 6.93 ± 0.86 vs. 5.56 ± 1.46 ($p = 0.001$).
Conclusion: The TEAM course enhances knowledge about managing trauma patient in sixth-of medicine students. Students felt that the course had improved their knowledge in trauma patient care and supported its implementation in the degree program.
References: Classical education of orthopedic surgeons No significant relationships.

O008

MOTIVATION AND ACCEPTANCE OF PEER EXAMINATION IN A CLINICAL SKILLS COURSE FOR MEDICAL STUDENTS

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Introduction: Peer examination courses are an essential but problematic part of medical students' education [1]. The aim of this study was to evaluate medical students' motivation and acceptance for being peer examined to further improve clinical skills courses.
Material and methods: A questionnaire comprising 61 items was given to medical students. Students were asked for anthropometric data, religiousness and motivation. Furthermore, willingness to being physically examined by a peer student or a professional medical tutor at eleven different body regions was queried. Descriptive statistics and Mann-Whitney-U-test was calculated.
Results: Of the 142 students (mean BMI 21.9), 114 were Christians, 9 Muslims, 6 otherwise religious and 11 not religious. The importance of the examination course was rated 8.6 out of 10 points, students' motivation was 7.8 points. Willingness to be physically examined was highest for the examination of the hand by same-sex peer students (99.3%). The least willingness was for the examination of the breast by a medical tutor of different sex (35.2%). In general, female students were significantly less willing to be physically examined at the breast (irrespective of examiner's sex) and by male examiners at the upper body, groin and hip ($p<0.001$). For future physical examination courses, 34 students would prefer same-sex groups, 9 students groups of mixed sex and 90 students self-selected groups.
Conclusion: While motivation and acceptance of the clinical skills course appears to be high, willingness to being peer physical examined is rather low. This study identified critical body regions, for which self-selected groups and simulated patients might be an option.
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Disclosure: No significant relationships.

O009

USING E-LEARNING AS A TRAINING TOOL FOR TRAUMA SURGEONS

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Introduction: Classical education of orthopedic surgeons involves lectures, self study, workshops, cadaver dissections and supervised practical training within surgery, which quite seldom gives them the feeling of being unable to practically apply.
Material and methods: The purpose of this paper is to present a modern approach which enhances the practical skills of the orthopedic trainees and prepare them for future practice- that of the research project 2015-1-RO01-KA202-015230, ERASMUS+ VET "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery" which, using e learning as a basic tool, delivers to the trainees not only courses, but especially practical information through videos and case scenarios including gait analysis in order to build patient focused therapeutic plans.
Results: The outcome of this project is to enhance the practical skills in orthopedic surgery and the results are evaluated following the answers to the questionnaires, but especially the reactions within the case scenarios. The participants will thus follow the idea that any mistake within solving the cases might represent a failure of treating a real patient. The results of this project are measurable by the results in tests represented by real cases which reflect the quality of the training.
Conclusion: This modern approach, besides using interactivity to evaluate the theoretical and practical knowledge of the trainee, increases the sense of responsibility, as well as the ability to react properly in real cases. Eliminating false positive and negative evaluations, as well as flase attention, the quality of training improves by including practical elements.
References: Erasmus + "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery", nr 2015-1-RO01-KA202-015230.
Disclosure: No significant relationships.

O010

DEFINITIVE SURGICAL TRAUMA CARE COURSE: PARTICIPANT SURVEY

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Introduction: "Standard" general surgical training is often deficient in most countries concerning the management of trauma, partly because surgical training becomes more and more organ specific and partly because in most training programs there is limited exposure to a great range of injured patients. The main objective of this study is to assess the necessity for approved courses for trauma management in the formalized curriculum of general surgical training.
Material and methods: A post-course survey was conducted, based on the trainees' experience who participated in Definitive Surgical Trauma Care (DSTC) courses in Greece. Data for this study were collected using 166 anonymous student evaluation forms of 8 DSTC courses from 2010 to 2016 and were subsequently analyzed using Microsoft Excel program and Statistical Package for Social Sciences (SPSS) software.
Results: Our results showed a statistically significant difference ($p<0.01$) in the participants' level of confidence concerning dealing with major trauma patients prior to and after the DSTC course. Course contribution to decision making has been considered of significant importance and each component of the course (lectures, animal labs and case discussions) has been rated as very beneficial and was considered to contribute to a high degree in students' ability to deal with a major trauma case. The duration of courses was characterized as "about right" and the cost as "reasonable". All participants (100%) would recommend the course to others.
Conclusion: Many situations require specialist trauma surgical expertise, yet many times this is simply not available because of local conditions. DSTC course is designed for surgeons and surgical trainees and provides them with the theoretical and practical knowledge to deal with surgery and/or intensive care for trauma patients, in a setting where such care is not commonly practiced or even necessarily available during surgical training. It is, therefore, designed to fill a gap in the training of a general surgeon. At the same time, Trauma Care is changing all the time and the DSTC course serves as an update of knowledge and information in the field of Trauma Care.
References: 1) Manual of Definitive Surgical Trauma Care, 4th edition

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6) Bulinski P, Bachulis B, Naylor DF Jr, Kam D, Carey M, Dean RE The changing face of trauma management and its impact on surgical resident training. J Trauma. 2003 Jan;54(1):161-3
Disclosure: No significant relationships.

O011

THE ART OF TEACHING ON EUROPEAN TRAUMA COURSE (ETC): AN INSIGHTS FROM ACTIVE ETC AUSTRIA INSTRUCTORS

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Introduction: Essence of ETC education is delivering more than simply content. Course design promotes trauma scenarios with predetermined learning objectives, addressing medical, communication or leadership issues frequently encountered during trauma resuscitation. ETC instructors represent core elements in providing sterling trauma education. In our study we aimed to investigate the motivation and challenges instructors meet while teaching on ETC.
Material and methods: A total of 47 (73%) of 64 active ETC instructors completed an online survey, consisted of demographic data, and 29 Likert-type statements regarding motivation and challenges instructors meet whilst teaching on ETC.
Results: There were 65% male and 35% female instructors, aged from 29 to 70 years. Greater parts of instructors were anaesthetists (43%), accompanied by trauma surgeons, emergency physicians, and general practitioners. They expressed the strongest agreement with the statement that ETC simulation based learning, when compared to traditional methods, improves management of acute trauma cases (64%) and that ETC guides them in developing non-technical skills as a team-leader and a team-member (53%). Moreover, greater scale of them (91%) is confident with the modified four-stage approach in skills teaching during ETC. Nevertheless, one third of them (28%) expressed they have impeding fear of not being proficient enough in debriefing technique, and of failing to meet the scenarios learning objectives (31%).
Conclusion: Our results suggest instructors' greatest motivation for teaching is personal fulfillment in the knowledge that their actions can contribute positively to the lives of others.
References:
Disclosure: No significant relationships.

O012

SIMULATION-BASED TRAINING FOR PATIENT SAFETY: POSTSURGICAL ANALYSIS OF FAILED ILIOSACRAL SCREW PLACEMENT BY A NOVEL FLUOROSCOPIC SURGERY SIMULATOR

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Introduction: Fluoroscopy guided iliosacral screws (ILS) for SI-dislocation and sacral fractures are a widely performed technique. Some centers have navigation systems to find the best path for ILS, but most surgeons use fluoroscopic guidance in inlet, outlet and lateral views. It is well known that even with the best inlet and outlet views misplacement of ILS may occur, specially in the anterior cortex of sacrum. The purpose of this study is to evaluate the performance of a new designed surgical simulator to avoid misplacement of ILS.
Material and methods: We selected four cases from our database with malposition, most with anterior ala-sacra penetrations of ILS. All patients needed reoperation to control pain. We analyzed CT-scan, intraoperative fluoroscopy and postop CT-scan. We fed the surgical simulator with DICOM images of the patients and reproduced the conditions faced by the surgeon. The MIS simulator extracts information from DICOM to build a workable 3D-structure, allowing real time fluoroscopy in all degrees of freedom.
Results: The reason for misplacement of ILS were the lack of optimal visualization of the anterior cortex of the ala-sacra in inlet view. The surgical simulator showed that the entry point of the guidewire was anterior to the best entry point when a simulation was done.
Conclusion: The screw misplacement is a well-known complication of fluoroscopic-guided ILS. The simulation of the technique by the use of the MISS could have prevent the misplacement of screws in the S1 pedicle. The new system could be useful to train the technique in a virtual 3D model of each fracture.
References: Miller AN, et al. Variations in sacral morphology and implications for iliosacral screw fixation.J Am Acad Orthop Surg. 2012;20(1):8-16 Grossterlinden L, et al. Factors influencing the accuracy of iliosacral screw placement in trauma patients.Int Orthop. 2011;35(9):1391-6
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Noser H, et al. A method for computing general sacroiliac screw corridors based on CT scans of the pelvis.J Digit Imaging 2011;24(4):665-71
Disclosure: No significant relationships.

O013

ENDOVASCULAR WORKSHOP AND EDUCATIONAL ACTIVITY IN JAPANESE SOCIETY OF DIAGNOSTIC AND INTERVENTIONAL RADIOLOGY IN EMERGENCY, CRITICAL CARE, AND TRAUMA (DIRECT); IMPLEMENTATION OF PROMPT AND RAPID RADIOLOGY IN TRAUMA

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Introduction: Diagnostic and interventional radiology (IR) have shown significant efficacy in recent trauma care along with surgical procedures. Early activation of trauma radiology team leads encompassing accurate diagnostic imaging and facilitating rapid deployment of IR procedures. The Japanese Society of DIRECT (Diagnostic and Interventional Radiology in Emergency, Critical care, and Trauma) was created in 2011 to promote time-conscious trauma care with an emphasis on diagnostic and interventional radiology.
Material and methods: From July 2011–June 2016, DIRECT has conducted numerous endovascular workshops; 14 simulator workshops, 6 endovascular workshops using live animals, and 4 hybrid trauma management workshops using live animals.
Results: The simulation workshop is aimed for novice learners of IR and contains resuscitative endovascular occlusion of the aorta (REBOA) deployment using a pressurized silicone model, catheter and guidewire manipulation using a 3D vessel silicone model and virtual fluoroscopic simulator, and metallic coil deployment. Live animal simulations have been conducted for intermediate-level

physicians and contains catheters and guidewires manipulation, embolization using metallic coils or N-butyl cyanoacrylate (NBCA). In the hybrid strategy model in live animal injury, participants combines both surgical and endovascular procedures, such as NBCA injection, REBOA, and selective balloon occlusion.

Conclusion: Multidisciplinary collaborative approaches to trauma care would offer vastly improved outcomes. Some Emergency Medicine (EM) physicians and acute care surgeon (ACS) began to choose IR fellowships as their subspecialty to perform trauma IR quickly. The necessity of educational workshop in trauma is widely recognized and essential for improved trauma care. DIRECT is playing a role of bridge between EM/ACS and IR via endovascular workshops.

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Disclosure: Yosuke Matsumura is a Clinical Advisory Board Member of Tokai Medical Products.

O014

TACTICAL COMBAT RESCUE (TCR) COURSE. A NEW ERA IN MILITARY TRAUMA AND EMERGENCY EDUCATION

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Introduction: Military trauma and emergency courses are becoming popular worldwide as a result of continuous conflicts in Middle East and increased risk of terrorism at international level. The TCR course concerns tactical casualty care according to CoTCCC/DoD and Evidence Based Medicine and it addresses military and law enforcement units, coastguard units reservists, land and marine security units and health care professionals. Course instructors are military, police and health care professionals specialised in battle wounds.

Material and methods: Trainees experience educative methods in which actors are used to simulate combat wounds casualty scenarios, by using bleeding moulage. It is the first training course on combat first responders in Greece, held at the NATO Hellenic Training Center within the Multinational Officers and United Nations Military Observers courses, as well as within the Hellenic Police. TCR Course includes 14 Training Modules. The assessment is performed by MCQ (Pre&Final Test) and final casualty assessment scenarios. Minimum number of participants are 12. Training Method that is used: Theory (Presentations–Manual) and Practice (Skills Stations–Drills). The Trainer-Trainee proportion is 1:2–1:4. Total duration of the Course 2-days (25–30 training hours).

Results: From 2014 until present we successfully run 20 TCR-Basic Courses with 356 trainees and 3 TCR-Advanced Courses with 43 Trainees. In total 196 Police Units,103 Military Units,24 Maritime Operators, 43 Medical Personnel and 33 Security Officers were trained.

Conclusion: A detailed Military Trauma Course is an essential training module not only for military personnel, but for every healthcare practitioner that can apply knowledge and techniques gained to a hostile environment in a battle or in any type of field.

References: Tactical Combat Rescue Manual. Meducation 2014

Disclosure: I am the Medical Director of this Educational Program/ Course. The Course is a property of Meducation Medical Courses Agency.

SKELETAL TRAUMA: UPPER LIMB

O015

OUR EXPERIENCE IN THE TREATMENT OF SCAPULOTHORACIC DISSOCIATION

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Introduction: Scapulothoracic dissociation is rare devastating trauma, that consists of displacement of the shoulder girdle from its thoracic attachments. The Zelle et el. classification emphasizes on its concomitant injuries - vascular, neurological and musculoskeletal. The high associated mortality rate is closely related to the degree of neurological impairment.

Material and methods: For a period of ten years in Military Medical Academy we have diagnosed four cases of scapulothoracic dissociation. All cases were treated according to the protocols in emergency room. In hemodynamically stable patients we used angiography or 3D CT angiography. With MRI we acquired useful information about nerve injury. Three patients were admitted after high energy motor vehicle accidents and one patient after minor trivial trauma. We used classification scheme of Damschen et al. and Zelle et al. We measured scapular index for degree of scapular lateralization using CT scan.

Results: One patient was type 1 and one patient was 2B type of Damschen and Zelle with incomplete brachial plexus avulsion. Conservative treatment was uses in this cases. Two of cases of type 3 (type 4 according to Zelle et al.) with neurological and vascular injury and association with clavicular fractures. They were with severe neurological deficit due to initial trauma and died from their associated injuries.

Conclusion: Early diagnosis and the estimation of the vascular status are the basis of the treatment of these patients. The cases with ischemia and plexus injury require amputation.

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Disclosure: No significant relationships.

O016

EPIDEMIOLOGY OF INJURIES TO THE STERNOCLAVICULAR JOINT AND THE MEDIAL CLAVICULA IN GERMANY

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Introduction: Injuries of the medial clavicle (MCL) include fractures and luxations of the sternoclavicular joint (SCJ). Trails about those rare injuries are mainly based on single center experience. However, those injuries are related to high-energy accidents and no meaningful data is available referring to the epidemiology of the patients and their treatment.
Material and methods: Routine data of all national hospitals (2012-14), were evaluated for MCL and SCJ injuries (primary and secondary diagnosis) considering age patterns, the carried out procedures and concomitant injuries if treated in hospital.
Results: 13588 MCL and 676 SCJ-Injuries were registered. SCJ-luxation occur in 0.5% out of all shoulder injuries, MCL fracture appears in 15% out of all clavicle fractures. Both injuries show the same peaks of age, younger males and males around 50. Women are more involved over 70 years. Concomitant injuries are usually those involving the upper body, such as the shoulder girdle, the head and the thorax. In the role of a secondary diagnosis most frequent concomitant injuries are traumatic brain injuries, severe chest injuries including hemo- and pneumothorax, serial rib fractures, injuries to big vessels 45% of the SCJ-Injuries were treated either by closed reduction or operative fixation. MCL-fractures are treated in 63% operatively.
Conclusion: Probably causes of injury are comparable for equal distribution of age and concomitant injuries in both groups such as those at the upper body. More detailed information about mechanisms of accidents, treatment options and outcome could be gained up in a register of those injuries.
References:
Disclosure: No significant relationships.

O017

VARUS DISPLACED PROXIMAL HUMERAL FRACTURES IN THE ELDERLY TREATED BY MOLDED LOCKING PLATE OSTEOSYNTHESIS WITH INFERIORLY DIRECTED SCREWS COMBINED WITH SUBCHONDRAL ANCHORS REDUCES SIGNIFICANTLY SECONDARY VARUS DISPLACEMENT AND SCREW-PENETRATION

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Introduction: Locking plate fixation of osteoporotic varus displaced fractures of the proximal humerus is associated with an increased risk of secondary displacement and/or screw penetration. A combination of subchondral anchors fixed to the plate and molding the locking plate to allow inferiorly directed angle-stable screws aims to avoid both complications.
Material and methods: In this single surgeon retrospective review of prospectively collected case series, all patients with a minimum age of 70 y with varus-displaced two- or three-part fractures of the proximal humerus were included consecutively during a 10 month period from okt 2015 till june 2016. All patients were surgically treated using a molded small PHL locking plate from the firm ITS with inferiorly directed variable-angle locking screws. Additionally two superolaterale subchondal anchors were fixed to the plate. Radiological outcome was analyzed by standardized true anterior–posterior and outlet-view radiographs.
Results: There were 11 varus fractures of which two A2.2 (2 female) and nine B1.3 (7 female/2 male) fracture types. Mean age 80.54 (70-95 y). The mean follow-up was 5 months (1 m – 12 m). Mean preop neck-shaft angle was 82.73° (60°-120°). Mean postop neck-shaft angle was 135.91° (130°-140°). There was one case of partial recurrence of varus-position. No secondary screw penetration, nor plate loosening.
Conclusion: The combination of superolaterale subchondral anchors and infero-medially directed locking screws with a molded locking plate in the treatment of osteoporotic varus displaced fractures of the proximal humerus seems to give superior results concerning stability of the construct and avoidance of screw penetration.
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Disclosure: No significant relationships.

O018

PLATE FIXATION OF THE PROXIMAL HUMERUS: A COMPARATIVE STUDY OF POSTOPERATIVE COMPLICATIONS IN TWO EUROPEAN COUNTRIES

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Introduction: *Objective:* The primary aim was to evaluate the number of complications following locking plate fixation of proximal humeral fractures in the Netherlands and in Switzerland. The secondary aim was to identify risk factors for complications.
Material and methods: Multicentre retrospective case series of 282 consecutive patients with proximal humeral fractures, treated with a locking plate between 2010 and 2014. Setting: two level 1 trauma centres in the Netherlands and one in Switzerland.
Data pertaining to demographics, postoperative complications and reoperations were collected. Fractures were classified according to the AO and Hertel classifications and experienced surgeons assessed the

quality of reduction and plate fixation on the postoperative x-rays. Outcomes of the two different countries were compared and logistic regression analysis was performed to analyse the relationship between risk factors and complications.
Results: During a median follow-up of 370 days, 196 complications were encountered in 127 patients (45%). The most frequent complications were: screw perforation in the glenohumeral joint (23%), persistent shoulder complaints (16%), avascular necrosis of the humeral head (10%) and secondary fracture displacement (5%). In 80 patients (28%), 132 reoperations were performed. The Dutch patients had significantly more complications compared with the Swiss patients. For implant related complications, advanced age, non – anatomic reduction of the greater tuberosity, and country of operation were risk factors.
Conclusion: *Discussion:* The use of locking plates for proximal humeral fractures was associated with a high number of complications in both countries; the Swiss patients however had better results compared with the Dutch patients.
References:
Disclosure: No significant relationships.

O019

THE AMSTERDAM WRIST RULES SAFELY REDUCES NEED FOR RADIOGRAPHY AFTER WRIST TRAUMA: AN IMPLEMENTATION STUDY

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Introduction: While most patients with wrist trauma are routinely referred for radiography, around 50% of these radiographs show no fracture. Currently, guidelines to endorse such decision-making are lacking. To avoid unnecessary radiographs, we have previously developed and validated a clinical decision rule for use in adults: the Amsterdam Wrist Rules (AWR). The aim of the current study was to evaluate the effect of the implementation of the Amsterdam Wrist Rules at the ED.
Material and methods: This before and after diagnostic prospective cohort study included all consecutive adult patients presenting with acute wrist trauma at the ED. Primary outcome was the number of radiographs requested before and after implementation of the AWR. Secondary outcomes were the number of clinically relevant missed fractures, the overall length of stay at the ED, physician compliance regarding the AWR, and patient satisfaction.
Results: A total of 402 patients were included between November 2014 and January 2016. The median age was 51 years and 61% of the patients was female. The absolute reduction in radiographs requested after implementation was 15.9%. One not clinically relevant fracture was missed due to the recommendation of the AWR. Patients who received no radiography due to the AWR spent 46 minutes less at the ED. The physicians adhered to the AWR in 36% of cases. Of all patients who did not receive a radiography of the wrist, 92% was satisfied.
Conclusion: Implementation of the AWR safely reduces the amount of radiographs requested in selected patients and thereby reducing the length of stay at the ED.
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Disclosure: No significant relationships.

O020

CONSERVATIVE TREATMENT OF DISTAL RADIAL FRACTURES IN OCTOGENARIANS

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Introduction: Distal radius fractures in patients over 80 years old are traditionally treated non-operatively. Little is known of the long-term functional outcome. The aim of this study was to evaluate long-term functional outcome in relation to type of (distal radial) fracture and treatment in so-called octogenarians.
Material and methods: All consecutive patients over 80 years old with a distal radial fracture who presented at the emergency department of a large teaching hospital in the Netherlands between January 2015 and August 2015 were followed prospectively. Radiographic characteristics, AO-classification, and reduction technique were noted. Functional outcome after one year was evaluated by the Quick-DASH and PRWE-score one year after treatment. Correlation between fracture type and functional outcome were analyzed.
Results: A total of 80 patients (95% female; median age 84 years (IQR: 83-88) were included. 79 patients were treated conservatively. In 48 patients (60%) closed reduction was performed and only one patient underwent open reduction and internal fixation. Type of fractures were 23-A1.1 (1 patient), 23-A1.2 (3 patients), 23-A1.3 (1 patient), 23-A2.1 (28 patients), 23-A2.2 (27 patients), 23-C1 (12 patients), 23-A3 (4 patients), 23-B2.1 (2 patients), 23-B3 (1 patient), 23-C2 (1 patient). Of the 43 patients that completed follow-up, median quick-DASH score was 2.00 [IQR:0-9.0] and median PRWE-score was 1.5 [IQR:0-7.5] after one year. 37 patients (46%) did not complete follow-up because of death (7), cognitive impairment (20) and lost to follow-up (10). No association between fracture type and functional outcome was found.
Conclusion: Long-term functional outcome of octogenarians with conservative treated distal radial fractures is very good, regardless of the type of fracture.
References:
Disclosure: No significant relationships.

O021

NON DISPLACED DISTAL RADIAL FRACTURES IN ADULT PATIENTS: THREE WEEKS VERSUS FIVE WEEKS OF CAST IMMOBILIZATION, A RANDOMIZED CONTROLLED TRIAL

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Introduction: Non or minimal displaced distal radius fractures are mostly treated by a plaster cast for a period of four to six weeks. A shorter period of immobilization may lead to a better functional outcome. We conducted a study to evaluate whether the duration of immobilization period in these patients can be safely reduced.
Material and methods: A randomized controlled trial was conducted that compared three weeks of cast immobilization with five weeks of immobilization in adult patients with non or minimally displaced distal radial fractures. The primary outcome was the Patient Related Wrist Evaluation (PRWE) and Quick Disability of Arm, Shoulder and Hand (QuickDASH) score after one year follow-up.
Results: 72 patients (male/female 23/49; median age 55 years) were included and randomized. 65 patients completed the one year follow-up, but 19 of these patients did not completely fulfil the all functional score forms. After one year follow up patients in the three weeks immobilization group had better PRWE (5.0 versus 8.8 points, p =0.045) and QuickDASH scores (0.0 versus 12.5, p =0.026). In both groups one patient had a secondary dislocation.
Conclusion: Three weeks of cast immobilisation in adult patients with non or minimal displaced distal radius fractures is safe and leads to a statistically significant better outcome after one year compared to five weeks immobilization. Although this outcome may not be clinically relevant, there are no negative side effects as a result of shortening of the immobilisation period. Therefore, we recommend three weeks of immobilisation in these patients.
References:
Disclosure: No significant relationships.

ACUTE CARE SURGERY

O022

UTILITY OF THE LABORATORY RISK INDICATOR FOR NECROTIZING FASCIITIS (LRINEC) SCORE AND HAEMOGRAM-DERIVED SCORES IN FOURNIER'S GANGRENE – A CROSS-SECTIONAL STUDY

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Introduction: The Laboratory Risk Indicator for Necrotizing Fasciitis (LRINEC) Score has been validated as an adjunct tool in supporting a clinical suspicion of necrotizing fasciitis. The Red Blood Cell Distribution Width (RDW) and the Neutrophil/Lymphocyte ratio (NLR) have been proposed as markers of severity of inflammation. We aimed at establishing the diagnostic and prognostic value of these three scores.
Material and methods: Single center, cross-sectional study. Patients admitted for Fournier's gangrene from January 2011 to December 2015 were included. Demographics, length of hospital admission, number of surgical debridements, mortality data and admission RDW, NLR and LRINEC score were analyzed.
Results: 27 patients were included, 85% males; median age 61 years old, 48% with a history of diabetes mellitus, median length of stay was 33 days; mortality rate was 18.5%. Diabetic patients had a significantly longer hospital stay ($p<0.05$). Patients with a "High risk" LRINEC score had a significantly higher number of surgical debridement procedures ($p<0.05$). 41% of the patients with a confirmed diagnosis of Fournier's gangrene were deemed "low" or "moderate" risk by the LRINEC score, resulting in a sensitivity of 59%. An increased RDW was predictive of mortality (area under ROC curve 0.85). An RDW > 15 was associated with a higher mortality rate ($p<0.05$). Patients with a higher NLR had significantly longer hospital stays ($p<0.05$) and a higher number of surgical debridements.
Conclusion: The utility of the LRINEC score in the diagnosis of Fournier's gangrene seems questionable at best. It may, however, have some prognostic use. The haemogram may provide important prognostic information.
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Disclosure: No significant relationships.

O023

THE ROLE OF THE EARLY GASTROGRAFIN TEST IN A DECISION-MAKING ALGORITHM FOR THE MANAGEMENT OF PATIENTS WITH ADHESIVE SMALL BOWEL OBSTRUCTION (ASBO)

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Introduction: The Gastrografin Test (GT) is a very useful tool for the management of ASBO without signs of peritonitis which facilitates the recognition of patients who will benefit from a surgical operation[1,2]. The aim of this study is to analyze the results of GT protocol use and to identify failure predictive factors.
Material and methods: During 2015-2016, 90 patients with overall 92 ASBO episodes were managed in our Unit using a decision-making algorithm. In 80 cases (87%), a conservative treatment with GT was adopted. We prospectively analyze patients'demographic data and diagnostic CT work-up (wall thickening > 5 mm, mean small bowel maximum caliber, fluid collection and parietal pneumatosis).

Results: 31 ASBO episodes (39%) were successfully managed with a conservative treatment with Gastrographin (group 1, G1). The remaining 49 episodes (61%) required a surgical exploration (group 2, G2). The incidence of intestinal wall thickening > 5 mm was significantly higher in G1 (49% vs 19,4%, p = 0,015). The same was identified for the mean small bowel maximum caliber (4,35 cm vs 3,7 cm, p = 0,002). The latter parameter (p = 0,011; OR 2,6; IC 95%) and the wall thickening (p = 0,026; OR: 3,88; IC 95%) can be considered as predictive factors of GT failure
Conclusion: GT is a safe and effective tool in the management of ASBO not requiring emergency surgery. It may be helpful in establishing whether or not to perform surgery. The mean small bowel maximum caliber and the intestinal wall thickening can be considered as predictive factors for GT failure.
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Disclosure: No significant relationships.

O024

LRINEC SCORE(LABORATORY RISK INDICATOR FOR NECROTIZING FASCIITIS) IN SOFT TISSUE INFECTIONS– A SMALL STUDY FROM THE INDIAN SUBCONTINENT

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Introduction: There are few reliable markers to predict progression of extensive soft tissue infections to Necrotising fasciitis.the LRINEC score is applied to our poulations to see if their sensitivty and predictive value can be used as a prognosticating tool
Material and methods: Aim of the study To look at the incidence of soft tissue infections presenting to the surgical outpatient department and the demographics of that population. To analyse the variables that make up the LRINEC score. To calculate the sensitivity,specificity and predictive value of the score. To analyse if the LRINEC score can be used to prognosticate patients at admission. Materials and methods Patients who presented to the surgery OPD between Jan 2016to July 2016 were included in the study. The LRINEC score was calculated at admission and the patients were assessed at 48 hours to observe progression. The score includes variables like Creactive protein, total WBC count, haemoglobin, sodium, creatinine and glucose(range of 0-13).
Results: A total of 91 patients with a mean age of 55.59(sd $\pm$ 14.368) constituted the study population. The LRINEC score was calculated and a score of greater than 6 was considered as a predictor of progression to NF. The percentage of patients with soft tissue infections was 62.6% and NF was 37.4%.We found an odds ratio of 0.375 and a relative risk of 4.3.The positive predictive value was 65.9% and the negative predictive value was 86%.
Conclusion: Discussion The LRINEC score was found to be significant with a P value of 0.001 Of the variables that constituted the LRINEC score, CRP value (P 0.001),WBC count(P 0.047) were found to be significant. In the NF group, 14.7% of the patients died and all had a score greater than 8. Conclusion Given the morbidity associated with NF, a score that can predict progression at admission is welcome, however a larger sample size is needed.
References: 2004 Jul;32(7):1535-41.
Disclosure: No significant relationships.

O025

LAPAROSTOMY - A 2 YEAR COHORT ANALYSIS

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Introduction: Laparostomy is a surgical procedure in which the peritoneal cavity is intentionally left open, also known as "open abdomen". With the recognition of its advantages and ongoing intensive care advances the use of this technique keeps increasing. Our aim was to review and analyze all patients who required a laparostomy in our institution in the past 2 years.
Material and methods: Retrospectively, we identified all patients who required laparostomy from Jan-2014 to Dec-2015 and reviewed clinical, surgical and follow-up information.
Results: We included 29 patients with a mean age of 67 years (SD 14), mostly males (72%; n=21). Main indications for laparostomy were post-operative complication 62% (n=18), trauma 14% (n=4), peritonitis 7% (n=2), need for second look 7% (n=2) and acute pancreatitis 3% (n=1). Median Mannheim Peritonitis Index for those who had peritonitis (n=19) was 36 (IQR 6) and median NISS for the trauma patients (n=4) was 21.5 (IQR 30). Most of the initial laparostomies were Barker's-like vacuum packs (93%, n= 27) although some switched to a commercial system during subsequent revisions. Mean open abdomen days were 7.5 (SD 11.3, 0 – 51) and mean number of revision were 2 (SD 2, 0 – 12). Mean ICU days was 13.4 (SD 12, 1-63), mean hospital stay was 43 days (SD 45, 1-168) and in-hospital mortality was 51% (n= 15).
Conclusion: Although open abdomen is required in critical patients and its frequency is increasing, it remains a morbid procedure and should be used cautiously.
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Disclosure: No significant relationships.

O026

NECROTIZING FASCIITIS - A RARE BUT LIFE-THREATENING SEPTIC EMERGENCY

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Introduction: Necrotizing fasciitis is a very rare but severe acute infection caused by streptococci. The toxic products of the germs, but also the delay of diagnosis and adequate therapy, are responsible for the high mortality rate of 40-80%.
Material and methods: This paper presents a case report in order to sharpen physicianś eyes for the key symptoms.
Results: A 72-years old male with methotrexate-therapy was admitted to a peripheral hospital. After a fall from a ladder two days earlier he presented with a swollen thigh and moderate pain. No wound could be detected. Sonography showed no hematoma. Due to rapidly increasing pain compartment syndrome was suspected and the patient was transferred to our Trauma center. On arrival he presented in the state of septic shock. CRP was 300mg/l. The skin of the medial thigh was colored dark blue with central blisters. Sonography showed swollen muscles and areas of fluid accumulation. On suspicion of necrotizing fasciitis appropriate antibiotic therapy was given and the patient was immediately rushed to the OR. Through a large medial incision necrotic adductor muscles were removed completely. The incision was covered with large abdominal cloths. Six hours later the patienťs condition deteriorated again. Due to progressing myolysis hip exarticulation was performed. However, despite of serial surgical debridements and continuous intensive care therapy the patient died of multi-organ failure two weeks later.
Conclusion: The take home message for every physician/surgeon must be: In every case of hematoma together with septic symptoms and rapidly progressing typical skin alterations, this deleterious infection has to be suspected and treated acutely with radical debridement.
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Disclosure: No significant relationships.

O027

UPPER GASTROINTESTINAL BLEEDING IN PATIENTS WITH HEAD TRAUMA

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Introduction: Stress injuries occur frequently in patients in patients with traumatic intracranial pathology admitted to the Intensive Care Units. Mucosal lesions are highlighted by endoscopy in the first 24 hours after the head trauma.
Material and methods: There were analysed 4491 patients admitted in the last 2 years to the "Bagdasar-Arseni" Clinical Emergency Hospital, presenting with head trauma, of different degrees of severity. 13,73% developed afterwards upper gastrointestinal bleeding.
Results: There were highlighted two critical periods of occurrence of upper gastrointestinal bleedings – in the 3rd day and the 4th day when 119 patients were diagnosed with this problem, respectively in the 12th day and the 13th day, when were diagnosed a number of 127 patients. The treatment was initially conservative. Surgical treatment was the last of intent in 91 patients, because the bleeding was important from the beginning or it was not responsive to the conservative treatment. Mortality was 34,07%, these patients having a multifactorial aetiology (neurosurgical disease, respiratory complications, upper gastrointestinal bleeding).
Conclusion: Association of the head trauma with upper gastrointestinal bleeding is a morbid, frequent and severe one. Resolving this problem requires the mobilisation of all the medical and surgical resources that are at our disposal.
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Disclosure: No significant relationships.

O028

OBSTRUCTED COLON CANCER IN PATIENTS OVER 80 YEARS OF AGE

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Introduction: Individuals over 80 years of age represent an increasing proportion of colon cancer diagnoses. Selecting these patients for surgery is challenging because of diminished overall health, functional decline, and limited data to guide decisions. Few data are available on management of very elderly obstructed colon cancer patients, especially concerning the parameters of therapeutic decisions.
Material and methods: From January 2009 to December 2015 we retrospectively reviewed the charts of patients over 80 years of age who underwent surgery for obstructed colon cancer in a Spanish hospital. We compared them with the charts of patients under 80.
Results: A total of 162 patients underwent emergency surgery. 42 patients were over 80 years old (25,9%). There were not significant differences in surgical complications between both groups (anastomosis leakage, intra-abdominal abscess, post-operative haemorrhage, ileus or wound infection). There were no differences in respiratory complication but the number of cardiac complications were significantly higher in patients over 80 (21,1% vs. 6%) (p =0,01). Even though there were no difference in surgical complications, the rate of postoperative mortality was significantly higher in elder patients (35,9% vs. 16,2%) (p =0,009) Adjuvant chemotherapy was discussed at a multidisciplinary team, but only 22% of elder patients were treated vs. 65,8% of patients under 80 (p =0,000). Median overall survival were 17,95 months for patient over 80 vs. 40,3 months for younger patients (p =0,001).
Conclusion: Elderly obstructed colon cancer patients have significant access to surgery. However, postoperative morbi-mortality rates remain high and adjuvant chemotherapy rarely prescribed.
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Disclosure: No significant relationships.

GERIATRIC TRAUMA PATIENTS

O029

DECISION MAKING FOR GERIATRIC EMERGENCY PATIENTS WITH SEVERE IRREVERSIBLE NEUROLOGICAL DETERIORATION – AN ANALYSIS OF TWO EUROPEAN SURVEYS

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Introduction: The decision making process in relation to the Limitation of Therapeutic Effort (LTE) still creates controversy within the medical world. We analysed a representative cross-section of European surgeons' practice and opinions with regard to identifying: key factors, similarities and discrepancies in practice from the medical, legal and ethical point of view.
Material and methods: Between July2015 and October2016, we distributed via ESTES (and AEC) two surveys and analysed responses about decision making in a specific clinical case (advanced age patient, with a chronic, severe and irreversible neurological deterioration, who needs emergency surgery for acute abdomen). Participation was anonymous and voluntary.
Results: 270 surgeons from 28 countries (18 European) responded. Professional experience ranged from 1-52years
Advanced Directives(AD) were part of the legal system in most European countries(72.8%), however in practice they were used by a minority of patients. In the absence of AD, the surgeon's decision to operate was heterogeneous, from 20 to 63% said that they would operate.

63.5% based their decision on patient's relatives' wishes, 78.9% on professional opinion and 67.1% on ethical principles.

56.8% of surgeons felt restricted in this type of scenario. 77.8% thought changes were needed. 73.9% consider that ICU Specialists and 56.5% Geriatricians should be involved.
Conclusion: In practice there is wide heterogeneity across Europe. LTE is complex due to the conflict between patient quality of life, the surgeons' duty to preserve life and relatives' wishes. Most surgeons(67.2%) agreed that specific guidelines or protocols are needed and the use of AD encouraged(59.4%).
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Disclosure: No significant relationships.

O030

DEMENTIA AND DELIRIUM, THE OUTCOMES IN ELDERLY HIP FRACTURE PATIENT

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Introduction: Delirium in hip fractured patients is a frequent complication. A common risk factor for delirium is dementia. This study aimed to extend knowledge on risk factors for delirium and the consequences, with special attention to patients with dementia.
Material and methods: This is a retrospective cohort study containing data of the Amphia Hospital, Breda, the Netherlands, between January 2014 and September 2015. All patients of $\geq$70 years with a hip fracture, who underwent surgery were included. Patients were excluded in case of a pathological or a peri-prosthetic hip fracture, multiple traumatic injuries and high-energy trauma. Patient- and surgical characteristics were documented. Postoperative outcomes were noted. Delirium was screened using Delirium Observation Screening Scale. Dementia was assessed from medical notes.
Results: Of the 566 included patients, 75% were female and a median age of 84 years (IQR:9) was found. Delirium was observed in 35%. Significant risk factors for delirium were: a high ASA score, delirium in medical history, functional dependency, preoperative institutionalization, low hemoglobin level and a high amount of blood transfusion. Delirium was significantly correlated with a longer hospital stay, increased association with complications, institutionalization and six-month mortality. Patients with dementia (N=168) had a higher delirium rate (58%, p<0,001), but a shorter hospital stay (p<0,001). There was no significant difference in the six-month mortality between delirious patients with (34%) and without dementia (26%), p =0,236.
Conclusion: Elderly patients with a hip fracture are vulnerable for delirium, especially when suffering from dementia. Patients with an episode of delirium, have an increased risk for adverse outcomes.
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O031

OUR EXPERIENCE IN TREATING ELDERLY POLYTRAUMATISED PEOPLE

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Introduction: Victims of simultaneous and polivalent traumatic lesions, with multiple etiology and topography, present, physiopatological speaking, a synthese of patogenic corelations of all organs involved; the mortality in these cases are up to 14% in specialised trauma hospitals and even higher for old persons.
Material and methods: Between 2011-2015 42 old patients polytraumatised (including fractures of the extremities) were admitted in our clinic with a mean age of 75,4 years (69-86 years). In 35 patients we used surgical techniques for fractures treating and in 7 cases cast imobilisation. Surgical treatment has been used in emergency for 24 patients and delayed for a mean 9,4 days (1-17 days) in 11 patients. In all 24 patients treated in emergency a multidisciplinary surgical team was necessary depending on organs involved. In delayed cases the orthopaedic surgical treatment consisted in cast or traction imobilisation in emergency and after patient stabilisation by the other surgical specialities definitive fractures fixation was used. The follow-up was 2 years.
Results: The mortality rate was 22% (9 patients); we found a higher rate of death for patients who received delayed treatment. The periode of hospitalisation was in average 24 days. The functional recovery was very good in 21 patients, good in 4 patients and poor in 8 patients.
Conclusion: In elderly polytraumatised patients the mortality rate is higher than in younger peoples. The survival rate depend on rapidity of diagnosis and treatment, existence of well-trained multidisciplinary surgical team, the quality of nursing procedures. The pourpose is to allow rapid mobilisation of these patients.
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Disclosure: No significant relationships.

O032

ALARMINGLY LOW SACRAL BONE MASS IN SACRA WITH A FRAGILITY FRACTURE OF THE SACRUM

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Introduction: The increasing number of fragility fractures of the sacrum is a clinical challenge, they present distinct fracture patterns and surgical treatment is limited by bone loss in face of osteoporosis.
Material and methods: The mean bone mass distribution in Hounsfield units (HU) was calculated with Computed Tomography (CT) scans using statistical computational methods: Included were 13 pelves with a non-displaced fracture of the sacrum (11 females and 2 males, mean age 79.6 years, SD +/-9.2). They were compared with intact pelves of 60 adults (32 females and 28 males, mean age 8.3 years, SD+/- 5.3). Virtual bone probes were measured along trans-sacral corridor S1 and S2.
Results: There was a distinct bone mass distribution: A peak of high HU was located at the outer extremes corresponding to cortical bone of the auricular surface. Further along trans-sacral corridors, this was followed by a region of minimal HU located in Denis zone I, a zone called "alar void". Very low HU were observed in the vertebral bodies of the fractured sacra. The fractured side had higher HU in the sacral ala comparing to the non-fractured side.
Conclusion: The distinct fracture patterns observed in fragility fractures of the sacrum could be explained by the lowest bone mass located paraforaminally lateral. The very low bone mass in the sacral bodies may explain screw loosening seen in treating these fractures. The comparably higher bone mass on the fractured side is a valuable diagnostic tool.
References:
Disclosure: No significant relationships.

O033

FRAGILITY FRACTURES OF THE PELVIS CAUSE HEMORRHAGIC SHOCK: WHICH FRACTURE PATTERN CAUSES SEVERE BLEEDING?

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Introduction: Low energy accidents, such as falling from standing position, may cause fragility fractures of the pelvis (FFPs) in older adults. Hemostatic interventions are rarely needed for the initial treatment of FFPs. We retrospectively reviewed FFPs in a single orthopedic trauma center, and investigated cases that involved severe bleeding in the initial period.
Material and methods: We retrospectively reviewed 237 consecutive patients diagnosed with FFPs from January 2012 to August 2016. The reviewed patients included 34 men and 203 women, and their average age was 84 years. We defined FFPs with severe bleeding as cases that needed transcatheter arterial embolization (TAE) and/or transfusion within 24 h of admission, or cases that bled to death.
Results: Five of the 237 cases (2.1%) sustained severe bleeding. Three patients underwent TAE and two required transfusion. Two cases bled to death. According to the Rommens classification, three cases were classified as Type IIIa, one as Type IVb, and one as iliac wing fracture.
Conclusion: Although, severe bleeding is rare in the initial period of FFPs, the potential risk of hemodynamic instability should be considered, particularly in type IIIa and peri-iliac fractures.
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Disclosure: No significant relationships.

O034

PELVIC RING FRACTURES IN THE ELDERLY POPULATION, DOES THE PRESENCE OF A HIP PROSTHESIS ALTERS THE FRACTURE PATTERN?

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Introduction: It is an observation made by trauma surgeons that the pattern of pelvic ring fractures in the elderly population alters when a total hip arthroplasty (THA) is present. In order to investigate this observation a retrospective study was conducted.
Material and methods: The population of this retrospective analysis consists of 474 consecutive, elderly (>70 years) patients admitted to our hospital between January 2009 and December 2015 with a pelvic ring fracture. Of this population 86 patients had a THA at diagnosis.
Results: A significantly higher amount of Tile type A fractures was observed in patients with THA (45%), compared to the patients without THA (32%). Confounders as age, sex, injury mechanism and mobility before injury were not significantly different between the 2 groups. The prevalence of Tile type A2 and B2 fractures was 28% and 54% respectively in the group without THA whereas in the THA group they were 40% and 45%.
Conclusion: It seems that patients with prosthesis's have lower risk for a posterior injury, as there are significantly more A2 and less B2 fractures. Whether a hip prosthesis does protect against posterior injury of the pelvis, or whether there is a simple increase in the Type A fractures in this population, remains an import question. There are some reports that describe stress fractures of the pubic rami after THA. But other reports suggest an altered stress distribution across the pelvic bone after a hip prosthesis. In conclusion a lower prevalence of posterior pelvic injuries was seen in patients with a THA.
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Disclosure: No significant relationships.

O035

HEMATOLOGICAL MARKERS OF PREOPERATIVE MORTALITY IN GERIATRIC POPULATION WITH TROCHANTERIC FRACTURES

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Introduction: Trochanteric fractures are an important cause of morbidity and mortality among the geriatric population. Our study aims to highlight the link between preoperative hematological parameters and mortality in geriatric patients with trochanteric fractures.
Material and methods: We retrospectively analyzed geriatric patients hospitalized in the department of orthopedics and traumatology with trochanteric fractures during 2015, in terms of demographic characteristics, type of fracture, type of treatment, preoperative interval, variation of haematological parameters during hospitalization and morality.
Results: We identified 262 geriatric patients with a mean age of 76.29 ± 12.14 years that were treated: 85.5% surgically and 14.5% received functional treatment. Overall mortality was 4.96%: 3.1% in operated patients and 15.8% in patients treated functionally ($p = 0.005$). Anemic patients recorded 10 (6.1%) deaths, while in normal subjects only three (3.1%) deaths ($p = 0.338$) ratio is 2.24 shares (IC95: 0.61 to 8.23). The estimated risk of death in anemic patients was 1.24 times increased compared to normal patients (RR = 1.24; CI95%: 0.95 to 1.69). During hospitalization patients with functional treatment registered a decrease of lymphocyte percentage about 11 units, while operated patients by 10 units. Patients who died presented a decrease of 7 units ($p = 0.463$). ROC curve highlights the best predictability ΔLy% for mortality (AUC = 65%; CI95: 0.523-0.777). The remaining parameters do not provide predictability statistically acceptable (AUC <0.600).
Conclusion: Anemia and variation of the percentage of lymphocytes may represent preoperative prognostic factors for mortality in geriatric population with trochanteric fractures.
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Disclosure: No significant relationships.

O036

COMPLEX FRACTURE ORTHOPEDIC REHABILITATION (COMFORT) – AMBULATORY MONITORING OF REHABILITATION PATTERNS AFTER PROXIMAL FEMUR FRACTURES IN ELDERLY

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Introduction: Mechanical loading and early mobilization are considered important goals in the early stage of rehabilitation after lower extremity fractures. The optimal loading pattern that patients should follow during the weeks of rehabilitation is not well understood and mainly based on the surgeons experience. The aim of this study is to gain more insight in normal loading patterns after proximal femur fractures in elderly.
Material and methods: 200 patients will be monitored during rehabilitation with the biofeedback system SensiStep. Inclusion criteria were patients >60 years with proximal femur fractures after low energy trauma and full weight bearing allowed. Exclusion criteria were cognitive impaired patients. Patients performed daily force measurements using SensiStep during a 30 meter walk. Clinical tests were performed weekly to correlate the rehabilitation progress measured by SensiStep to the rehabilitation progress based on validated clinical tests.
Results: 65 patients have been included in the Netherlands and Sweden. The population includes more females (48) than males (17), with an age of 83.6y (SD±8.50), BMI of 25.5 (SD±5.75) and MMSE of 26.7 (SD±3.37). Various types of surgery were performed: hemiarthroplasty (28), Dynamic Hip Screw (9), Gamma Nail (9), Pertrochanteric Femur Nail (15) and other (4). Comorbidities were cardiovascular (11), neurological (2), musculoskeletal (8), respiratory (5) and none (39).
Conclusion: Preliminary data from this study is promising, as the peak load and loading rate measured by the SensiStep show the same progression as the validated clinical tests. Further analysis of the data is needed and final results from 200 patients will be presented at the ECTES 2017.
References:
Disclosure: Co-funded by EUREKA member countries and the European Union Horizon 2020 Framework Programme.

VASCULAR TRAUMA

O037

VASCULAR TRAUMA OF THE EXTREMITIES WITH RESPECT TO DIFFERENCES BETWEEN UPPER AND LOWER LIMBS

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Introduction: The mangled extremity severity score (MESS) as a predictor for the decision for limb amputation or salvage in patients with vascular trauma has been evaluated in various studies for both, the upper (UE) and lower extremities (LE). However, literature lacks information about possible differences concerning the clinical outcome between UE and LE. Therefore, the aim of this study was to investigate the existence of distinctions between injuries of UE and LE with identic MESS.
Material and methods: The study sample consisted of 27 patients that had been treated with arterial reconstruction in the context of extremity traumata at the University Hospital Graz and the Trauma Hospital Graz between 2005 and 2014. Each participant's individual MESS, CSHA (Canadian study of health and aging) Clinical Frailty Scale and FBB-Mot as a mobility score (pre- and post-traumatic) were ascertained. The primary endpoint was the postoperative disability to perform the pre-traumatic work, respectively for retirees a loss of at least 10% of the FBB-Mot questionnaire's points.
Results: The primary endpoint occured in 43% for the UE and in 62% for the LE (p = .449). The pre- and postoperative values of the FBB-Mot and the frailty scale had a high correlation (r = 1.000).
Conclusion: We found a remarkable, but not statistically significant difference between UE and LE regarding our main target size. However, the LE had a worse outcome regarding the FBB-Mot questionnaire. The FBB-Mot highly correlated with frailty and may be used as an alternative tool to specify grade of frailty.
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Disclosure: No significant relationships.

O038

LONG-TERM CONSEQUENCES OF ABDOMINAL AORTIC & JUNCTIONAL TOURNIQUET (AAJT) APPLICATION TO CONTROL JUNCTIONAL HEMORRHAGE IN A SURVIVAL SWINE MODEL

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Introduction: Specialized tourniquets have been deployed to battlefield for control of junctional/pelvic hemorrhage with limited knowledge concerning their safety. This study investigated long-term effects of abdominal application of AAJT in swine.
Material and methods: Anesthetized spontaneously air-breathing pigs were subjected to bilateral femoral arterial injuries followed by 40% uncontrolled hemorrhage. Hemorrhage was then controlled by applying AAJT on the lower abdomen for 0-hr(n=2, controls),

1-hr(n=6), 1.5-hr(n=6) or 2-hr(n=3). Prior to tourniquet release, arterial injuries were repaired, mechanical ventilation, and IV fluid provided for ~10min. Additionally, 500 ml autologous blood was transfused after restoring blood flow. Animals were recovered and their mobility and health monitored up to two weeks.
Results: AAJT application occluded the infrarenal abdominal aorta stopping groin hemorrhage. The AAJT rapidly reversed hypotensive shock occurring during hemorrhage and restored baseline blood pressure cranially. At the time of AAJT release, respiratory support and fluid resuscitation were needed to normalize blood pressure and avoid hyperkalemia-induced respiratory arrest. No deaths occurred, however, recovery of hind leg function varied among groups. One-hr AAJT-treated pigs recovered full mobility 5-6 days after surgery, but 2-hr animals developed persistent paraplegia concurrent with urinary retention and ischemic necrosis of lumber muscles and had to be euthanized after 3 days. Half of the 1.5-hr group also had to be euthanized early (paraplegia) while the other half recovered motor function after 10-12 days. Control pigs recovered overnight.
Conclusion: Ischemic reperfusion injuries associated with abdominal application of AAJT appear to be time dependent. AAJT application to control groin/pelvic hemorrhage should not exceed one hour.
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Disclosure: No significant relationships.

O039

AORTIC SIZE INDEX FOR AAA RUPTURE PREDICTION IN WOMEN

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Introduction: Rupture of an abdominal aortic aneurysm (AAA) is a life-threatening event with high mortality for patients undergoing Open Repair (OR) or Endovascular Aneurysm Repair (EVAR). The prognosis of rupture can be improved using the Aortic Size Index (ASI, described by Lo et al, JVS 2014). Aim of this study was to evaluate operative results of elective and urgent AAA repair in female patients (pts) in comparison to calculated ASI.
Material and methods: Prospectively collected data of all consecutive patients (pts) undergoing AAA repair between 1/2006 and 12/2015 were analyzed retrospectively. Data presented are expressed as mean values plus Standard Deviation (SPSS software).
Results: Of 520 AAA pts treated 413 patients (50 women, 363 men) underwent open AAA surgery. 284 pts. were operated electively and 129 urgently for symptomatic (46 pts.) or ruptured AAA (83 pts.). OR for AAA rupture was performed in 11 women (11/50=22%) and 83 men (72/363=19,8%). Mortality in AAA rupture was 21.9% in males (16/73 pts) and 45% in females (5/11 pts). Women with rupture were significantly older (81.2±4.6 years) than men (73.6±8.4 years). The mean aneurysm diameters did not differ significantly (women 7.4±1.6 cm, men 7.8±1.6 cm). The mean ASI in women operated electively was 3.2±0.7cm/m^2, in symptomatic AAA 3.6±0.8 cm/m^2 and in rupture 4.4±1.1cm/m^2 .
Conclusion: All operated women showed values for ASI higher than the recommended threshold for repair of 2.5 cm/m^2. The high ASI values support early AAA treatment in women at lower diameters than 5.0 cm. Screening should be considered for female patients to prevent AAA rupture.
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Disclosure: No significant relationships.

O040

OUTCOME IN PATIENTS WITH BLUNT AORTIC INJURY UNDERGOING ENDOVASCULAR TREATMENT

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Introduction: To analyse our experience of thoracic endovascular aortic repair (TEVAR) in patients with blunt injury of the proximal descending aorta.
Material and methods: Consecutive case series of all patients referred to our hospital with blunt traumatic aortic injury between January 2005 and December 2013. Patients were registered prospectively and analysed regarding demographic data, operative variables and early as well as long-term outcomes. Patients were followed by CT angiography before discharge, at 12 months and two years thereafter. Long-term outcome was analysed in terms of reintervention rate and survival.
Results: Twenty five patients (22 males) with traumatic aortic injury undergoing (TEVAR) were analysed. Median age was 45 years (range, 28-66 years). Twenty one patients were treated acutely within 24 hours (84%), 3 patients subacutely within 1 week (12%) and in one patient (4%) later then one week. Overall, two patients died (8%). In 13 patients (52%) the left subclavian artery (LSA) was intentionally covered. Three patients (12%) received a left carotid-subclavian bypass in the emergency situation. None of the patients suffered from stroke or spinal cord ischemia. Median hospital stay was 11 days (range, 2-62 days). During follow-up (median of 34 months (1-104 months) no reintervention or death was registered. In the patients with covered LSA no long-term negative consequences were observed.
Conclusion: Endovascular treatment of traumatic aortic injury in the descending aorta is an effective treatment option in severely injured patients. Even if the LSA must be covered to create a suitable landing zone for the stentgraft, functional long-term results remain very acceptable.
References:
Disclosure: No significant relationships.

O041

MANAGEMENT OF IATROGENIC VASCULAR INJURIES AND LESSIONS IN A ROLE 3 HOSPITAL DURING PERIOD 2014-2016

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Introduction: Iatrogenic Vascular Injuries and Lesions is a part of everyday medical routine in a Role 3 Hospital. We present our experience in the management of such cases in the largest hospital of

Northen Greece, General Hospital of Thessaloniki "Papageorgiou" during a period of 12 years (2004-2016).
Material and methods: During the above period, our Department was called to manage a total of 2047 cases of iatrogenic lesions and injuries. These lesions underwent due to medical manoeuvres of Cardiologists (1334), Nephrologists (237), Obstetrician-Gynaecologists (67), Urologists (73), Neurosurgeons (22), General Surgeons (138), Orthopaedics (153) and rest medical specialties (24). From the lesions mensioned, 1103 were venous while the rest 944 were arterial.
Results: From venous lesions 861 had conservative treatment,while the rest 242 needed surgical treatment (146 small, 79 medium, 17 great impact operations). From the arterial ones 217 had conservative treatment,while for the rest 727 surgical treatment was needed (221 small, 537 medium, 184 great impact operations). Mean extra hospitalization time was 1,98 days (±0,67) for venous lessions and 3,87 days (±1,56) for arterial. All evidence and data from each lesion category are extensively analysed.
Conclusion: Iatrogenic vessel lesions and injuries are a quite common phenonenon in a Role 3 Hospital, where minimal invasive progresses take place or many operations of heavy impact are in daily programme in addition to training cources. The urgent of manoeuvres, the lack of experience anatomical variations of vessels and bad quality of using materials are some of the causes. In time diagnosis and treatment are of great importance in the minimization of complications and quicker convalescence.
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Disclosure: No significant relationships.

O042

SIMULATION ON VASCULAR SURGICAL TECHNIQUES IN AORTOILIAC PATHOLOGY AND TRAUMA

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Introduction: The conventional vascular surgical training in the operating room is sometimes completed by participation at workshops and rarely on simulators in Romania. The aim of this study was to assess the efficacy and the impact of 5 days intensive course of advanced vascular surgery skills with training on pigs, and to notice the viability and the feasibility of the vascular anastomoses during the aorta-iliac bypasses performed on pigs and to improve the technical vascular surgery abilities of the trainees.
Material and methods: The training sessions began with a 60 minute instructional video and theory on how to perform the procedures, followed by supervised sessions in anastomotic technique with attending vascular surgeons. All of the residents have participated previously to our practical course of vascular sutures an year ago. Endpoints of the study were the surgical skills and the technical quality of vascular interventions, which were evaluated by the course trainers on a scale ranging from 1 (inadequate) to 5 (excellent).
Results: Vascular surgical techniques performed simultaneously on the same pig were: an enlargement prosthetic angioplasty, abdominal aortic interponate prosthesis and an aortoiliac bypass with prosthesis. A significant improvement in vascular surgical skills tasks was observed during the years and we also found a semnificative statistic association between the quality of suture and the surgical technique used.
Conclusion: Our course contributed to the improvement of technical vascular surgical skills of the operator teams, reproducing in vivo, in pigs, the intraoperative background as in human patients, simulating a possible trauma.
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Disclosure: No significant relationships.

O043

LOCAL HEMOSTATIC AGENTS MIGHT NOT BE SUPERIOR TO WOUND PACKING BY STANDARD GAUZE IN A SWINE MODEL OF LETHAL GROIN INJURY

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Introduction: The aim of our study was to evaluate effectiveness of modern local hemostatic agents (LHAs) compared to standard gauze (SG) and femoral artery (FA) patency rate after LHAs application.
Material and methods: Twenty-five swine (76.4±7.4 kg) underwent 6-mm femoral arteriotomy followed by 45 sec of uncontrolled hemorrhage. After immediate packing with one of the following dressings: Celox Gauze (XG), Combat Gauze (CG), Hemoflex Combat (HC), Hemo-Bandage (HB), and 3m*10cm SG, direct pressure was applied for 3 minutes. If bleeding reoccurred during 5 minutes, the second gauze was applied instead of the first one. Hemostasis was determined as early (first 5 minutes) and late hemostasis. Fluid resuscitation was initiated 5 minutes after compression to maintain mean arterial pressure higher than 55 mmHg. Animals were observed for 180 minutes followed by limb arteriography.
Results: Baseline characteristics were equal between groups except primary blood loss ($p = 0.016$). First packing was effective in 0/5 CG animals, in 1/5 XG and HC animals, in 2/5 HB and SG animals ($p > 0.05$). After similar secondary blood loss, early hemostasis occurred in 2/5 CG and HC animals, in 3/5 XG, HB, and SG animals. Late hemostasis corresponding to mortality rate was noted in 4/5

animals of all groups except CG (5/5; p>0.05). On angiography, 2/4 SG animals, 1/4 HC and HB animals had injured FA patent. No patent FAs were found in XG or CG animals.
Conclusion: We demonstrated no superiority of LHAs to wound packing by SG in a lethal groin injury swine model. Standard packing can also maintain arterial patency.
References:
Disclosure: This study was sponsored by the industry (the "Inmed" company - a Russian producer of local hemostatic agents)

O044

PERICARDIAL INVOLVEMENT IN THORACIC TRAUMA – DIAGNOSIS AND TREATMENT

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Introduction: The number of thoracic trauma, especially those produced by vehicle collisions, is high. These patients often present with trauma involving cardiac structures, more frequent of the pericardium. A precocious diagnosis of a pericardial pathology is mandatory for adequate treatment and decreasing morbi-mortality within these patients.
Material and methods: We studied 38 patients suffering from thoracic trauma, admitted in The General Surgery Clinic – "Bagdasar Arseni" Emergency Hospital. Clinical exam, ECG, biological samples and imaging investigations (chest X-ray, thoracic computer tomography and echocardiography) were performed. The aim was to identify a pericardial pathology, to assess its severity and to apply specific therapeutical measures with adequate monitoring of these patients.
Results: Pericardial involvement was seen in 38% of patients. Physical examination did not show significant elements. In 4.2% of patients the significant hemodynamic impact called for necessity of pericardiocentesis. The majority of patients had a small or medium amount of pericardial fluid. They did not require invasive measures responding to conservatory measures, correction of volemic disorders while avoiding certain drugs (diuretics, anticoagulants), conducting repeated clinical exams with particular attention on vital signs. Repeated monitoring with transthoracic echocardiography was performed.
Conclusion: Pericardial involvement in thoracic trauma is frequent and must be actively searched in patients with polytrauma, even in absence of specific clinical signs. A cardiology consult, taking biological samples, performing ECG and imaging investigations as well as continuous monitoring of patients is mandatory in thoracic trauma.
References:
Disclosure: No significant relationships.

PELVIC INJURY

O045

PLACE OF PREPERITONEAL PELVIC PACKING IN SEVERE PELVIC INJURIES: A STUDY OF 14 CASES PERFORMED IN A FRENCH LEVEL 1 TRAUMA CENTRER

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Introduction: The overall mortality of unstable patients with pelvic fracture is high. Combined with pelvic stabilisation, arterioembolisation can stop arterial bleeding, while pelvic packing is proposed to control venous and bony bleeding. The aim of this study was to review our series of preperitoneal pelvic packing (PPP) and propose the best possible algorithm.
Material and methods: From January 2010 to August 2016, every patient with an unstable pelvic fracture underwent preperitoneal pelvic packing combined with pelvic stabilization. Data were prospectively recorded in a database and were retrospectively analysed. The management algorithm was focused on hemodynamic status of patients on admission. Primary endpoints were early hemorrhage-induced mortality (<24h) and overall mortality (<30d). Secondary outcomes were systolic blood pressure (SBP) and red blood cells (RBC) units administered.
Results: Fourteen patients were packed among the 157 trauma-patients admitted with a pelvic fracture. Mean age was 54.5 +/- 22.83 and median ISS was 50 (43; 59). There were 7% Tile A, 43% Tile B and 50% Tile C pelvic fractures. The decrease of blood transfusion and increase of SBP between pre-and postoperative values were statistically significant (p =0.004 and p<0.001). Four (28%) patients had postoperative arterial pelvic blush and 5 patients were embolised. Among PPP, only 1 had a benign pelvic infectious complication. The early mortality by refractory hemorrhagic shock was 28% (4/14, amongst whom 3 "in extremis" patients). Overall mortality at 30 days was 50% (7/14).
Conclusion: PPP is a quick and efficient procedure in first line in a level 1 trauma center. In war conditions, it can be adapted to penetrating pelvic wounds.
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Disclosure: No significant relationships.

O046

ANGIO-EMBOLIZATION FOLLOWING MECHANICAL PELVIC STABILIZATION AND PELVIC PACKING IN PATIENTS WITH SEVERE PELVIC RING FRACTURES: A SAFE METHOD TO ADDRESS ONGOING BLEEDING

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Introduction: In patients with severe pelvic fractures, exsanguinating hemorrhage represents the major cause of death within the first 24h. Mechanical pelvic stabilization and surgical hemostasis by pelvic packing aim to control venous bleeding. Angiography and embolization have emerged as methods for addressing arterial bleeding. The aim of this study was to evaluate angio-embolizations following mechanical pelvic fracture stabilization and pelvic packing with regards to sources of ongoing bleeding and patient's outcome.
Material and methods: Retrospective analysis of severely injured trauma patients with pelvic ring injuries admitted to a level I trauma center over a 10 year time period. All postoperative angio-embolizations were evaluated with regards to bleeding sources and type of embolization.
Results: During the study period, 7 patients required a postoperative secondary angio-embolization. Bleeding sources identified were the superior gluteal artery in 4 cases, the obturator artery in 2 cases and the internal pudendal artery in 1 case. In 6 patients, a selective embolization of the bleeding artery was performed; in 1 patient, a complete occlusion of the internal iliac artery was necessary to control the bleeding. Mean time of angio-embolization was 50 minutes. One patient died in the further hospital course due to septic multiple organ failure.
Conclusion: Persistent signs of ongoing bleeding following external pelvic fixation and pelvic packing indicate the need for angio-embolization. In all patients, angio-embolization was safely performed on the way from the operating room to the intensive care unit. The most frequent bleeding source was the superior gluteal artery, which is difficult to address by pelvic packing.
References:
Disclosure: No significant relationships.

O047

ACTIVE INVOLVEMENT OF A DEDICATED INTERVENTIONAL RADIOLOGY TEAM CONTRIBUTE TO RAPID PROCEDURES AND HEMODYNAMIC IMPROVEMENT OF SEVERE PELVIC FRACTURE PATIENTS

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Introduction: The delayed hemostasis procedure in interventional radiology (IR) increases the mortality of hemodynamically unstable (HU) pelvic fracture (PF) patients. We assessed PF patients whom underwent care from an active IR team under the specific guidelines of a Damage Control Interventional Radiology (DCIR) protocol.
Material and methods: We retrospectively reviewed PF patients who underwent IR (May 2011-Dec 2015). The IR team was actively involved diagnosis and decision-making. Time from initial management to IR and embolization method were recorded. We compared the data between HU and hemodynamically stable (HS) patients groups. HU was defined as shock index (SI)>0.9 or SBP<90mmHg on admission.
Results: We collected 40 patients with no apparent difference in characteristics (HU vs. HS, n=16 vs.n=24). The HU cohort demonstrated higher ISS (30 vs.18;p =0.003). The Arrival-To-Angiography Time, Arrival-To-Scan Time and Scan-To-Angiography Time were similar (78 vs.84, 37 vs.29, and 48 vs.51mins respectively). The HU group demonstrated a total embolization time of 36min with a median of 3.5 embolized arteries. The HU groups showed significantly shorter Single Artery Embolization Time (time for artery selection, injection, embolization, and confirmation, 6.7 vs.15 mins; p =0.044). In the HU group, non-selective bilateral embolization was performed in 81% and N-butyl cyanoacrylate was utilized in 44% of the cases. After embolization, SI significantly improved (1.2 to 0.9; p =0.003).
Conclusion: An active IR team following DCIR guidelines may contribute to a rapid endovascular procedure in HU-PF patients and may result in improved hemodynamics. To initiate angiography sooner, further effort such as decreasing delayed activation of IR and shortening the CT time are desired.
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Disclosure: Yosuke Matsumura is a Clinical Advisory Board Member of Tokai Medical Products.

O048

SURGICAL TREATMENT OF PELVIC FRACTURES IN CHILDREN

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Introduction: Damage of the pelvic bones are one of the most complex issues of childhood trauma. Pelvic fractures incidences in children is stably very low, but in most cases questions of diagnostics and treatment of this type of the injury are still open.
Material and methods: In the period of January 2013–August 2016 53 children with fractures of the pelvis asked in Morozov Children's Hospital, Moscow, Russia. 18,9% of children were operated. Among them we met fractures of the acetabulum (the posterior wall of the pelvis and the posterior column) and fractures of the anterior arch, one of which was accompanied by a so-called central dislocation of the hip. Two children with Multiple unstable fractures of the pelvic ring
Results: The problem of surgical treatment of pelvic fractures is very complex and answer of this question is possible only basis of a series of diagnostic tests. In pediatric practice it has traditionally taken a

conservative treatment of injuries of the pelvis, in our opinion, in certain kinds of damage to the pelvis is necessary to conduct an open reduction and osteosynthesis. In the case of considerable damages, the absolute instability of the pelvic ring, the need for revision of the internal organs and stopping continuous bleeding a patient in need of surgical treatment.

Conclusion: The effective method for stop continued bleeding in multiple fractures of the pelvis is the stabilization of the pelvic ring. Unstable fractures of the pelvis, damage to the acetabulum, free osteochondral fragments in the hip joint cavity, require surgical treatment.

References:

Disclosure: No significant relationships.

O049

DEFINING THE PUBIC SYMPHYSIS ANGLE WITH RESPECT TO THE CORONAL PLANE – CLINICAL AND BIOMECHANICAL CONSIDERATIONS

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Introduction: Fixation strength of constructs placed across the pubic symphysis after injury is dependent on screw length, maximisation of which requires knowledge of the bony anatomy. In addition, screw perforation beyond the cortex carries risks. The ideal screw direction has yet to be defined in terms of anatomy and biomechanics. The aim of this study was to describe the ideal angle of drilling to achieve maximal safe screw placement within the pubic body. Furthermore, the influence of age and gender on the skeletal topography were investigated.

Material and methods: Three hundred CT scans of patients without pelvic injury were analysed to record the angle of the pubic body (APB) with respect to the coronal plane, and the depth of the pubic body (DPB) in the sagittal plane.

Results: Mean APB and DPB were 54.74° and 55.45mm, respectively. Females had a significantly higher mean APB than males (57.24° vs. 52.48°; $p<0.001$), whereas males had a significant larger mean DPB (59.24mm vs. 51.31mm; $p<0.001$. Age had no effect on the mean APB.

Conclusion: The anatomy of this region is reliable in terms of angles and sizes; a drill angle of 55 degrees with respect to the operating table will allow maximal screw length, which should be in the region of 55mm.

References:

Disclosure: No significant relationships.

O050

ACETABULAR FRACTURE PLUS HIP DISLOCATION: IS ALWAYS A DEADLY COMBINATION FOR THE HIP OUTCOME?

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Introduction: Fracture-dislocation of the hip representing around 5% of all traumatic joint dislocation[1] is an orthopaedic emergency requiring urgent reduction of the dislocation. The surgical treatment is mostly preferred over conservative one[2]. The outcome is related to the time of relocation, quality of reduction of the fracture, damage of the femoral head and associated injuries[3,4,5]. Our objective was to study the correlation between different methods of treatment and injuries types with the outcome in traumatic fracture-dislocation of the hip.

Material and methods: We included in our study the patients with hip fracture dislocation admitted in Polytrauma Casa Austria between July 2007–November 2015 and the following parameters: associated lesions, the type of the dislocation, method of treatment, complications.

Results: Our study group: 33 patients – 23 male and 10 female; mean age of 40 years and ISS>16 in 18 (58%) patients with 2 deaths (ISS>40). We recorded 6 intrapelvic dislocation, 4 sciatic nerve injuries and 7 associated pelvic ring fractures. PW and Transverse+PW were the most frecquent types of acetabular fractures. Closed reduction and skeletal traction was performed in emergency for all cases. For the surviving 31 patient we used acetabular ORIF in 28 cases, skeletal traction in 4 cases. ORIF patients presented 3 postsurgical infections. The follow-up period was between 1 and 5 years. Hip arthrosis was recorded in 7 (22.5%) cases, all in patients without ORIF and/or intrapelvic dislocation±head fractures.

Conclusion: Prompt reduction of the dislocation and early acetabular fracture ORIF can be the best choice for an good outcome. Intrapelvic dislocation and osteoschondral fractures are associated with the worst prognosis.

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Disclosure: No significant relationships.

O051

THE RISK OF THE VASCULAR INJURY IN THE S2 SACROILIAC SCREW FIXATION: CT-ANGIOGRAPHY STUDY

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Introduction: S2 sacroiliac screws (SI screw) fixation for the sacral fracture is often conducted in fragility fracture of the pelvis. But

sometimes unexpected bleedings occur during the surgical procedure. The aim of this study is to investigate the relationships between insertion point of the S2 SI screw and the branch of the superior gluteal artery (SGA).
Material and methods: The data of CT- angiography around the pelvis were collected. We investigated the both left and right side in fourteen CT-angiography, so we collected twenty eight samples. The parameters we acquired were as follows. 1) the distance between SI screw insertion point and the branch of SGA. 2) the diameter of the branch of SGA most adjacent to screw insertion point. 3) the distance between screw insertion point and great sciatic notch (GSN).
Results: The distance between screw insertion point and the artery was 11.5mm (0-22.4mm). The diameter of the branch of the SGA was 1.91mm (1.3-3mm). The distance between screw insertion point and GSN was 3.49cm (2.3-4.6cm). The artery - screw insertion point distance was correlated with the distance of the GSN-screw insertion point distance (r=0.450).
Conclusion: There is the risk of the arterial injury during S2 SI screw insertion. Surgeon must keep in mind to make screw holes carefully.
References:
Disclosure: No significant relationships.

O052

A NEW TECHNIQUE FOR STABILIZING ILIO-SACRAL JOINT BY USING SPINAL INSTRUMENTATION

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Introduction: Ilio-sacral disruptions associated with pelvic ring fractures may leave symptoms without adequate reduction and fixation. We introduce a new technique, Anterior Sacro-Iliac Stabilization (ASIS) utilizing spinal fixation devices.
Material and methods: This is a report of patients with ilio-sacral disruptions who were treated with ASIS. The patients were assessed for complications, functional outcome by evaluating Majeed pelvic score, union of fractures.In the study period, 4 patients who had pelvic fractures with ilio-sacral disruption (2 male, 2 female) enrolled. The average age of these patients was 46 years (range, 26 to 67 y). 3 of 4 patients had complications of fractures of lower extremity at the scene of pelvic injury. All patients were classified into AO61-B1 (2 patients), or 61-B2(2 patients). Average follow-up time was 37 months (12-48 months). Position is supine and the incision is made by the 1st window of the ilioinguinal approach. After reduction, a cancellous screw is inserted from the top of the sacral ala, just lateral to sacral foramina. Another cancellous screw is inserted from the iliac brim with parallel direction of the sacroiliac joint or with direction of the ischial tuberosity. Heads are inserted to each of the screws, then connected by rods and locked.
Results: All patients achieved healing of their pelvic fracture with no displacement or implant failure. Average Majeed pelvic score (excepted sexual intercourse) was 84(79-96), which is scored 88.2(82-100) of 100.
Conclusion: Anterior Sacro-Iliac Stabilization (ASIS) is a useful choice to stabilize the posterior pelvic ring with sacroiliac joint dislocation or disruption.
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Disclosure: No significant relationships.

POLYTRAUMA: ORGANISATION OF CARE AND OUTCOME

O053

CAUSES, INJURY PATTERNS AND OUTCOMES OF OLDER MULTITRAUMA PATIENTS – AN ANALYSIS OF THE DUTCH TRAUMA REGISTRY

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Introduction: Nowadays, the multitrauma patient tends to be more often an elder, due to the growth of the elderly population and their improved mobility. The aim of this study was to compare demographics, injury patterns, injury causes and outcomes between younger and older multitrauma patients.
Material and methods: Data from severely injured (ISS>15) patients between 2009 and 2014 were extracted from the Dutch trauma registry (DTR). The younger (Group A: 18-59 years) and older (Group B: ≥60 years) multitrauma patient were compared. Differences in injury severity, trauma cause (only data regarding the year 2014), injury patterns, ICU characteristics and 30-day mortality were analyzed.
Results: Data of 25,304 multitrauma patients were analyzed. The elderly represented 47.8% of the multitrauma population. Trauma cause in the elderly was more likely to be a bicycle accident (A: 17%; B: 21%) or low-energy fall (A: 13%; B: 43%). The younger multitrauma patient was more likely to have the worst score on the Glasgow coma scale (EMV=3, A: 20%, B: 13%). However, serious head injury was more often seen in the elderly (A: 53%; B: 69%). The 30-day mortality was twice as high in the older multitrauma patient (19.8% vs 9.6%).
Conclusion: Elderly are more often involved in multitrauma as stated previously. Although injury severity did not differ between groups, the older multitrauma patients have a higher risk of dying compared to their younger counterparts, while sustaining less high-energy accidents.
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Disclosure: No significant relationships.

O054

OPTIMIZING THE USE OF THE TRAUMA ROOM

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Introduction: Ziv Medical Center is a level 2 trauma center in the north of Israel close to the borders with Lebanon and Syria. In addition to receiving war-wounded, Ziv receives injuried tourists from the Galilee, skiiers from Mount Hermon and serves a diverse population injured in road traffic crashes in the Galilee and Golan.
Material and methods: In order to monitor and evaluate the implementation of trauma resuscitation, imaging and massive transfusion protocols in 2015, a database was designed to record trauma indices of all patients with ISS greater than 12. The trauma database was used to evaulate the effectiveness of trauma protocols in terms of times to radiological investigation, the operating theatre and ward transfer and also to investigate optimal use of the trauma room.
Results: Thirteen-month data indicates that the trauma room is occupied with trauma patients (ISS $>$ 12) 56% of the day and 26% of the night. Upto 28% patients remain in the trauma room while awaiting investigations, transfer to the operating theatre or ward. Since staffing of the trauma room is dependent on the availability of skilled emergency department staff, the treatment of critically ill (non-trauma) patients in the trauma room is a potentially effective strategy for optimal care of all critically ill patients, optimal staffing and optimal occupation of the trauma room.
Conclusion: Monitoring effective and efficient use of the trauma room and emergency and trauma protocols is crucial the quality of care paients receive, the skills of the staff and the smooth and cost-effective running of emergency care services.
Disclosure: No significant relationships.

O055

THE TRAUMA PATIENT IN THE COMPUTED TOMOGRAPHY LAB- HOW LONG DOES IT TAKE AND ARE THERE BARRIERS TO GOOD PATIENT FLOW?

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Introduction: Trauma care is delivered to potentially seriously injured patients under time pressure by a multidisciplinary trauma team. The collaboration in multidisciplinary teams is a complex interactional process. Computed tomography (CT) has gained importance in the early diagnostic phase of trauma care, but there is no consensus for acceptable time for diagnostic work-up. Assessing mean time spent in the CT lab and identifying potential factors affecting total time used negatively could reduce time spent during the CT examination of trauma patients and improve patient flow in the future. This study was undertaken to define mean time spent in the CT lab for trauma patients going directly from the trauma resuscitation area to CT examination. Moreover, factors affecting total time spent in the CT lab and sources that negatively influence patient flow were evaluated.
Material and methods: Prospective observational study of 100 trauma patients going directly to CT from the trauma room from December 2015 to April 2016. A structured coding scheme was used to record time spent in the CT lab, factors affecting the time spent related to coordination, communication, equipment, and the individual patient. The quantitative data was analysed using descriptive statistics and independent t-test and the qualitative data by content analysis.
Results: An average of 20 minutes (SD 9 minutes) was spent in the CT lab, with an average of 7 minutes (SD 5 minutes) scan time. Anticipated factors such as size of the team, intubated patients, additional procedures necessary during CT and additional exams affected total time. We could also identify noise in the operator room, communication problems, and interruptions as factors significantly increasing total time spent in the CT lab.
Conclusion: We found a mean total time of 20 minutes spent in the CT lab and identified several factors that contribute significantly to total time spent. Specific targeted interventions like stressing continued leadership after the trauma resuscitation area as well as simulated team training in this specific setting can be performed to improve performance.
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Disclosure: No significant relationships.

O056

ABDOMINOPELVIC INJURIES DUE TO ROAD TRAFFIC ACCIDENTS: CHARACTERISTICS IN A FRENCH REGISTRY OF 162,695 VICTIMS

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Introduction: The characteristics of abdominal injuries due to road traffic accidents are not well known. The primary aim of the study was to describe the characteristics of abdominal and pelvic injuries (API) caused by road traffic accidents in a French region. The secondary aim was to identify risk factors of API.
Material and methods: The Rhône-registry collects data from 245 medical departments related to all the road traffic accidents occurring in the defined area of Rhône. All the victims between 1996-and-2013 were identified and data of all API were analysed, including diaphragm and pelvic bone.
Results: Among 162,695 victims, 10,165 had an API. Young males were more frequently injured. The accident involved mainly 2 cars. The mean ISS was 8.7. Mortality rate was 5.6%. Soft tissues injuries were largely preponderant (n=6388; 54.4%). 2322 patients had a pelvic fracture. Injuries to internal abdominal organs occurred in 2425 victims; the spleen, liver and kidney were the most frequently injured.

Seat-belt was associated with a decreased rate of severe API. For severe trauma admitted in ICU, two thirds of the patients were treated with non-operative management. Uni and multivariate analysis revealed that gender, age, vehicle, type of antagonist, time of accident, serious associated injuries and seat-belt were statistically correlated with the risk of API.
Conclusion: API occur in a minority of road traffic accidents but are responsible of a significant increase in mortality. Solid organs are more frequently injured. Women that drive by car in town during the day, that wear a seat-belt, seem to be at lower risk of having an API.
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Disclosure: No significant relationships.

O057

DEEP COMA DOSE NOT ALWAYS PREDICT POOR OUTCOME FOR THE PATIENTS WITH POLYTRAUMA

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Introduction: High mortality and morbidity could be anticipated in polytrauma patients presented with Glasgow Coma Scale (GCS) of 3. If the prognosis was so grave, would it be possible that certain patients be managed less aggressively? Could we place "D" prior to "ABC" in the ATLS primary survey?
Material and methods: Retrospective review of all patients with GCS 3 from Jan 2013 to Dec 2015 in our Level I trauma center was performed. The exclusion criteria were age under 18 years old, out-hospital cardiac arrest, penetrating, burn/electric injuries, gas/carbon monoxide intoxication, hanging and blood alcohol level over 30mg/d
Results: There were 84 patients enrolled in the study, with 16 patients(19.04%) survived. The comparison between survival and non-survival group showed differences in BFDP($p<0.001$), Rotterdam CT scale($p=0.015$), ISS over 16($p=0.011$) and GCS over 3 after resuscitation($p<0.001$). Patients without BFDP (OR=34.22, $p=0.005$), ISS under 16 (OR=15.74, $p=0.045$) and GCS over 3 after resuscitation(OR=5.291, $p=0.028$) were independent prognostic factors for survival on logistic regression.
Conclusion: Even presented with deep coma, almost 20% of the patient group would survive. Aggressive treatment would be indicated. Patients with reactive pupils, lower injury serverity score and recovery of conscious after initial resusitation would have more favorable outcome. The functional result of the patient group remained poor based on the current study.
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Disclosure: No significant relationships.

O058

RELATIVE FACTOR VIII DEPLETION MAY BE A CRITICAL DRIVER OF MASSIVE TRANSFUSION NEED AND MORTALITY SECONDARY TO HEMORRHAGIC SHOCK AFTER TRAUMATIC INJURY

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Introduction: Trauma-induced coagulopathy (TIC) accounts for 40% of deaths in hospitalized patients following injury. One mechanism driving this lethal syndrome is depletion of coagulation factors through activated protein C and exacerbated by hemorrhage. We plan to assess factor VIII activity temporally in relationship to transfusion need.
Material and methods: Data were reviewed for 73 patients admitted to our level 1 trauma center April, 2014–January, 2016 with highest level activation and hypotension presumed secondary to hemorrhage. Factor VIII activity assays were performed for blood drawn at 5 time points in the first 6 hours and patients were stratified by transfusion need: 1) None 2) Mild to Moderate defined 1-10 units packed red blood cells (RBC) and 3) Massive defined $>$ 10 U RBC or death. Mean activity levels were compared using ANOVA.
Results: Of 73 patients reviewed, 56.2% sustained blunt injuries and 9.6% died in the first six hours. Factor VIII activity reached a nadir of 126% at 2 hours in the massive transfusion group compared to 273% in the mild to moderate group and 364% in those who did not require transfusion ($p=0.0004$).
Conclusion: Factor VIII activity levels demonstrate both a profound clinical and statistical difference based on degree of transfusion requirement. This unexpected, isolated relative deficiency in the massive transfusion group suggests an inability to mount the hyperactive response seen in the other groups during the acute post-injury phase and indicates the need for further exploration of factor VIII in TIC and perhaps, an increased role for cryoprecipitate in the resuscitation of post-traumatic hemorrhage.
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Disclosure: No significant relationships.

O059

DIFFERENCES IN CHARACTERISTICS AND OUTCOME OF PATIENTS WITH PENETRATING INJURIES IN THE U.S. AND THE NETHERLANDS: A MULTI-INSTITUTIONAL COMPARISON

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Introduction: The incidence of penetrating injuries is significantly different between countries. As a result, treatment protocols and outcomes may also vary. We compared characteristics and outcomes of patients with penetrating injuries treated at urban level-1 trauma centers in the U.S. (USTC) and the Netherlands (NLTC).
Material and methods: 1,255 adult patients (394 from 5 NLTC and 861 from 3 USTC) admitted with truncal penetrating trauma between July 2011 and January 2015 were retrospectively analyzed.
Results: The injuries in USTC were more often gunshot wounds (36.0% vs. 19.0%, $p<0.001$) and caused by assault (91.2% vs. 76.6%, $p<0.001$). ISS and RTS were comparable between USTC and NLTC patients. In-hospital mortality was similar (4.8% vs. 4.9%, $p=0.97$). After controlling for confounding factors trauma mechanism, ISS and RTS, the odds ratio for mortality in NLTC compared to USTC was 1.44 (95% confidence interval 0.57-3.62). USTC patients had a shorter hospital stay (median 2 [IQR 1-6] vs. 3 [IQR 1-7] days, $p=0.02$), higher ICU admission rate (33.8% vs. 27.4%, $p=0.02$) and longer ICU stay (median 2 [IQR 1-5] vs. 1 [IQR 1-2] days, $p<0.001$). Complication rates (15.7% vs. 18.4%, $p=0.23$) and readmission rates (5.3% vs. 3.4%, $p=0.132$) were similar, but readmission length of stay was shorter in USTC (median 3 [IQR 1-7] vs. 6 [IQR 3-11] days, $p=0.030$). More USTC patients were discharged to home (85.6% vs. 77.2%, $p<0.001$).
Conclusion: Mortality rates were similar between the US and Dutch trauma centers, despite differences in penetrating trauma mechanisms. The varying ICU stay and discharge disposition point to differences in health care policies.
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Disclosure: No significant relationships.

O060

PERCEIVED QOL AFTER TRAUMA: A FOCUS GROUP STUDY

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Introduction: Trauma survivors can experience impairments or disabilities. How this influences patients' Quality of Life (QoL) is still insufficiently know. The aims of this qualitative study were (1) to report perceived changes in QoL after trauma and (2) to examine the feasibility of the World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire for the trauma population.
Material and methods: Trauma patients were invited to participate to the focus groups. Due to the heterogeneity, the population was divided in different groups based on age and trauma type to ascertain within-group homogeneity. Audio-recorded data were transcribed and coding was used to identify themes.
Results: Twenty patients (mean 55y (SD 16), mean ISS 23 (SD 10)) participated. The majority of the consequences after a trauma were the same in all patients irrespective of age, trauma mechanism or trauma severity. Patients stated that there was a close interaction between physical and psychological functioning and recovery. Time played an important role in the patients' way of experiencing their QoL. Early in the recovery process physical limitations, pain, anxiety, and distress over lost independence dominated. Later, patients experienced difficulties with accepting their new life. The WHOQOL-BREF domains covered all consequences that were reported during the focus groups.
Conclusion: Little attention has been given to perceived changes in QoL after trauma by direct exploration of patients' point of view. We concluded that the consequences of a trauma can be substantial and long-lasting and deserve more quantitative investigation. Participants stated that the WHOQOL-BREF is an appropriate questionnaire for measuring QoL in trauma patients.
References:
Disclosure: No significant relationships.

ABDOMINAL TRAUMA 1

O061

NONOPERATIVE MANAGEMENT OF BLUNT INJURIES OF THE SPLEEN – OUR EXPERIENCE

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Introduction: The risk of overwhelming postsplenectomy infection (OPSI) prompted the evolution toward preservation of the injured spleen. Nonoperative management (NOM) of blunt injury to the spleen in adults has become the standard of care in hemodynamically stable patients. Current, NOM of splenic trauma includes splenic artery embolization. However, the criteria for NOM are controversial. In this study we present the current criteria, the evolution and failure rates of this type of management viewed through the general knowledge and, particularly, our experience.
Material and methods: Patients admitted to Emergency Clinical Hospital Bucharest with blunt splenic trauma during a 5 year period (2009-2013) were studied retrospectively. They were divided into four groups according to the type of management they received: emergent splenectomy/splenorraphy; non-operative management; angiography/angioembolization and those in whom failure of non-operative management led to laparotomy. Patients' age, Glasgow Coma Score at admission, ISS, RTS, the spleen injury score, the degree of hemoperitoneum, volume of blood transfused, hospitalisation period and number of deaths were the other variables gathered from the records and analysed.
Results: 212 consecutive patients were enrolled in the study. A total of 86 (40,5%) went directly to the operating room (35,8% splenectomy, 4,7% splenorraphy), 95(44,8%) were admitted for non-operative management (in the form of active observation) and 31 (14,6%) were treated by angiography. The failure rate of NOM was 5,5% and/exploratory laparotomy/ splenectomy was the next step. The overall mortality was 12,7% (23,7%-splenectomy, 10%-splenorrhaphy, 8,4%-NOM and 0% for angioembolization).
Conclusion: ″nonoperative management is here to stay″ (Hoyt); it is a flexible concept which can be modified depending on clinical evolution of the patient, presenting potential alternatives such angioembolization and splenorraphy.
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Disclosure: No significant relationships.

O062

MANAGEMENT OF BLUNT SPLENIC INJURIES AT THE AMERICAN UNIVERSITY OF BEIRUT MEDICAL CENTER: THE SIX YEARS EXPERIENCE SINCE THE INCEPTION OF THE TRAUMA TEAM

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Introduction: Non operative management(NOM) of splenic injury is the standard of care in trauma centers all over the world. The purpose of this study was to report the experience of the American University of Beirut Medical Centre(AUBMC) since the establishment of the trauma team.
Material and methods: Our study is a retrospective observational study that comprises 55 patients who presented from January 2010 to August 2016 with blunt splenic trauma. The study analyzed the management strategies (observation alone, non-operative management and surgery) and the failure rates and associated outcome variables.
Results: The study included 55 of patients with an average Injury Severity Score(ISS) 18 ± 9.6 (range 4 to 41). Eleven (20%)of the 55 patients had surgery, 42 (76%) were treated conservatively and two patients (4%) had embolization on admission. The grades of injury were distributed as follows: AAST Grade I injury 16%, Grade II 36%, Grade III 9%, Grade IV 31%, Grade V 7%. The average length of hospital(LOS) stay was 12.5 days (range 1 to 100 days). Four patients (9%) in the observation alone group failed initial treatment (one patient had a AAST Grade II, one patient had Grade III and two patients had a Grade IV. Three patients needed splenectomy and one patient needed TAE. We had one mortality case during the study period.
Conclusion: Trial of Non Operative Management for high grade blunt splenic injures (AAST Grade III-IV) is warranted in the presence of an established trauma team and close monitoring. In this category of patient selective TAE is feasible with acceptable outcome.
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Disclosure: No significant relationships.

O063

MANAGEMENT OF THE BLUNT ABDOMINAL TRAUMA: NOM/OM

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Introduction: The nonoperative management of the patients with blunt abdominal trauma is one of the most important changes of treatment in the last years. Recent advancements in imaging techniques and enhanced critical care monitoring have expanded treatment of the patients with blunt abdominal trauma.
Material and methods: The authors did a retrospective study including 430 patients with abdominal trauma admitted in level one trauma clinic over a period of 5 years, between January 2011 and

august 2016. 58 patients with open abdominal trauma have been excluded from the study, all of them being operated. The data tracked were: demographics, the cause of trauma, ISS, the organs interested and the degree of injuries, complications, associated injuries and hospitalization.
Results: Patients were subjected to conservative treatment totaling 286(76,88%), while those with surgical treatment, 86(23,11%) -53 splenectomy, 15 interventions on liver, 18 for other injuries. The most common were road accidents, in men, and the most affected solid organs were spleen and liver.
Conclusion: Patients haemodynamicaly stable or which respond to supportive treatment are candidates for nonoperative management, provided that a strictly clinical and imagistic evaluation. This leads to a decrease in mortality and morbidity, as well as to a decrease in the length of hospital stay and cost.
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Disclosure: No significant relationships.

O064

LAPAROSCOPY INDICATIONS AND LIMITS IN ENTERAL TRAUMA

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Introduction: Laparoscopy in diagnosis and treatment of trauma is still underused and its place among classic diagnosis methods in not very well standardised.
Material and methods: We analyzed the data from Bucharest Emergency Hospital between 2014 and 2015, looking for frequency of abdominal trauma, especially intestinal and mesenteric trauma, compared with the other abdominal trauma, the ratio between open and laparoscopic approach and the factors who lead to choose the method.
Results: Trauma represents around 3% of all our interventions. Abdominal trauma approximates 47%, 85% requiring a surgical procedure. 23,7% were isolated abdominal trauma and the rest politrauma. Entero-mesenteric trauma were on the second position after spleen. They totalized 22,7% with almost the same proportion for enteral, colonic and mesenteric trauma. Laparoscopy represented 15% of interventions for abdominal trauma without laparoscopy contraindication and three quarters were also therapeutic.
Conclusion: Laparoscopy in abdominal trauma is a safe method for the evaluation of entero- mesenteric trauma reducing nontherapeutic laparotomies (more than 20%) and consequently the specific morbidity, length of hospital stay and cost of hospitalization. It is especially useful for those cases with tenderness, with low or without peritoneal fluid and doubtful results of clinical exam, FAST and CT. We can answer if peritoneum is injured, approximate the quantity of blood, find active bleeding, appreciate the loop viability, locate the enteral injury. Haemodynamic instability, concomitant severe brain injury, evisceration and posterior penetrating trauma and lack of laparoscopic expertise were reasons that limited laparoscopic approach.
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Disclosure: No significant relationships.

O065

IS LAPAROSCOPY STILL RECOMMENDED IN ABDOMINAL TRAUMA?

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Introduction: Laparoscopy is accepted for penetrating abdominal trauma (PAT), but for blunt abdominal trauma (BAT) its use becomes controversial.
Material and methods: Our paper assesses the use of diagnostic laparoscopy (DL) and therapeutic laparoscopy (TL) in abdominal trauma during 2006-2015.
Results: DL was performed on 48 hemodynamically stable patients. There were 19 PAT and 29 BAT. The main indications for laparoscopy were: peritoneal violation for patients with PAT, suspicion of hollow viscus injury, active bleeding with solid organ injuries and diaphragmatic injuries for patients with BAT. Prior to surgery, 12 out of 47 abdominal ultrasounds and 2 out of 28 CT scans were false negatives. 17/19 stab wounds were penetrating injuries, 11 with organ lesions, and TL was possible for 6 patients. Patients with BAT had 9 hollow viscus perforations, 3 mesenteric lesions, 12 solid organ lesions and 2 diaphragmatic lesions. Conversion was necessary for 8 patients. 8 TLs and 6 assisted TLs were possible. There were no omitted lesions. There were 4 complications and 3 deaths. The average hospital stay in the surgical ward was of 6.26 $\pm$7.3 days for laparoscopic patients and of 7.3$\pm$8.3 for those with conversion. Laparotomy was avoided for 32/48 patients (66,66%).
Conclusion: In selected PAT cases, but also in selected BAT cases with unclear clinical and imaging diagnosis, laparoscopy is a useful diagnostic tool, with therapeutic potential, which reduces the need for laparotomy and the hospital stay.
References:
Disclosure: No significant relationships.

O066

LAPAROSCOPIC SPLENECTOMY AFTER FAILURE OF NON-OPERATIVE MANAGEMENT

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Introduction: The injury of the spleen occurs in 10% to 30% of abdominal trauma.In relation to the grade of injury and to the hemodynamic stability of the patient, it can be managed either by splenectomy or conservatively (NOM) with wait-and-see attitude or with angioembolization. However when the post-procedural examinations, such as US, CT, laboratory tests and vital signs, reveal a failure of splenic artery angio-emobolization, an exploratory laparoscopy allows to early diagnose and treat these particular situations. Thanks to the improvement of surgery skills gained in routinary laparoscopic splenectomy and to the use of new hemostatic devices, the laparoscopic approach to splenic injuries not only has become possible but also has been shown to have several advantages over the open approach.
Material and methods: From 2013 to 2016 51 patients underwent to NOM. Among these patients, 8 (mean age 33 years) previously treated with angioembolization, complained a worsening in general conditions and in imaging findings, therefore were subsequently treated with a laparoscopic splenectomy.
Results: The mean operative time was 132min. Mean blood loss was 277cc. The mean post operative hospital stay was 5 days. We did not observe any post-operative complications or mortality. All patients were discharged with a vaccination program.
Conclusion: The presented results confirm that early laparoscopic exploration followed by laparoscopic splenectomy is a feasible treatment of those cases previously treated by embolization and with uncertain clinical course. This procedure allows a laparoscopically skilled surgeon to choose the best treatment for the patient.
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Disclosure: No significant relationships.

O067

LAPAROSCOPIC MANAGEMENT OF BLUNT TRAUMA PATIENTS: SINGLE CENTERS RESULTS

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Introduction: Laparoscopy is well-established in the elective setting, and is being more used in emergency surgeries. However, laparoscopic management of trauma patients is still limited for various reasons, including scarce evidence of safety and feasablity. This is especially true when regarding blunt trauma patients.
Material and methods: Retrospective chart review of consecutive patients admitted during a period of 20 months in a tertiary hospital in Brazil. Patients who sustained blunt injuries and were managed by laparoscopy were selected for analysis.
Results: Eighteen patients were included in the analysis. Sixteen were male (89%), mean age was 29 years-old. The most common mechanism of injury was motor-vehicle accident in 9 (50%) followed by being run-over, agression and a combined mechanism of fall after electric injury (11% each). Mean RTS, ISS and TRISS were 7.535, 15 and 97,1%, respectively. Indications for laparoscopy were the finding of free fluid with no parenchimal injuries in 8 cases (44%) followed by the presence of the seat belt sign (28%). Mesenteric, bowel and hepatic injuries were the most common, 67%, 28% and 22%, respectively. Laparoscopic procedures were diagnostic only in 13 and therapeutic in 5. In two cases conversion for exploratory laparotomy was performed. No missed injuries or serious complications (Clavien > 3) were observed. Unnecessary exploratory laparotomies were avoided in 89% of the patients.
Conclusion: Laparoscopic management of patients sustaining blunt injuries is feasable and safe when carefully selected. Absence of missed injuries and incidence of only low grade complications are important findings. Avoiding unnecessary laparotomies positively impacts short and long-term results.
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Disclosure: No significant relationships.

O068

SPLENIC HILUM LIGATION; EFFECTS ON THE INJURED SPLEEN AND ITS FUNCTION IN RAT MODEL

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Introduction: One of the organs frequently injured after blunt abdominal trauma is the spleen that most of surgeons are desired to save spleen with different methods. Therefore the aim of this study was to compare the outcome of splenic hilum ligation (SHL) and splenectomy in rat model
Material and methods: Forty Wistar-Albino rats undergone surgery and were randomly allocated in two groups. In the control group total splenectomy was performed. In SHL after total separation of spleen, a splenocolic ligament was cut but gastro-splenic ligament, which contains short gastric vessels, remained intact. After three months of surgery, rats were explored to evaluate the spleen viability.
Results: After seven days, WBC was significantly lower in SHL group as compared to control group (3.2 vs 4.07). ($p = 0.024$) While, we didn't find significant differences in other CBC counts ($P > 0.05$), C3 ($p = 0.292$), C4 ($p = 0.578$), IgG ($p = 0.264$), IgA ($p = 0.209$), IgE ($p = 0.088$) and surgery duration ($p = 0.72$). All variables in peripheral blood smear was significantly lower in SHL group as compared to control group except Howell–Jolly bodies ($p = 0.461$). The other

variables in peripheral blood smear were including anisocyte (1.41 vs 3.25 mm-2, P<0.001), Target cells (0.95 vs 2.64 mm-2, P<0.001), Poikilocyte (1.35 vs 3.85 mm-2, P<0.001), Schistocyte (1.4 vs 3.26 mm-2, P<0.001).

Conclusion: Our results showed that splenic hilum ligation has a major role in the management of traumatic splenic injuries especially in grade III or higher, which previously required splenectomy and were more likely to fail nonoperative treatment

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Disclosure: No significant relationships.

O069

TRAUMA SURGERY IN PATIENTS RECEIVING ANTICOAGULANT THERAPY - IS IT SAFE?

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Introduction: Perioperative management of trauma patients who require prophylactic anticoagulation is a real and complex dilemma. The purpose of the study was to determine the incidence of complications related with anticoagulant therapy in trauma patients.

Material and methods: A 5 years retrospective analysis was performed on trauma patients who were admitted in our service and initiated on anticoagulant therapy. Data collected included demographics, comorbid diseases, indication for anticoagulation, traumatic injuries findings and complications rate resulting from anticoagulation. The SPSS was utilized for all statistical analysis and categorical variables are compared using Chi-square test. A bivariate analysis compared more than 20 different variables to identify potential risk factors associated with trauma patients.

Results: From 3240 trauma patients admitted in our hospital (2011-2015) we identified and analyzed 108 anticoagulated patients (3.3%) using fractionated heparin (FH). For statistical reasons a small sample of 8 patients with unfractionated heparin were excepted from analysis. The mean age of this patient's population was 48±1.6 years, 18 patients (16.6%) had penetrating trauma and the mean ISS was 16.8±1.0. Nine different comorbid diseases were noted and the most common indication for anticoagulation was DVT in 58 patients (53.7%). Nineteen patients (17.5%) had 6 different complications and 6 patients died, 4 of whom (3.7%) had a complication related to anticoagulant therapy. The bivariate analysis certified chronic obstructed pulmonary disease, chronic liver disease and lower initial platelet count as being significantly associated with complications.

Conclusion: The management of the trauma patients who require anticoagulant therapy is based on balancing the risks and benefits of each situation.

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Disclosure: No significant relationships.

ACUTE CARE SURGERY: ORGANISATIONAL MODELS

O070

EMERGENCY ABDOMINAL SURGERY PROFILE IN EXTREMELY ELDERLY PATIENTS (95+) - A NATIONAL ANALYSIS

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Introduction: One of the consequences of population aging is the increase in the number of unplanned hospital admissions. Emergency surgery in advanced aged patients carries a high risk with poorer outcomes. We aimed to investigate the profile of emergency surgery in relation to extremely elderly patients in Spain.

Material and methods: Based on the type of admissions, surgical pathology and procedures, mortality rate, length of hospital stay and size of the hospital (number of beds), a nationwide retrospective cohort analysis in patients 95+ was performed. Information was retrieved from the Spanish National Health System Data Base.

Results: From a total of 1043 95+ patients per year, 92% were emergency admissions. Of these, two thirds resulted in emergency procedures, with the majority for cholecystectomy, followed by strangulated hernia procedures and intestinal resections. 68% of the patients were admitted in hospitals with <500 beds (34.7% of the patients were admitted in hospitals <200 beds), with length of hospital stay being 1-1.5 days less than in larger hospitals (>1001 beds). Mortality was higher by 4-6% in the largest hospitals.

Conclusion: The vast majority of 95+ patients are admitted as an emergency and a high proportion undergoing surgery. Most admissions are in smaller hospitals, where outcomes are better than in larger ones; however referrals to bigger hospitals and possible higher complexity of these cases could affect the results.

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Disclosure: No significant relationships.

O071

CONSENSUS OF THE ITALIAN SOCIETY OF TRAUMA AND EMERGENCY SURGERY (SICUT) ON A CLINICAL PATHWAY FOR THE EARLY RECOGNITION AND TREATMENT OF SEPTIC COMPLICATION AFTER EMERGENCY ABDOMINAL SURGERY

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Introduction: General emergency surgery is an indipendent factor for morbidity after a surgical procedure. Recent studies evidenced 7 emergency surgical procedures at major risk of developing postoperative septic morbidity (almost always regarding intestinal leakage or abscesses). Delay in recognize and treat septic source lead to poor outcome. Aim of this study was to create a clinical pathway among italian emergency surgeons for the early recognition and treatment of a septic source as a complication after an emergency surgical abdominal procedure.
Material and methods: After research in MEDLINE, PubMed, Scopus, Embase and Cochrane Library with keyword: emergency surgery, acute care surgery, abdominal sepsis, anastomotic leak or leakage, we selected systematic reviews, prospective randomized trials, metanalysis, observational prospectives studies published in the last 10 years and we reviewed the paper selected in order to delineate a clinical pathway to be proposed to the italian emergency and trauma surgery society (SICUT).
Results: We identified statements graded (with the grading of Reccomandation Assesment, Development, and Evaluation – GRADE) about: definition of secondary and tertiary peritonitis, abdominal abscess, anastomotic leakage, clinical and biological markers in postoperative septic complication, diagnostic tools, clinical assesment and management, operative and non operative management. The resulted clinical pathway was then evaluated by the emergency surgeons of the Society and discussed in a plenary session in the last National Congress held in Rome in September 2016.
Conclusion: We here propose the clinical pathway for the assesment and management of septic complication after abdominal emergency surgical procedures discussed in the SICUT Congress
References:
Disclosure: No significant relationships.

O072

EMERGENCY SURGERY IN THE ELDERLY: IS A MULTIDISCIPLINARY APPROCH NECESSARY?

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Introduction: "Population ageing is one of humanity's greatest triumphs. It is also one of our greatest challenges ". Pathophisiology in the elderly is more complex and a tailored surgical approach is needed. Analysis of morbidity and mortality is essential to develop a specific therapeutic track for this fragile population.
Material and methods: We conducted a retrospective analysis of 305 patients (> 65 yrs) that underwent emergency abdominal surgery between 2012 and 2015. We compared Group A (≤ 75 yrs) and Group B (> 75 yrs) and analyzed morbidity and 30 days mortality. We collected procedural and ICU data, LOS, ASA classification, transfusions, POSSUM e P-POSSUM score.
Results: Overall morbidity was 53.1% without significant difference between the 2 groups. Medical complications were higher than surgical with no significant difference (32.8 vs 29.2%). Overall mortality within 30 day was 9.8% and was higher in Group B (14,1%vs 5.4% p =0,01). ASA, POSSUM e P-POSSUM scores were significantly higher in Group B. Medium length of stay was 11,7 days and longer in Group B (p =0,036). 12,8% pts underwent reintervention and 23,6% required ICU admission after surgery (p =0,013). Incarcerated hernia (24,9%, n=76), cholecystitis (19,7%, n=60), adhesive small bowel obstruction (11,5%, n=35), neoplastic obstruction (9,5%, n=29) and acute appendicitis (7,5%, n= 23) were the most common procedures in both groups.
Conclusion: As expected mortality is higher in elderly population >75 yrs.; the introduction in the emergency department of frailty index scores could allow to identify more fragile patients in order to develop a multidisciplinary treatment bundle and to avoid futile treatment.
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Disclosure: No significant relationships.

O073

STANDARDISING PATIENTS FOLLOW-UP AFTER COMMON EMERGENCY SURGICAL PROCEDURES IN UK

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Introduction: Follow-up of patients discharged after common emergency general surgical procedures is currently at the discretion of the operating surgeon. Establishing a standardised follow-up for common pathology requiring emergency surgery, based on evidence from literature, is a real help for the current trauma and emergency surgeons as to ensure no post-operative complications developed and no concomitant or contributing pathology is missed in this group of patients.
Material and methods: The 10 most common general surgical procedures performed in the emergency setting along with pathology requiring initial conservative management in the same environment, have been studied in terms of follow-up in the out patient setting of 2 General District Hospitals in UK. A maximum of 1 year follow-up for each category was developed based on evidence from current literature regarding possible late and tardive complications as well as follow-up after essential imaging and endoscopic follow-up to ensure sincronuous common pathology is not omitted.
Results: With patient's safety as paramount, the results were interpreted in terms of complication ratio discovered at follow-up for each post-operative category of patients, rate/s of re-admission to hospital and patients satisfaction with the care and advices provided during the follow-up interval.
Conclusion: Standardisation of follow-up by the emergency clinician, at least for the common pathology encountered in the emergency general surgical take, is vital in obtaining best outcome for patients and raises patients confidence and satisfaction after using this service.
References:
Disclosure: No significant relationships.

O074

IMPACT OF AN EMERGENCY SURGERY UNIT ON THE ACUTE CHOLECYSTITIS TREATMENT

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Introduction: In the last years new Emergency surgery units have been created all around Europe. We have analyzed the influence of an emergency surgery unit in the acute cholecititis management and the impact on the economic cost.
Material and methods: A prospective, observational, analytical cohort study has been made including surgical patients with acute cholecytitis who underwent a laparoscopy cholecistectomy. We analysed two groups: Group 1 included surgeons who were completely dedicated to emergency surgery in a specialized unit; Group 2 included surgeons without exclusive dedication to emergency surgery.
Results: Group 1 operated patients with longer evolution time since the star of the symptoms (3,47± 2,43 days in group 1 vs. 2,52 ±1,52 in group 2) and with more complexity (608% grade II of Tokyo scale in group 1 vs. 34% in group 2). There were significance differences in the hospital stay (4,13± 4,26 days group1 vs. 5,70±6,8 days group 2), operative time (90,07±28,4 minutes group1vs 94,39±23 group 2), conversion (8,7% group1vs 3,5% group 2), intra-abdominal abscess (57% group 1 vs. 14,2% group 2) and intra-abdominal haematoma (2,7% group 1 vs. 7,1% group 2) The overall cost of the 473 surgical procedure was 3.827.444.39€ with an average per patient of 8.091,84€. The cost per patient in Group 1 was 7.727,79€ and in Group 2 was 9.491,77€.
Conclusion: In our serie, it has been proved that implementation of an Emergency surgery unit not only improves the safety of the patient in the acute cholecystitis treatment, it also improves the effectiveness and efficiency of the urgent surgical process.
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Cubas RF, Gómez NR, Rodriguez S, Wanis M, Sivanandam A, Garberoglio CA. Outcomes in the management of appendicitis and cholecystitis in the setting of a new acute care surgery service model: impact on timing and cost. J Am Coll Surg. 2012; 215(5): 715-21
Disclosure: No significant relationships.

O075

EMERGENCY COLON SURGERY IS A PREDICTOR OF NEGATIVE POSTOPERATIVE OUTCOMES

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Introduction: Only a few studies have demonstrated the negative impact of emergency intervention in colon surgery on postoperative outcomes. Our aim was to validate this premise by comparing postoperative outcomes after emergency and elective colon surgery.
Material and methods: A prospective observational study was conducted including all patients aged over eighteen years who underwent colon resection at a tertiary-level emergency hospital. Postoperative outcomes included postoperative morbidity, mortality, reoperation, readmission and length of stay (LOS). Statistical analysis encompassed both univariate and multivariate tests, with statistical significance set at $p<0.05$.
Results: From a total of 35,933 surgical admissions over a thirteen-month period, 300 colon resections were performed (0.08%), twenty-five (8.3%) of which in an emergency setting, within two hours of admission. A higher mortality and reoperation rate was obtained in the emergency surgery group compared to the elective surgery group: 40% versus 5.8% (p <0.0001, OR: 10.79, 95% CI: 4.18-27.79) and 20% versus 6.9% (p =0.02, OR: 3.36, 95% CI: 1.19-9.97), respectively. Length of stay was 12.4 ± 9.61 days in the emergency surgery group compared to 17.2 ± 9.61 in the elective surgery group.
Conclusion: Emergency colon surgery is a predictor of negative postoperative outcomes, displaying a distinct impact on mortality and reoperation. The role of LOS as a confounding factor should be further evaluated as a lower mortality rate after elective surgery may contribute to a longer LOS. Due to the paucity of literature addressing this topic, further studies are urgently needed, since a considerable proportion of colon pathology presents as an emergency.
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Disclosure: No significant relationships.

O076

FINANCES AND FLOW – A DEDICATED EMERGENCY SURGERY UNIT IMPROVES BOTH

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Introduction: Dedicated emergency general surgery units (EGSU) have evolved in significant numbers across the country in recent years. There has been little or nothing written about their impact on patient flow and health economics.
Material and methods: A retrospective observational study was conducted using clinical and financial data from the business

intelligence unit of a University hospital, which has had a dedicated EGSU since 2008. Primary outcomes analysed were total number of emergency admissions to the surgical unit, income generated and proportion of patients with a length of stay (LOS) less than 24 hours. Secondary outcomes analysed were clinical outcomes, including mortality.

Results: There was a significant increase in number of patients admitted as an emergency to the general surgical unit, from 4757 in 2010/11 to 7424 in 2015/6. The yearly percentage of patients with LOS of less than 24 hours increased from 25% in 2006 to 41% in 2013. Income revenue generated by the emergency surgery service increased from £5,002,931 in 2010/11 to £13,094,812 in 2014/15. Mortality rate for all patients admitted as an emergency fell from 2.3% in 2006 to 1.57% in 2015, with an independent samples t-test showing a significantly lower mean mortality rate ($p = >0.05$) when comparing pre-EGSU to EGSU years.

Conclusion: The introduction of a dedicated EGSU has had a positive impact to not only patient flow within the hospital, with significant increase in patient volume, but also a greater proportion of patients with a zero day LOS, and a doubling in income derived specifically from emergency surgery per financial year.

References:

Disclosure: No significant relationships.

COMPLEX ARTICULAR INJURIES

O077

SIMPLE ELBOW DISLOCATION IN ADULTS. COMPARATIVE STUDY OF FUNCTIONAL TREATMENT VERSUS ACUTE LIGAMENTOUS REPAIR

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Introduction: Elbow dislocation is the second most frequent type of large joint dislocations in adults. Standard treatment of simple elbow dislocation (SED) without manifest instability includes closed reduction, short-term immobilization of the elbow followed by functional aftercare. Aim of this study is to evaluate SED treatment, comparing outcomes of conservative functional treatment and surgical therapy.

Material and methods: Retrospective analysis of 54 adult patients with simple elbow dislocation treated in University Hospital Brno from January 2008 to June 2015. Twenty eight patients were treated conservatively. Closed elbow reduction was followed by short term elbow fixation in plaster splint and active rehabilitation. Twenty six patients underwent closed elbow reduction and subsequent reconstruction of torn collateral ligaments. Postoperatively plaster splint was applied followed by rehabilitation.

Results: Patients who were treated conservatively reached statistically significant better scores in QuickDASH, Oxford Elbow Score (OES) and Mayo Elbow Performance Score (MEPS). Functional conservative treatment resulted in higher range of motion. Complication rate was higher in the group of surgically treated patients.

Conclusion: Careful examination of elbow stability after closed reduction of SED is crucial for further therapy. Patients with stable SED should be treated with functional conservative therapy. Surgical collateral ligaments revision and reconstruction are indicated only for patients with manifest elbow instability.

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Disclosure: No significant relationships.

O078

THE TREATMENT OF POSTERIOR ACETABULAR FRACTURES WITH A NEW DESIGN POSTERIOR ACETABULAR PLATE

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Introduction: Acetabular fracture is usually caused by high energy trauma.Open reduction and internal fixation is the standard treatment for acetabular fractures displaced more than 2 mm[1].The complex anatomy of the acetabulum, requires perfect anatomical reduction.To achieve this; we have developed the "posterior acetabular anatomic buttress plate", which is designed to preserve and facilitate repositioning, with its anatomically precontoured structure.The primary aim of this study was to report on the preliminary outcomes newly posterior plate reconstruction of acetabular fractures.

Material and methods: Between 2013 and 2015, 12 adult patients(9 males)with mean age 38.2 years(range 21–55) who underwent surgical fixation for an acetabular fracture with newly design posterior acetabular plate and had minimum follow up of 12 months.Radiographic evaluation was performed using criteria described by Matta.Functional outcame was assessed using modified Postel Marle D'Aubigné score.

Results: Clinical results were excellent in 58% of patients and good in 17% of patients. Radiologically, 8 (66%) patients showed anatomic reduction, 2 (17%) showed good reduction, and 2 (17%) showed poor reduction.

Conclusion: Until date,the treatment of especially complex acetabular fractures remains a challenge even to the experienced trauma surgeons [2], [3]. In this study, we introduce a new design posterior acetabular plate and its preliminary clinical application in isolate posterior colon and/or combined anterior-posterior acetabular fractures. There are some advantages of posterior column buttress plate;which are being anatomic structure,not required to give additional shape,providing secure fixation between ischium and iliac crest,and enabling secure fixation without the risk of intraarticular penetration.Hovewer;additional cases are needed to asessment the efficiency of this new fixation material.

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Disclosure: No significant relationships.

O079

ANGULAR STABLE MINI-PLATE FIXATION OF CHRONIC UNSTABLE SCAPHOID NONUNION. IS IT THE FUTURE?

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Introduction: Management of scaphoid nonunion presents a challenge. As believed, previous surgery and duration of nonunion adversely affect outcome of surgery for scaphoid nonunion. We hypothesize that treatment of chronic unstable scaphoid nonunion with a volar angular stable mini-plate and cancellous bone grafting is successful, regardless of duration of nonunion or previous surgery for scaphoid nonunion.
Material and methods: Twenty-five patients with a chronic unstable scaphoid nonunion were prospectively enrolled. Nonunions were diagnosed on multiplanar reconstruction CT preoperatively. For determination of possible avascularity of the proximal pole, an MRI was performed. Operative technique involved open reduction by volar approach and internal fixation of the scaphoid using an angular stable mini-plate and autologous cancellous bone graft. Follow-up included evaluation of functional outcome and MRCT at a 3-month interval until union was confirmed.
Results: Currently, 16 out of 25 patients have completed a minimum follow-up of 6 months (median 17.6 months). Mean duration of nonunion was 35 months. Fifteen patients were healed on post-operative CT-scan. Median time to union was 4.8 months. Function of the affected hand improved from 47 to 31 points as measured by the PRWHE questionnaire. Range of motion improved from 91 to 107 degrees. No serious complications were observed.
Conclusion: Angular stable plate fixation supplemented with autologous cancellous bone grafting is a successful technique for treatment of chronic unstable scaphoid nonunion. We believe that rigid fixation is the most determining factor for successful treatment of unstable scaphoid nonunion, regardless of length of duration of nonunion or previous surgery.
References:
Disclosure: No significant relationships.

O080

MID-TERM RESULTS AFTER LOCKING PLATE FIXATION OF COMPLEX RADIAL HEAD FRACTURE

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Introduction: Treatment of radial head fractures is still controversial. Especially after osteosynthesis of complex fractures a high rate of complications like secondary displacement, nonunion and radial head necrosis occurs[1]. As result some authors recommend primary treatment with a radial head replacement with prosthesis[2]. Recently new anatomical, locking plates were developed. In retrospective study we present our experiences and results with these implants in a case series of 40 patients.
Material and methods: 40 patients with a mean age of 46 years were treated in a Level-1 Trauma Center between August 2008 until November 2013 with Medartis Radial Head Plates 2.0 for internal fixation of complex radial head fractures. Fracture healing was evaluated by means of conventional x-rays. Clinical outcome was examined by means of Mayo Elbow Performance Score (MEPS) and Disabilities of Shoulder, Arm and Hand Score (DASH).
Results: The mean follow-up examination was 3.1 years (range 0.8-5.8 years). The healing rate was 97%. The mean MEPS was 90 points (range 65-100), where 52% patients showed an 'excellent', 40% 'good' and 8% 'fair' results. There were no 'poor' results. 52% patients had no complaints of pain, 35% complained of mild pain and 13% reported a moderate pain. There was one patient with an asymptomatic mild instability. The mean DASH score was 16.5 (range 2,5-58,3).
Conclusion: The results show that the new locking plates can also be indicated in complex radial head fractures with good clinical outcome and reduced rate of complications. These plates play an important role in joint preserving treatment, and as such, are primarily indicated in young patients with complex radial head fractures.
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Disclosure: The biomechanical laboratory of the Department of Trauma Surgery is supported by a yearly grant from Medartis AG, Basel, Switzerland. No benefits have been received directly by any of the authors.

O081

TIMING IN ANTERIOR CRUCIATE LIGAMENT SURGERY

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Introduction: It is considered that surgery timing may influence the outcomes in patients that undergo anterior cruciate ligament (ACL) reconstructions. Our objective sought to compare the results of delayed and acute ACL reconstruction with or without meniscal, chondral or degenerative pathology.
Material and methods: We prospectively analyzed the outcomes of 73 patients that underwent ACL reconstruction between February 2013 and March 2014. Patients were divided in two groups: first group – patients that underwent surgery in the inflammation interval of the injury (first 48 hours; n=26) and second group – patients scheduled for surgery after 3 (or more) months after the injury (n=47). Lysholm scoring system, Tegner activity scale, AP and LL radiographs were used to evaluate the outcomes at 3 and 6 months' postoperative.
Results: There were no differences between the groups regarding Lysholm scoring system ($p = .423$) or Tegner activity scale ($p = .287$). However, the incidence of arthroscopically identified meniscal tears was significantly higher in the second group ($p < .05$). Three patients in the first group developed arthrofibrosis during the follow-up.
Conclusion: Acute ACL reconstruction may prohibit a potential meniscal injury. Reducing the time between injury and surgery may have a beneficial effect on patient outcomes.
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Disclosure: No significant relationships.

O082

COMBINED ARTHROSCOPIC AND MINI-INVASIVE RELEASE OF ADHESIONS IN THE MANAGEMENT OF POST-OPERATIVE STIFF KNEES

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Introduction: Knee stiffness is a difficult complication following knee surgeries. Extra- and intra-articular adhesions exist that may severely incapacitate the knee. Traditional quadricepsplasty has significant morbidity. Intra-articular adhesiolysis alone is not sufficient in severe cases. Our hypothesis was that combined intra-articular arthroscopic adhesiolysis and extra-articular mini-invasive quadricepsplasty effectively improves ROM and function in post-operative severely stiff knees that that may not respond to arthroscopy alone and without the morbidity associated with the classic Judet technique.

Material and methods: This prospective study was performed from January 2010 to December 2014 in the Orthopaedic deparment of our university hospital. 18 patients with severe postoperative stiff knees were managed with combined arthroscopic and mini-invasive soft tissue and quadriceps release. The mean age of the patients was 27 years. Intra-operatively, patients that improved significantly by arthroscopy alone were excluded from the study. Otherwise, mini-invasive extra-articular quadricepsplasty was performed. The mean follow-up was 35 months. All patients were evaluated for pain, range of motion and knee function using the Knee Society Scoring System.

Results: The average maximum degree of flexion increased from 25° preoperatively to 120° at the time of the final follow-up ($p < 0.001$). A superficial wound infection occurred in two patients. One patient had a persistent 15° extension lag.

Conclusion: Combined intraarticular arthroscopic adhesiolysis and extra-articular mini-invasive quadricepsplasty effectively improves ROM and function in post-operative severely stiff knees that that may not respond to arthroscopy alone and without the morbidity associated with the classic Judet technique.

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Disclosure: No significant relationships.

O083

SOFT TISSUE PROTECTION BY LOCKED NAIL OSTEOSYNTHESIS OF ANKLE FRACTURES WITH THE XS NAIL. A NEW CONCEPT IN THE MANAGEMENT OF ANKLE FRACTURES

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Introduction: The soft tissue coverage of the ankle is thin and vascularity often impaired ba vascular problems, trauma or diabetes. In a clinical series of 194 patients 37% of all where at risc of soft tissue nekrosis. Therefore the standard of plate fixation can cause severe problems.

An intraosseus locked nail position reduces the leaver arm and so increase the weight bearing capacity and allows soft tissue protection and anatomical fixation.

We developed a straight nail wich is introduced after open fracture reduction after drilling with the exact size of the nail of 4,5 or 3,5 mm with a guide wire and canulated drill. So stressfree insertion and locking with threded wires every 9 mm can be performed. Due to the oval 2 distal holes also frcture compression can e performed with a set screw.

Material and methods: Sow bone alternating load with 1000cycles at 1000N in B an C type fractures and FE Calculation were performed.

The clinical evaluation was performed at 6 and 18 months in 214 patients treated 1999-2001 in a single center with the XS nail in ankle fractures. Olerud score was used.

Results: The deformation in the XS group was reduced by 2/3 and the stress at the fracture site reduced in the XS nail experimental group In 71,4% the clinical results were very good and in 24,1% good acording to the Olerud score. No fracture dislocation or osteomylitis occured but in 2 cases with oblque insertion in the medullary canal fracture at the tip of the nail occured.

Conclusion: The XS nail allowes a stable fixation of ankle fractures after open reduction with a very low complication rate. The exact centromedullar position is important.

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Disclosure: I am Author of the XS Nail.

O084

RECONSTRUCTION OF THE DISTAL TIBIOFIBULAR SYNDESMOSIS IN CHRONIC INSTABILITY USING A SPLIT PERONEUS LONGUS TENDON

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Introduction: The distal tibiofibular syndesmosis is a complex of ligaments that functions as a dynamic stabilizer of the ankle joint and preserves congruency. In case of a fracture and/or dislocation of the ankle that typically involve exorotation, syndesmosis injury is frequently seen and treated accordingly. However, a missed diagnosis or failure after treating a syndesmosis injury can cause chronic ankle instability and post-traumatic arthrosis.
Material and methods: In the past three years we have collected a case serie of five patients with chronic ankle instability due to syndesmosis insufficiency. In all five we have performed a reconstruction of the syndesmosis using a split peroneus longus tendon. We have used this tendon in combination with screw fixation to reconstruct the anterior syndesmosis and to stabilize the ankle.
Results: All patients have a follow-up of more than one year. No post-operative wound infections or hematomas were seen. Function of the ankle as well as stability were very satisfactory. No revision surgery was needed.
Conclusion: In our experience, however limited, the peroneus longus tendon offers an excellent natural stabilizer of the ankle joint that can be used in chronic instability of the distal tibiofibular syndesmosis. A comparison of our results with other similar case series is needed to draw further conclusions.
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Disclosure: No significant relationships.

TRAUMA SYSTEMS 1

O085

THE EPIDEMIOLOGY OF WORK-RELATED ROAD TRAFFIC INJURIES IN QATAR: ROAD USER CHARACTERISTICS INFORM INJURY PREVENTION PROGRAMS

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Introduction: Injuries are the leading cause of death in Qatar, primarily those that occur at work or on the road. However, there is a paucity of data on work-related road traffic injuries [WRTIs] in Qatar. This study will describe the epidemiology of WRTIs in Qatar and make recommendations for targeted prevention programs.
Material and methods: Data, on patients with WRTIs treated at the Hamad Trauma Center [HTC] Trauma Registry from January 2015 to September 2016 was collected, analyzed according to road user type and characteristics.
Results: There were 260 WRTIs admitted during the study period, 25.5% of all work-related injuries. The in-hospital mortality rate was 5.4 %. Motor vehicle crashes [MVCs] comprised 74% of WRTIs: 51% involved heavy vehicles [trucks or buses], 40 % were unrestrained drivers, 15% were rollovers and 10% were against fixed objects. Twenty-one percent of victims were pedestrians, 81.8% from left-hand driving countries. There were no significant differences for age, mean ISS, ICU & hospital LOS but the mortality rate for pedestrians was twice that for MVC victims [10.9% vs. 4.2%, $p < 0.05$].
Conclusion: One-fourth of all work-related injuries in Qatar are WRTIs. Occupational safety programs should focus on increasing restraint use by drivers of heavy vehicles, driver education to prevent rollovers and pedestrian education for workers from left-hand driving countries. The significantly higher mortality rate for pedestrians merits more focused analysis in the future.
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Disclosure: No significant relationships.

O086

TRAUMA REGISTRIES: WHEN DO WE MERGE CIVILIAN AND MILITARY REGISTRIES?

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Introduction: Structural collection of data from combat injuries is important to improve provided care and the outcome of (combat) casualties. Trauma registries are used in civilian and military healthcare systems for systematic administration of injury data. However, these registries often use different methods of data management, compromising international comparison of trauma systems. The aim is to aid in reaching international (coalition-wide) consensus for compatible data collection methods with uniform definitions. This is required for transnational research and subsequent improvement of medical support organizations.
Material and methods: We analyzed different datasets from trauma systems within the American-European context, and included data variables from civilian and military trauma registries. These datasets were analyzed to identify a core set of variables fundamental to describing the tactical context, epidemiology, injury mechanism, injury severity, key treatment and outcome.
Results: A total of 1,672 unique variables, of which 536 military specific, were identified and divided in 11 categories of medical care and 3 military specific categories. A total of 202 key-variables were identified and considered fundamental for effective (military) trauma research.
Conclusion: Well-established and reliable trauma registries and databases are fundamental in (military) trauma care. We recommend implementation of a (concurrent) UN/NATO wide registry system with a track and follow up system in order to further improve the quality of care and registration of casualties. Further research should focus on possibilities for direct storage and upload in trauma databases in theater. Ultimately, sound and valid data supports medical

decision process and evaluation necessary to save lives on the battlefield.
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Disclosure: No significant relationships.

O087

STRUCTURAL VALIDITY OF THE DUTCH VERSION OF THE DISABILITY OF ARM, SHOULDER AND HAND QUESTIONNAIRE IN PATIENTS WITH HAND AND WRIST INJURIES

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Introduction: Fractures of hand and wrist are one of the most common injuries seen in adults. The Disabilities of the Arm, Shoulder and Hand (DASH) questionnaire has been developed as a patient-reported assessment of pain and disability to evaluate the outcome after hand and wrist injuries. The DASH is one of the most frequently assessed questionnaire in hand and wrist injuries. However, the structural validity, a prerequisite for validity, has never been evaluated.
Material and methods: This study was a retrospective analysis of cross-sectional data of 370 patients. All patients aged 18 to 65 years treated either conservatively or surgically for an isolated hand or wrist injury were recruited. Patients were excluded if they were unable to understand or read the Dutch language. Confirmatory factor analysis was used to investigate the structural validity. Cronbach's alpha and coefficient omega are used to investigate internal consistency.
Results: Confirmatory factor analyses revealed that all models (a single factor model, a 3-correlated factor, and a bifactor model) were associated with a good model fit. In the multidimensional models the additional value of the subscales is not significant as the factor loadings were very weak indicators (factor loadings < 0.5). This indicates that the Dutch version of the DASH should be considered as an unidimensional trait.
Conclusion: This study validates the Dutch version of the DASH. PROM as reported by the Dutch version of the DASH combines outcome measures such as pain, function or patient satisfaction in an unidimensional trait.
References:
Disclosure: No significant relationships.

O088

PERFORMANCE OF THE TRISS FOR EVALUATING TRAUMA CARE IN THE DUTCH TRAUMA POPULATION

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Introduction: The Trauma and injury severity score (TRISS) was developed and updated from the Major Trauma Outcome Study (MTOS) and is the most commonly used model to evaluate the quality of trauma care internationally, despite previously addressed limitations. The aim of this study is to determine the performance of the TRISS when applied to trauma subpopulations.
Material and methods: The Brabant Trauma Registry included 72,411 patients from 2010 to 2015. Missing values were imputed according to multiple imputation. Subsets were created from the total cohort, based on age, injury severity, length of stay and type of injury. The probability of survival (Ps) was calculated according to the TRISS formula. Discrimination was assessed with the Area Under the Receiver Operating Curve (AUROC). Calibration was studied graphically in calibration plots of actual outcome versus predicted outcome.
Results: The AUROC of the total cohort was 0.836 (95% CI: 0.827, 0.844) and ranged from 0.525 (95% CI: 0.498, 0.551) for the subset $\geq$65 years with hip fracture to 0.940 (95% CI: 0.929, 0.951) for those $\leq$ 75 years old. Overall, the TRISS underestimated the probability of survival compared to the actual observed survival, with overestimation in the interval: 0.7 to 0.9.
Conclusion: Performance of TRISS is highly depended on the casemix of included patients in the registry. We conclude that the traditional TRISS is not an adequate measure to benchmark trauma care in the Dutch trauma population. Future research should develop and validate a trauma prediction model that could be applied to the Dutch trauma population.
References:
Disclosure: No significant relationships.

O089

THE MANCHESTER TRIAGE SYSTEM IN THE SURGICAL FIELD - THE EXPERIENCE OF AN EMERGENCY DEPARTMENT IN A NON-CENTRAL HOSPITAL FROM PORTUGAL

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Introduction: The Manchester Triage System is the emergency triage system mostly used in Europe. Is the only system approved for adult triage in Portugal. It consists of 52 diagrams and flow charts that allow nurses to give one of the 5 emergency categories, with an expected time to medical assistance. It has been validated in Medicine and Pediatrics, but not for surgical patients In that matter, we proposed ourselves to perform a retrospective unicentric study to evaluate all the patients operated through our emergency department during 2 years, looking mainly at priority status and time to surgery
Material and methods: Data collection from Soarian - patients operated through the emergency department from January 2013 to December 2014; clinical records; triage priority; time triage-to-knife and surgery performed. Statistic tools-SPSS
Results: In the 2 year period, 1224 patients were submitted to surgery in the emergency department of our Hospital. The male:female ratio

was 1:1 with a mean age of 48yr. Of those, 75% were triaged directly to Surgical consultation. The majority of patients were given urgent priority (48%), with a minority of immediate and non-urgent (<1%). The mean triage-to-knife time was 12.7h. No statistically significant difference was found between the priority given and triage-to-knife time ($p>0.05$)

Conclusion: In our institution, there was no correspondence between the priority given and the time to surgical procedure. This study is limited by the fact that is unicentric, and by bias associated urgency department organization. More studies are needed to evaluate the efficacy of the Manchester Triage Surgery in the Surgical field

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Disclosure: No significant relationships.

O090

TRAUMA SYSTEMS AROUND THE WORLD: AN OVERVIEW OF THE CURRENT STATE

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Introduction: Implementation of trauma care systems has resulted in improved patient outcomes,but international differences exist. Improvement of care can only be established if these differences are clarified. This review gives an overview of the current state of trauma systems globally

Material and methods: A literature review was conducted following the PRISMA guidelines. Pre-hospital-, acute hospital care and quality assurance were classified using the WHO Trauma System Maturity Index in four levels from I (least mature) to IV (most mature).

Results: The search yielded 118 articles about 32 countries: 23 high-income (HI), 8 middle- (MI) and 1 low-income (LI) country. Trauma-related mortality was highest in the MI- and LI countries. Level IV pre-hospital care with Advanced Life Support was established in 19 HI countries, in contrast to the MI and LI countries where this was only present in Brazil, China and Turkey. In 18 HI countries a level III/IV hospital-based trauma system was implemented, while in 9 LI- and MI countries level I/II trauma systems were seen mostly lacking dedicated trauma centers and teams. A national trauma registry was implemented in 9 HI countries.

Conclusion: Despite seemingly sufficient resources and the evidence based benefits of trauma systems, only nine high-income countries have a well defined and documented national trauma system. In most middle- and low income countries a formal trauma system is absent despite the high trauma burden. Much can be gained concerning trauma systems in these countries, but unfortunately, it also seems that trauma system development relates evidently but not only to economic well-fare.

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Disclosure: No significant relationships.

O091

A PHYSIOLOGICAL TRAUMA SCORE WITH EASY COMPUTABILITY AND IMPROVED PROGNOSTICATION FOR HOSPITAL MORTALITY

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Introduction: The study objective was to develop and validate a physiological trauma score, which was easily calculable and more accurate in comparison of the Revised Trauma Score (RTS) and Mechanism, Glasgow Coma Scale, Age, and Arterial Pressure (MGAP) score.

Material and methods: This study utilized data of the Japan Trauma Databank (JTDB) and Clinical Randomisation of Antifibrinolytics in Significant Haemorrhage–2 (CRASH–2) trial. JTDB data was dichotomized into the derivation and validation cohorts. CRASH-2 data was assigned to the other validation cohort. We selected age and physiological variables at the baseline, partitioned the variables into ordinal variables, and define the weighting coefficients of integers. Score performance was assessed by area under curve in a receiver operating characteristics (AUCROC) analysis, and by a reclassification improvement analysis.

Results: JTDB derivation cohort (N=68,021) developed a novel score ranging from 0 to 20 points where age (0–3 points), Glasgow Coma Scale (0–8 points), systolic blood pressure (0–5 points), and respiratory rate (0–4 points) included. AUCROC of the novel score was 0.925 in JTDB validation cohort (N=77,398) and 0.819 in CRASH-2 cohort (N=20197), respectively, and was better than those of RTS (0.902 and 0.810) and MGAP score (0.909 and 0.776), respectively. Reclassification improvement analysis demonstrated better net reclassification improvement of the novel score in comparison of RTS (+0.320 in JTDB validation cohort and +0.194 in CRASH-2 cohort) and MGAP score (+0.488 in JTDB validation cohort and +0.440 in CRASH-2 cohort).

Conclusion: We developed an easy-to-use trauma score with improved prognostication for in-hospital mortality than RTS and MGAP score.

References:

Disclosure: No significant relationships.

LAPAROSCOPY IN EMERGENCY SURGERY

O092

BEDSIDE DIAGNOSTIC LAPAROSCOPY IN INTENSIVE CARE UNIT

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Introduction: The clinical evaluation of acute abdomen patients in intensive care unit (ICU) can be very difficult due to the fact that intra-abdominal pathologies often presents with unspecific symptoms and lack of reliable exams. In case of inconclusive laboratory tests or imaging results, or when it's impossible to safely transfer a patient to the radiology department, diagnostic laparoscopy is a promising tool which is object of increasing attention by many authors.
Material and methods: A retrospective review was conducted on the medical records of patients who underwent bedside diagnostic laparoscopy for suspected intra-abdominal pathologies in ICU between January 2010 and September 2016. Clinical indications included: clinical evaluation, elevation of laboratory tests, lactate/ metabolic acidosis, elevation of intra-abdominal pressure, inconclusive radiologic findings (ultrasound or CT images), inability to perform a CT scan.
Results: 108 adult patients (56 male, 52 female) with a mean age of 62 years underwent bedside diagnostic laparoscopy in ICU. The procedure was performed on an average of 7 days after ICU admission and mean procedure duration was 45 minutes. Laparoscopic findings were negative for intra-abdominal disease in 45.7% of patients, meanwhile 54.3% of patients had positive laparoscopic findings. The incidence of abdominal diseases was the following: acute cholecystitis 42%, acute mesenteric ischemia 45% (most of all in post-cardiac surgery patients), colic perforation for diverticular disease in 7%, bowel obstruction in 6%. No intra-operative complications, nor mortality was present.
Conclusion: Bedside diagnostic laparoscopy may facilitate the diagnosis of intra-abdominal diseases. Our results confirm the advantages of this procedure that can be considered safe and feasible.
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Disclosure: No significant relationships.

O093

LAPAROSCOPIC TREATMENT OF PERITONITIS AND PERFORATED DUODENAL ULCER

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Introduction: Gastroenterology significantly reduced intersection of gastroduodenal ulcer with surgery. Perforation occupies the largest share of acute gastro-duodenal ulcer, bleeding ulcer is rather the exception. The complex anti-ulcer therapy made possible to reduce surgical solutions to the symptomatic sanction of perforation, without appeal to pathogenic sanction: secretory mass and endocrine cells reduction, and vagal secreto motor system blocking. This way the laparoscopy has become the solution of choice in the treatment of peritonitis and digestive breaches.
Material and methods: Over a period of 7 years (2009-2015) we selected 75 cases of perforated gastroduodenal ulcer treated by laparoscopic suture of perforation with or without omentum-plasty and laparoscopc treatment of generalized peritonitis. In three cases we used the conservative method of Taylor and in 5 cases we practiced gastro-duodenal resection with or without vagotomy followed by gastroduodenal anastomosis.
Results: Analysis of the results disclosed the effectiveness of treatment. Complications consisted of a fistula after gastric resection and a fistula after suture with omentum-plasty for anterior duodenal ulcer. Length of hospitalization and postoperative morbidity were significantly reduced.
Conclusion: In gastroduodenal ulcer perforation, therapeutic solution of choice is the laparoscopic approach, the suture of ulcer and treatment of peritonitis is easy and handy to young specialist.
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Disclosure: No significant relationships.

O094

PERFORATED PEPTIC ULCER – LAPAROSCOPIC VS. OPEN SURGERY

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Introduction: The aim of this study is to compare laparoscopic and open surgery for perforated peptic ulcer with generalised peritonitis.
Material and methods: Prospective matched-case study of 2 groups of patients: group 1 - 52 patients that underwent laparoscopic surgery for perforated peptic ulcer with generalised peritonitis (2008-sept 2016); group 2 – 52 matched cases of open surgery for perforated ulcer. Group 1 patients were selected using the following criteria: onset of peritonitis under 24 hours, absence of ulcer history, patient with good general status. Group 2 patients were matched from all patients with perforated ulcer admitted and treated between 2008 – sept 2016. The following parameters were studied: length of intervention, duration of hospital stay and cost, postoperative morbidity and prognosis.
Results: Medium length of intervention was 1 hour and 10 minutes for group 1 and 1 hour and 5 minutes for group 2. Median postoperative hospital stay was 5 days for group 1 and 8.2 days for group 2. Postoperative morbidity: group 1: subphrenic abscess – 1 case – laparoscopic re-operation, wound seroma – 4 cases, wound infection 1 case, prolonged postoperative ileus – 3 cases, prolonged postoperative fever of undetected cause – 2 cases; group 2: postoperative bleeding – 1 case that required reintervention, wound seroma – 3 cases, wound infection – 3 cases, postoperative ileus – 5 cases.
Conclusion: Although reserved for selected cases, laparoscopic approach for perforated ulcer is superior to open surgery due to shorter hospital stay and cost without any influence in postoperative morbidity.
References:
Disclosure: No significant relationships.

O095

LAPAROSCOPY FOR PERFORATED DUODENAL ULCER: A NEW MORBIDITY SCORE

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Introduction: Laparoscopic treatment of perforated ulcer is accompanied by a lesser morbidity and mortality compared with treatment by laparotomy. However, the morbidity of the laparoscopic approach is not nil (6%).The aim of our work is to establish a morbidity score in patients undergoing laparoscopic surgery for acute peritonitis due to perforated duodenal ulcer.
Material and methods: This is a descriptive retrospective study conducted in general surgery department at Mongi Slim Hospital Marsa.We included 384 cases of perforated duodenal ulcer operated laparoscopically over a fourteen year period ranging from January 2000 to December 2014. In univariate analysis,risk factors searching was performed by calculating the odds ratio to identify the independent morbidity factors.We conducted a multivariate logistic regression analysis step by step descending method.Using these independent factors we established a score using the ROC curves.The threshold with the best sensitivity and specificity for predicting morbidity was Identified.The significance level was set at 0.05.
Results: The overall morbidity rate of our patients was 3.3%.Multivariate analysis has identified five independent morbidity risk factors:temperature >37.6 ° C, renal failure, age> 45 years,a number of stitches of two or higher, and operating time > 75 minutes.Our morbidity score took into account these 5 factors by integrating intrinsic value of each factor.The threshold of the score having the best torque sensitivity specificity to predict morbidity was 10.
Conclusion: A morbidity score for perforated duodenal ulcer surgery performed by laparoscopy may be useful to organize post-operative care of these patients usually young and active.A prospective study using this score is currently underway in our department.
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Disclosure: No significant relationships.

O096

LAPAROSCOPIC VS. CLASSIC APPROACH IN ACUTE APPENDICITIS. COMPARATIVE STUDY

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Introduction: To present our experience in laparoscopic appendectomy and to raise a few questions about the boundaries between minimally invasive appendectomy and the open counterpart.
Material and methods: All the patients' electronic charts were reviewed for the code of open or laparoscopic appendectomy between January 2011- September 2016. The sex, age, comorbidities, body mass index (BMI), stage of the disease, complications during and after procedure were recorded.
Results: There were 712 cases of appendectomy. Laparoscopic appendectomy (LA) was performed in 481 cases, open appendectomy (OA) in 231 cases. Females/males ratio was 1.25:1, main reason for this was that in many cases of diagnostic laparoscopy we have chosen to perform appendectomy even if the reason for admission was a gynecological condition. Comorbidities were presented more often in the OA 15% versus 7% in the LA group. BMI was higher in the LA 28.7 kg/m2 compared to OA 26.5 kg/m2. The stage of the disease was more advanced in the OA group with more localized and generalized peritonitis. Complications were encountered more often in the OA group.
Conclusion: There was still a high percentage of OA during the first years, but then this changed dramatically in favor of LA, which raised concerns about the training of the residents. Obese and female patients are more prone to be operated by LA. The more difficult cases were operated by OA. Although LA has become the preferred method we still have to train in OA, which keeps its place in the surgeon armamentarium.
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Disclosure: No significant relationships.

O097

LAPAROSCOPIC MANAGEMENT OF SMALL BOWEL OBSTRUCTION: INDICATION OR CONTROINDICATION?

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Introduction: Small bowel obstruction (SBO) is a common surgical emergency. Postoperative adhesions are the most frequent etiology. Currently laparotomy is accepted as the standard surgical intervention, although laparotomy itself is an independent risk factor for SBO. Following the first reported case of laparoscopic adhesiolysis by Bastug DF in 1991, widespread acceptance of laparoscopy in the management of SBO was limited due to fear of iatrogenic bowel injuries and decreased visualization caused by distended bowel.
Material and methods: Patients underwent surgery for adhesive SBO at our institution between October 2012 and August 2016 were reviewed. Open adhesiolysis were compared with laparoscopic adhesiolysis. Morbidity and mortality, operative time, length of stay

and subsequent re-admission to hospital were compared between groups.
Results: A cohort of 293 patients with adhesive SBO was identified: 214 (73%) underwent open procedure and 79 (27%) underwent laparoscopic procedure. Within the laparoscopic group 19 (24%) underwent convertion to open procedure. The mean operative time was shorter for laparoscopic group (100min vs. 112,4min, p = 0,089) as mean length of stay (7,4 days vs 13 days, p < 0,001). The overall complication rate was significantly lower in the laparoscopic group (p < 0,001), in particular grade III and grade IV complications. Re-admission rate and re-operation at 30-days and 1-year were higher for the group of patients treated with an open procedure.
Conclusion: Laparoscopic management of adhesive SBO is feasible and is associated with a shorter length of hospital stay, a lower morbidity, and in particular has a lower rate of relapse compared with traditional open procedure.
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Disclosure: No significant relationships.

O098

THE LAPAROSCOPIC APPROACH OF SMALL BOWEL OBSTRUCTION – THE EXPERIENCE OF A MEDIUM VOLUME PRIMARY CENTER

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Introduction: Small bowel obstruction represents up to 16% of surgical emergencies. Mortality and morbidity depend on early recognition, correct diagnosis and timely surgical management. The most frequent causes of small bowel obstruction are adhesions, malignant tumors, hernias and volvulus. Although laparoscopic surgery is not promoted for the management of small bowel obstruction, it may address many of the mentioned causes. In the same time, it represents a useful diagnostic tool that does not affect the integrity of the abdominal wall.
Material and methods: The current study resumes the experience of a medium volume primary center. Between March 2010 and October 2015, 38 patients were diagnosed with small bowel obstruction and suffered laparoscopic interventions. In 7 cases conversion to open surgery was necessary.
Results: Mortality was 0% and specific morbidity was 12%. The mean operating time was 87.2 minutes with wide variations depending on etiology and the mean postoperative hospital stay was 4.7 days.
Conclusion: The laparoscopic approach of small bowel disease is feasible and safe in selected cases and offers evident benefits regarding to the integrity of the abdominal wall, rapid return of bowel function and shorter hospital stay.
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Disclosure: No significant relationships.

O099

THE ROLE OF MINIMALLY INVASIVE SURGERY IN THE MANAGEMENT OF BOWEL ISCHEMIA

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Introduction: Acute mesenteric ischemia (AMI) represents a diagnostic challenge for the surgeons, emergency physicians and radiologists. The timing of diagnosis is of major importance. The recognition of AMI often occurs too late due to the presence of unspecific symptoms and lack of reliable exams.
Material and methods: A retrospective review was conducted on the medical records of 73 patients who underwent surgery for AMI between 2008 and 2016. We divided the whole series into two subgroups: laparotomic or laparoscopic approach. The two cohorts were compared for the following data: false positive rates, morbidity and mortality rates in the "false positive" patients, surgical outcomes. The intra-operative aspects of patients who underwent the second-look were evaluated.
Results: The laparotomic group (30 patients) had 8 false positive (26,70%), the laparoscopic one (43 patients), had 28 false positive (62,15%). The "false positive" patients rates were significantly lower in laparotomic group but in the laparotomic false positive subjects the number of proceduraly driven complications was significantly higher (62,50% vs. 10,70%; p =0,0018). The mortality rates in the two groups were similar (22,70% vs. 33,35%; p =0,485). In the laparotomic group there were an higher rate of postoperative complications. The mortality and morbidity rates were similar in patients with or without second-look.
Conclusion: An early diagnosis and an appropriate surgical approach have a key role in the management of mesenteric ischemia. Our data seem to be in accord of an important role of laparoscopy to decrease the number of useless laparotomy with the consequence of a reduction of the complications rate.
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Disclosure: No significant relationships.

INNOVATIONS AND ADVANCED TECHNOLOGY

O100

THE HYBRID THEATER AND THE INFLUENCE OF IMPLANT MATERIAL FOR RADIOLOGICAL IMAGING AND IRRADIATION DOSE

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Introduction: With the increasing availability of hybrid theaters with the capability of CT imaging, the frequency of per-operative imaging increase. Most manufactures of implants are currently switching from titanium to stainless steel implants. What seemed a trivial issue, choosing between Titanium or steel, suddenly becomes now an important question. Does stainless steel prevent adequate intraoperative imaging vs Titanium implants?
Material and methods: Laboratory: with a full equipped hybrid theater (Philips) we prospective collected imaging data concerning Titanium, Stainless steel and Peek plates. Three anatomic regions were defined were intra-articular imaging is important: Prox. humerus, wrist and calcaneus. In 2 human fresh frozen cadavers, the stainless, titanium and peek implants were implanted, subsequently normal fluoroscopy was performed followed by Xpert CT with 3d recon. All images, radiation dose were recorded.
Results: Fluoroscopy with all three implants is all well assessable, with peak plate the bone is best visible. Titanium plate is 2nd best and the stainless steel plate is 3rd. With Xpert CT the peek plate again is the best followed by Titanium and stainless steel. Even though peek and titanium are superior, with steel it still is possible to assess the adjacent joint. Analysis of the radiation dose reveals that stainless steel demand s 21% more dose. Titanium demands 30 % more than PEEK.
Conclusion: Imaging is best with peek, then Titanium and last stainless steel. Assessment of joints with the Philips system is still possible with stainless steel. From a radiation dose point of view, the best choice is peek.
References:
Disclosure: No significant relationships.

O101

VRINOR - THE WORLD'S FIRST LIVE STREAMED VIRTUAL REALITY OPERATION

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Introduction: On Thursday 11th April 2016 we live-streamed the world's first virtual reality operation. It was a laparoscopic anterior resection from The Royal London Hospital, live in 360 degree video. The patient was consented appropriately and the procedure was a success. The event was named "VRinOR". The primary goal was to demonstrate the ability to deliver immersive surgical education anywhere in the world, with future developments including interactivity to further increase the educational value.
Material and methods: The event was a collaborative effort between Medical Realities, Barts Health NHS Trust and Mativision. The kit consisted of a multi-lens camera connected to a laptop that combined the various feeds into a single 360 degree video feed (a process called stitching) and this was live streamed via a web platform and a smartphone application. A sixty second delay was introduced so the stream could be interrupted if needed.
Results: The event was a success, with over 53,000 people viewing the stream from more than 140 countries and 4000 cities. There were also more than 4 million interactions on twitter. There were technical issues with the web platform intermittently crashing due to much higher demand than expected.
Conclusion: The event was technically very successful with regards to reaching a large number of people, demonstrating a clear ability to educate efficiently on a global scale. There are improvements to be made for the future with regard to bandwith, camera position and integration of laparoscopic feed.
References:
Disclosure: No significant relationships.

O102

SPIF: A RAPID MANUFACTURING TECHNIQUE FOR THE DEVELOPMENT OF CUSTOM MADE THIN WALLED MEDICAL IMPLANTS

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Introduction: Custom made medical implants are becoming increasingly popular. Additive Manufacturing (3D printing) is a flexible and well-established process for such implants. However, 3 major disadvantages of printing metal/titanium implants are: High production cost, low production speed and stress deformation of thin implants. Single Point Incremental Forming (SPIF) provides a valuable alternative for the production of thin shell implants. SPIF is a low cost die-less sheet metal deformation technique which is fast and allows for the production of implants with a thickness up to 2mm. In an optimized setting it would allow to create custom plates in less than a day.
Material and methods: A decompressive craniectomy was performed on a cadaver donated by the human body donation program of the KU Leuven. The head was CT-scanned and reconstructed using image segmentation techniques. A custom made cranial implant was then designed and produced using SPIF. Finally a quality assessment of the produced implant was done, through a digital comparison of the

laser scanned implant and the CT-scanned head and through a practical fit on the cadaver model.
Results: A 0.4 mm thick implant was designed and produced in 4 days in an academic setting which had a good fit. Iterating this design/production process for different clinical problems allows to build an application specific database and workflow resulting in shorter processing times (few hours) and further improved accuracy.
Conclusion: SPIF is a promising techniques suitable for superficially located bony structures with a large anatomic variability such as, cranial defects, clavicle fractures and other fractures.
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Disclosure: No significant relationships.

O103

PREHOSPITAL DEPLOYMENT, PARTIAL OCCLUSION AND CONVERSION FROM RESUSCITATIVE THORACOTOMY ARE SIGNIFICANT OPTIONS IN REBOA TRAUMA STRATEGY; DIRECT-IABO REGISTRY IN JAPAN

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Introduction: Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) is a viable alternative to resuscitative thoracotomy (RT) in refractory hemorrhagic trauma patients. REBOA is an integral part of trauma care system worldwide. We evaluated REBOA strategies using a Japanese multi-institutional database.
Material and methods: The DIRECT-IABO investigators registered hemorrhagic patients requiring REBOA from 18 hospitals within Japan. Patients' characteristics, outcomes, and time in initial treatment were collected and analyzed.
Results: From August 2011-December 2015, 106 trauma patients were analyzed. Male patients were predominant (67%) and 96% blunt injured. ED is the most common location (75%), and some field REBOA (1.9%) were also reported and survived >30 days. Initial deployment was at zone I in 93% and partial occlusion in 68% of cases. RT and REBOA were combined in 30 patients (RT+REBOA group) who showed significantly higher ISS (44 vs. 36, p =0.001) and chest AIS (4 vs. 3; P<0.001) than REBOA alone group (n=76). Frequent CPR (73 vs. 14%) was required prior to REBOA. Longer PT-INR, lower pH and higher lactate were observed in RT+REBOA suggesting severe population. Among the 24-hour non-survivors (n=30), pre-occlusion SBP was significantly lower (43 vs. 72 mmHg; p =0.002) which might be too late. In the RT+REBOA group (n=30), 6 survived beyond 24 hours (all of 6 underwent CPR with blunt MOI), 3 beyond 30 days and achieved survival discharge.
Conclusion: Partial occlusion is common in Japan. Undelayed deployment may lead to better salvage and field REBOA can be considered. RT+REBOA may be a resuscitation breakthrough in most severe blunt injuries undergoing CPR.
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Disclosure: Yosuke Matsumura is a Clinical Advisory Board Member of Tokai Medical Products.

O104

RESUSCITATIVE ENDOVASCULAR OCCLUSION OF THE AORTA WITH TRANSCATHETER ARTERIAL EMBOLIZATION COULD NOT DECREASE MORTALITY – A PROPENSITY SCORE ANALYSIS

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Introduction: Resuscitative endovascular occlusion of the aorta (REBOA) is a frequent topic in modern trauma care, however, evidence of treatment efficacy is limited. Transcatheter arterial embolization (TAE) is increasingly used to arrest hemorrhage and thought to be easily combined with REBOA. This study evaluated the efficacy of REBOA in trauma patients who underwent TAE.
Material and methods: We analyzed observational prospective data from the Japan Trauma Data Bank (2004-2015) to compare mortality between adult trauma patients treated by TAE with REBOA(+) and TAE without REBOA(-). To adjust for potential treatment bias, we calculated the likelihood of REBOA treatment via a propensity score (PS) using available pretreatment variables (vital signs, age, sex, and anatomic and physiologic injury severity) and matched treated with untreated patients with similar PSs. We compared survival to discharge between REBOA(+) and REBOA(-) groups using conditional logistic regression and Cox proportional hazards regression
Results: 1277 patients met the inclusion criteria, and 63 patients (4.9%) were treated by TAE with REBOA. They were seriously

injured (median Injury Severity Score [ISS], 41) with high mortality (57%). In TAE without REBOA(-) patients' injury severity was significantly lower (median ISS, 32; $p < 0.0001$) and mortality was lower (18%). After matching REBOA(+) patients with controls with similar PSs for treatment, the crude conditional odds ratio of survival by REBOA treatment was 0.31 (95% confidence interval, 0.14-0.68).
Conclusion: REBOA could not be recommended for use in TAE treatment.
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Disclosure: No significant relationships.

O105

EXPERIENCES IN STERNOCLAVICULAR JOINT ARTHROPLASTY – DEVELOPING A NOVEL PROSTHESIS AND SURGICAL TECHNIQUE

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Introduction: We present two patients with pain and reduced function of the shoulder girdle secondary to mal-union of a medial clavicle fracture. In both cases surgical intervention was challenging due to extensive bone loss and attrition of surrounding muscular and ligamentous support. Both patients underwent sternoclavicular joint (SCJ) replacements using a customised prosthesis [Computer aided design and computer aided manufacturing (CAD-CAM) (Stanmore Implants Worldwide, Elstree, London, UK)]. These are the first two SCJ replacements performed with a customised patient-specific prosthesis.
Material and methods: Two patients with non-union of a medial clavicle fracture with bone loss, one traumatic and one pathological, underwent SCJ arthroplasty using a custom-designed implant. The medial clavicle replacement comprised a cemented intramedullary stem with a spheroidal end. The semi-conforming sternal titanium tray with cemented polyethylene liner was secured to the sternum with two or three divergent 4.5 cortical titanium AO screws. Both cases underwent repair of the surrounding muscular envelope however the second case also had a capsular reconstruction incorporated into the prosthesis design using a sutured Artelon (Lavendar Medical) patch as a neocapsule. One year follow up clinical outcomes were recorded.
Results: The first patient developed recurrent medial clavicular component antero-medial instability. Two revision stabilisations with 'extra-articular' soft tissue reconstruction were attempted: the instability has persisted. The second patient had an excellent functional outcome and developed no complications.
Conclusion: This report demonstrates SCJ replacement as a potential surgical solution for complex SCJ disease not amenable to other treatments. Our experience highlights the importance of 'articular' soft tissue reconstruction to provide stability in this condition.
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Disclosure: No significant relationships.

O106

3D STATISTICAL MODEL OF THE PELVIC RING – ANATOMICAL VARIABILITY AND POTENTIAL BIOMECHANICAL RELEVANCE

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Introduction: The pelvic ring is a complex anatomical structure with central relevance for the personal mobility. An exact knowledge and understanding of the anatomy and the biomechanical circumstances are required for an adequate treatment of traumatic and degenerative pathologies. A 3D statistical model of the entire pelvic ring should help to understand and quantify the interindividual anatomical variability.
Material and methods: A 3D statistical model of the pelvis was created out of 100 clinical CT scans (51 male, 49 female; age 60,1 ± 13,1 years, ethical approval available) by manual segmentation and definition of anatomical corresponding landmarks. The further analysis was performed using principal component analysis (PCA). Pelvic incidence (PI) was measured as a position independent parameter. For the measurement the rotational center of the acetabulum was used instead of the centre of the femoral head. PI was then transferred into 3D space (PI 3D).
Results: A 3D statistical model of the entire pelvic ring was generated including a mean model. Distinctive interindividual anatomical differences are seen. Especially regarding size, shape and spatial arrangement of the three ring building bones a substantially variability is shown. The measurement of position independent parameters in 3D space allows a description of the position of the sacrum in relation to the acetabulum.
Conclusion: The results allow conclusions on the individual biomechanical prerequisites which have to be further investigated for example by finite element analysis. Out of this relevant findings for therapy concept, therapy decision making and probably implant development for traumatology and orthopedics can be expected.
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Disclosure: No significant relationships.

O107

3D-PRINTING WITH COMPLEX FRACTURES THE BENEFIT

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Introduction: The treatment of Complex fractures is challenging, CT/3D can help. However evaluating the fracture pattern on a Computer screen still provides challenges. 3D printed models can help. We present the practical aspects of choosing a 3D printer and actual printing
Material and methods: A market analysis is done with the following factors: printing volume, budget, printing techniques and reliability. Prospective Cohort analysis has been done of 30 3D prints; Variables: preparation time, preparation process, estimated print time, estimated use of material, true printing time, true use of material, average cost, average spillage and printing errors. A survey is done among users.
Results: With a budget of 20000 euro, the ideal printer is a pla printer. Preparing a 3D print encompasses 3 phases; fase 1:converting Dicom to STL, fase 2: smoothing the model, fase 3: generating a print file. This process has a steep learning curve from initial prep time 6 hours to 30 min. Printing quality depends on the filament, support, infill, etc. There is a significant difference between the estimated print time and true time 17 vs 29 hours ($P<0.0001$). The estimated print weight is accurate with no significant difference with the true weight. An Average model costs 15 euro, 9 euro is waste (support). The survey revealed: better fracture information, better preparation possibilities, faster reduction, improved educational capabilities.
Conclusion: Managing the printing process yourself is feasible, 3D printing has additional value for the surgeon, with the Makerbot Z18 a reliable setup is reached to print models routinely with low cost.
References:
Disclosure: No significant relationships.

ABDOMINAL TRAUMA 2

O108

ABDOMINAL TRAUMA: ARE INITIAL CLINICAL FINDINGS GUIDING APPROPRIATE IMAGING AND MANAGEMENT DECISIONS?

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Introduction: There are several guidelines for the use of Ultrasound(US), Computed Tomography(CT) and Laparotomy(LAP) in the evaluation of abdominal injuries.[1–3]Frequent review of a department's adherence to these recommendations can identify areas of improvement, especially in resource-limited centres. The aim of this study was to assess whether imaging decisions at our trauma centre were appropriate as per NICE guidelines.
Material and methods: This study was performed at Craiova County Hospital, a Major Trauma Centre in Romania. We searched the archives for patients presenting with blunt or penetrating abdominal trauma in 2014-2015. 5 patients were excluded due to incomplete documentation, leaving 103 patients. Imaging decisions were assessed based on the NICE guidelines for evaluation of blunt and penetrating abdominal trauma and were classified as either absolutely contraindicated; when the choice of imaging was not required or relative contraindication; when the imaging was necessary but not as the first option.
Results: Of the 103 patients, 71 had blunt and 32 had penetrating injuries. In blunt injuries, CT was absolutely contraindicated in 6 cases (16.7%) and relatively contraindicated in 4 cases (11.1%). In penetrating injuries, LAP was absolutely contraindicated in 1 patient (5.6%) and relatively contraindicated in 3 patients (16.7%). There was no absolute or relative contraindication to the use of CT in penetrating abdominal injuries.
Conclusion: Abdominal CT shouldn't be performed in hemodynamically stable patients with a GCS$\geq$14, without US evidence of free fluid or equivocal clinical findings. LAP shouldn't be performed in hemodynamically stable patients without CT evidence of solid visceral injury. US is indicated in all cases.
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Disclosure: No significant relationships.

O109

BLUNT INTESTINAL PERFORATIONS DUE TO ABDOMINAL CONTUSIONS: DIAGNOSTIC PARTICULARITIES AND PROGNOSTIC FACTORS OF DEATH

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Introduction: Blunt intestinal perforations (BIP) due to abdominal contusions (AC), alrhough rare, poses problems to establish positive diagnosis in the first hours from the accident.
Material and methods: Our paper analyses retrospectively the diagnostic modalities and the prognostic factors of death from patients operated for BIP between 2005-2015.
Results: There were 46 patients with BIP, 36 man, the mean age 42$\pm$16,76 years, 11 patients with isolated AC, 4 poly contusions and 31 poly trauma, ISS:26,68$\pm$9,44. 6/41 ultrasounds examinations and 6/30 CT scan examinations, were fals negative at admition, and for 9

patients with unclear imagistic exams a diagnostic laparoscopy was performed. 12 patients presented haemodynamic instability at admition,23 asociated craniocerebral trauma, 25 asociated toracic trauma, and 26 patients presented associated solid organs injuries (SOI).There were 21 patients with postoperative complications and 10 deaths (24,39%). Multivariate analysis showed that the prognostic factor for death was age, p = 0,058. The following factors were not confirmed as prognostic factors for death: ISS, haemodynamic instability, associated trauma, associated SOI, admission-operation interval, poly trauma (ISS>16).
Conclusion: In conclusion, in BIP, early diagnostic is difficult, selectiv diagnostic laparoscopy for haemodynamic stable patient with equivocal examinations is salutary. BIP had a high mortality, the age of patients was a prognostic factor for death.
References:
Disclosure: No significant relationships.

O110

CORRELATION OF COMPUTED TOMOGRAPHY AND OPERATIVE FINDINGS IN PATIENTS WITH LIVER TRAUMA: EXPERIENCE OF A UK MAJOR TRAUMA CENTRE

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Introduction: Computed Tomography (CT) scanning is routinely used in the assessment of major trauma patients. The American Association for Surgery in Trauma (AAST) Liver Injury Scale provides an anatomical description of injury[1]. Studies from the 1990's demonstrated that 84% of radiological AAST grades did not correlate with operative grades[2]. Our institution data was examined to assess whether with improvements in technology and experience this disparity still exists.
Material and methods: Clinical data from June 2009 - November 2014 was obtained from the East Midlands Major Trauma Centre's retrospectively maintained database and the United Kingdom National Trauma Audit and Research Network (TARN). Patients were identified who underwent CT scanning prior to laparotomy, with the radiological grade of AAST liver injury compared to grade recorded in the operation note.
Results: 21 patients met the criteria. Average age was 35. 12 male and 9 female. 16 had blunt trauma with five penetrating injuries. Mean ISS was 27. CT grading correlated with operative findings in 6 patients (29%). CT grade = operative grade = 6 CT underestimated $<$ 2 grades = 4 CT underestimated $\geq$ 2 grades = 5 CT overestimated $<$ 2 grades = 3 CT overestimated $\geq$ 2 grades = 3 CT provided an over or underestimation of 2 grades or more in 8 patients (38%) when compared to operative findings.
Conclusion: CT provides invaluable assessment of the multiply injured trauma patient; however a dogmatic approach based on purely on radiological findings may lead to sub-optimal management decisions being made and therefore clinical assessment is of paramount importance.
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Disclosure: No significant relationships.

O111

ANGIOGRAPHY AND ANGIOEMBOLIZATION IN BLUNT SPLENIC TRAUMA: IF NOT NOW, THEN WHEN?

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Introduction: Actually nonoperative management represents "gold standard" in splenic trauma, being the optimal method which permits the preservation of the organ and it's functions.
Material and methods: The article is a retrospective study carried out in the period 2006-2014 which includes 39 patients with isolated splenic trauma or associated with other lesions who underwent angiography in the scope of diagnosis (23 cases) or therapeutic (16 cases). Thirty patients (76.92%) had ISS$\geq$17. The diagnostic angiography was done to patients with more or equal grade III [AAST-OIS] splenic lesions or any lesion grade which presents active bleeding detected after CT examination with intravenous contrast substance. The procedure's scope was to represent exclusion/resolving an active splenic hemorrhage, importantly in patients requiring to undergo surgical intervention from other specialities. Therapeutic angio-embolization has been carried out distally (7 cases) and proximally (9 cases) after angiographic confirmation of active bleeding. 15 splenic angioembolizations were performed for severe grade lacerations (grade III–9 patients; grade IV-5 patients and grade V-1 patient). The chance of splenic angio-embolization was established by interventional radiologist, with a constant presence of the chief of trauma team. Postprocedural the patients were evaluated clinically, blood tests and sonographic/tomographic exams.
Results: The following were noted as complications secondary to the method: postembolization syndrome-7 cases, left pleural effusion-1 case. We recorded 2 failures of the procedure which required a laparoscopic hemostasis and an open splenectomy. We have not recorded any death. Absence of Howell-Jolly bodies confirmed the presence of the remaining spleen function.
Conclusion: Splenic angiography "surgery with a catheter" represent a useful method, secure, rational and elegant which permits an increase in patients treated non operatively and evaluates with precision intrasplenic post traumatic lesions.
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Shaftan et all. Nonoperative salvage of computed tomography-diagnosed splenic injuries: utilization of angiography for triage and embolization for hemostasis. J Trauma. 1995; 39
Disclosure: No significant relationships.

O112

VALUE OF DIAGNOSTIC AND THERAPEUTIC LAPAROSCOPY FOR PATIENTS WITH BLUNT ABDOMINAL TRAUMA: A MEDICAL CENTER 10-YEAR EXPERIENCE

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Introduction: Laparoscopy has been used for the diagnosis and treatment for haemodynamically stable patients with penetrating abdominal trauma. This study evaluated if diagnostic and therapeutic laparoscopy can be used as effectively in select patients with blunt abdominal trauma.
Material and methods: All haemodynamically stable patients undergoing operations for blunt abdominal trauma over a 10-year period (2006-2015) at a tertiary medical center were included. Patients undergoing laparotomy were categorized as group A. Patients who underwent laparoscopy were categorized as group B. The clinical outcomes of the 2 groups were compared.
Results: There were 139 patients in group A and 126 patients in group B. Group A patients were more severely injured (mean injury severity score 23.3 vs. 18.9, $P < .001$) and had more traumatic brain injuries (25.2 % vs. 14.3%, $P = .039$). Diagnostic and therapeutic laparoscopy reduced the non-therapeutic laparotomy rate (5.8% vs. 0.0%, $P = .010$) and the overall laparotomy rate (100.0% vs. 7.9%, $P < .001$) of patients in group B. Patients in the 2 groups had similar perioperative and postoperative outcomes in terms of operation time, blood loss, blood transfusion requirement, mortality, and complications (all, $P > .05$).
Conclusion: Laparoscopy is a feasible and safe tool for the diagnosis and treatment of haemodynamically stable BAT patients with surgical needs.
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Disclosure: No significant relationships.

O113

PRESENTATION AND OUTCOMES OF ABDOMINAL TRAUMA PATIENTS WHO UNDERWENT LAPAROTOMY

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Introduction: We aimed to evaluate the clinical presentation, management and outcomes in patients with abdominal traumatic injury requiring laparotomy.
Material and methods: A descriptive analysis was conducted for abdominal trauma patients who underwent laparotomy at Level 1 Trauma Center. Data included patients' demographics,associated extra-abdominal injuries, Injury Severity Score (ISS), clinical presentation, radiological and intra-operative findings,the need for primary and secondary abdominal closures, number of relook, postoperative complications, blood transfusion, duration of hospital stay and mortality
Results: Over a 4-year period, 236 abdominal injuries patients necessitating exploratory laparotomy were eligible for this study. The majority was males (91.5%) and the mean age was 30.5±10.3. patients mean ISS was 20±13. The frequently seen extra-abdominal injuries were chest (42%), lower extremity (23%), and head injury (21%). Blood transfusion was required in 57.6% cases. FAST was positive in 55% cases. CT scan findings included intraperitoneal free fluid (71.8%), hepatic (16.8%), splenic (22.8%) and mesenteric injury in 15.4% cases, fat stranding in 7.4% and bowel wall thickening in 6.0%. The main intra-operative finding was intraperitoneal blood (51.7%), followed by mesenteric injury (33.1%), liver (24.2%) and small bowel injuries (19.9%) and retroperitoneal hematoma (18.6%). Therapeutic laparotomy was performed in 220 cases. Bowel resection was the common intervention (22.9%) followed by primary bowel repair (20.8%), splenectomy (19.5%) and packing (21.2%). Surgical relook (1-3 times) was reported in 33 patients.Complications included wound infection (7.6%), bleeding (3.0%), bowel obstruction (3.0%), pneumonia (3.0%) and sepsis (3.0%). The overall mortality was 20.0%.
Conclusion: In trauma, laparotomy is a multifactorial decision with a significant impact on patients outcomes
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Disclosure: No significant relationships.

O114

TERRORIST ATTACK IN NICE: ABDOMINAL TRAUMA EXPERIENCE

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Introduction: France was hit again by terrorism in the city of Nice on the French Riviera during the night of July 14th 2016. At 10:33 pm, a 19 ton cargo truck crashed into crowds gathered along the seafront for celebrating the Bastille day. This attack wounded more than 400 and killed 86 pedestrians. All adults were directed to our level one trauma center at Pasteur 2 hospital. The purpose of this study is to describe the medical and surgical management of

abdominal trauma admitted to our hospital in the case of massive victim influx.
Material and methods: We reviewed the management of all living patients presenting abdominal trauma secondary to Nice terrorist attack.
Results: Eleven surviving patients had an abdominal trauma among more than 250 victims admitted to our trauma center. The median age was 44 years [14-63] and the ISS score 34 [9-59]. Eight of these 11 patients had an emergency surgery, but only 6 of them for their abdominal trauma. Five patients where critical presenting an absolute surgical emergency among the 25 absolute surgical emergencies. Patients had a damage control surgery, without temporary abdominal closure nor packing. Three patients could have been treated with a non-operative management if the saturation of technical platform had allowed it.
Conclusion: A high number of patients were hospitalized in our trauma center and their management has raised diagnostic and therapeutic problems related to an overload of technical platform. Trauma centers must take into consideration the possibility of overcharge of their equipment and the difficulties resulting of mass casualties.
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Disclosure: No significant relationships.

HIP FRACTURE

O115

HIP FRACTURES IN ELDERLY PEOPLE: SURGERY OR NO SURGERY? A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction: A majority of hip-fracture patients is treated surgically. However, a significantly increasing percentage of medically unfit patients with unacceptably high risk of perioperative death are treated non-operatively[1,2]. Important questions about medical futility, patients' quality of life, and future perspectives should be asked before considering different treatment options to assess what kind of treatment is advisable in frail elderly patients. The aim of this review was to provide an overview of differences in mortality, health related quality of life ((HR)QOL) and costs between non-operative (NOM) and operative management (OM) of hip fractures.
Material and methods: A systematic literature search was performed in Embase, OvidSP, PubMed, Cochrane Central and Web-of-Science. Studies comparing NOM with OM in hip-fracture patients were selected. Methodological quality of the selected studies was assessed according to MINORS or Furlan.
Results: Seven observational studies were included with a total of 1189 patients, of 242 whom (20.3%) were treated conservatively. The 30-day and 1-year mortality were higher in the non-operative group (OR 3.95, 95% CI 1.43-10.96; OR 3.84, 95% CI 1.57-9.41). None of the included studies compared QOL, functional outcome or healthcare costs between the two groups.
Conclusion: This systematic review and meta-analysis demonstrated a significantly higher 30-day and 1-year mortality in non-operatively treated hip-fracture patients above 65 years than in operatively treated patients. However no data exist on (HR)QOL, functional outcomes and perspectives of patients and their families. These additional data are needed to enable shared decision making and to prevent unnecessary surgery in frail elderly patients with advanced comorbidity and limited life expectancy.
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Disclosure: No significant relationships.

O116

THE DYNAMICS OF PREOPERATIVE HEMOGLOBIN LEVELS IN EXTRACAPSULAR HIP FRACTURES: A REVIEW OF 262 CASES

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Introduction: Extracapsular fractures of the hip represent a major public health problem in the geriatric population in the context of the development of society and increasing life expectancy. Preoperative anemia is correlated with increased perioperative morbidity and mortality. The aim of our study was to highlight the link between preoperative interval and the dynamics of hemoglobin in adult patients with extracapsular hip fractures.
Material and methods: We retrospectively analyzed all patients with extracapsular hip fractures admitted in our trauma department during January to December 2015, in terms of demographic data, type of fracture, preoperative interval and hemoglobin variation preoperatively.
Results: We identified 262 patients aged between 34 and 95 years with a median of 79: 66,4% females, 57,1% from rural areas with a predominance of intertrochanteric fractures (69,8%). The duration of preoperative interval ranged between 1 and 19 days with no significant differences between types of fractures ($p = 0.355$). 61.5% of patients presented anemia at admission with no significant differences between genres (11.97 g /dl in men, 11.71 g /dl in women; $p = 0.275$). The average level of hemoglobin decreased significantly from the time of admission to operation (11.78 vs 10.77 g/dL; $p = 0.001$). The correlation between the evolution of preoperative hemoglobin interval duration was direct, but moderate in severity, 12.9% of patients had preoperative lower interval associated with significant decreases in hemoglobin levels ($r = 0.129$; $R\ 2 = 0.0166$; $p = 0, 05$).

Conclusion: Haemoglobin levels diminishes with increasing of preoperative interval which highlights the urgency of the surgical treatment.
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Disclosure: No significant relationships.

O117

NINE YEARS OF REVISION SURGERY AFTER PROXIMAL FEMORAL NAIL IMPLANTATION – WHAT LESSONS HAVE BEEN LEARNT? CAN RISK FACTORS BE IDENTIFIED?

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Introduction: The demographic development will cause a significant increase of proximal femoral fractures. Revision surgeries are increasingly expected with ever-older patients with multiple comorbidities. What are the challenges?
Material and methods: In the context of a retrospective study, we analyzed all patients (n=613) who were treated with a gamma or ZNN nail at our clinic from 2007 to 2015 due to the presence of a pertrochanteric fracture. 53 patients had implant-related complications, 6 cases of which even during the primary hospitalization.
Results: On average, the first revision surgery was performed after 8.3 months, two-thirds of the patients were cured after this follow-up intervention. In the remaining 18 patients, an additional 34 surgeries took place. Out of these, 20 surgeries were performed due to infections in 4 cases. Other follow-up interventions were: evacuations of hematomas, change of the femoral lag screw, conversion to a THA/endoprosthesis and nail extraction.
Conclusion: Implant-related complications in 8.6% of the cases are in line with the current literature. 77% of all revision surgeries were carried out within the first year, 53% even within the first 2 months and were primarily due to cut-out, early infections or loss of reduction. The remaining 23% were on average revised after 28.3 months. The main causes here were secondary osteoarthritis of the hip, trochanteric pain or implant failure. The analysis of the systemic diseases did not demonstrate any significant risk factors. In our patients with implant-related complications we found a diabetes mellitus in 23%, oral anticoagulants in 8% and steroid use in 4% of the cases.
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Disclosure: No significant relationships.

O118

THE MINIMALLY INVASIVE ANTEROLATERAL APPROACH VS. THE TRADITIONAL ANTEROLATERAL APPROACH FOR HIP HEMI ARTHROPLASTY AFTER A FEMORAL NECK FRACTURE: AN ANALYSIS OF CLINICAL OUTCOMES

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Introduction: The minimally invasive (MI) anterolateral approach is an alternative anatomical approach for the treatment of femoral neck fractures with a hemi arthroplasty (HA). So far limited research is available on clinical outcomes after a MI approach for a femoral neck fracture. The objective of the present study was to clarify potential clinical benefits after a minimal invasive approach.
Material and methods: Data were extracted from a prospective hip fracture database and completed by retrospective review of the electronic hospital records. Patients undergoing a HA in two level II trauma teaching hospitals between 1 January 2011 and 1 May 2016 were enrolled.
Results: A total of 463 patients (67% female), 223 in the MI group (mean age 82 $\pm$ 7) and 240 (mean age 81 $\pm$ 8) in the traditional anterolateral group ($p = 0.057$) were enrolled. No significant difference was found in baseline characteristics with respect to gender ($p = 0.90$), BMI (0.44), ASA (0.58) and modified NHFS (0.96). The surgeons experience measured by the operations performed per year was in favor of the MI anterolateral group (median 26 vs 18, $p<0.001$). The operating time for a MI approach was shorter (53 vs 69 minutes, $p<0.001$). No significant difference was found in mortality rates (0.131) and post-operative complications: hematoma's ($p = 0.63$), luxation's ($p = 0.63$) and deep SSI's ($p = 0.66$).
Conclusion: The minimally invasive anterolateral approach has significantly better results regarding to operation time. There was no difference in clinical outcomes and post-operative complications. We therefore conclude that the MI is a safe alternative for the traditional approach with an improved operation time.
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Disclosure: No significant relationships.

O119

ROTATION INSTABILITY AND MICROMOVEMENTS ARE INDEPENDENT PROGNOSTIC FACTORS FOR THE FAILURE RATE OF DISLOCATED MEDIAL FEMOUR NECK FRACTURES

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Introduction: The hypothesis of this study is that the instability of fracture fixation witch allows micro movements is a important independent factor responsible for the high failure rate of the osteosynthesis in medial femur neck fractures independent from osteoporosis, disturbed blood supply and high biomechanical load. With a I beam profile implant rotation and movement stability, bone compression and minimised cut out risk are achieved. Therefore the results of 2 similar groups withe 3-4 screws fixation and the Short Gliding Nail (SGNS) were analised in this study.
Material and methods: From 1982-1992 93 patients with dislocated medial femour neck fractures (Garden III and IV) were treated with 3to 4 screw fixation (49% re-examined after 10years). In a second group 83 patients with the same fracture types treated from 1999 to 2005 with the Gliding nail (GN) witch is a intramedullary implant with a gliding femur neck component with a rotation stable I beam profile. All patients were re-examined in 2006.
Results: In the screw group 58% of the re-examined and 29% of the whole group had a secondary hip joint prosthesis operation. In the GN treated patients only 10,4% had failed and receved a secondary hip prosthesis. The severe offset loss in the screw groups due to micromuvements with bone resorption was not seen in the GN group so that the device is used now also in cases with pseudarthrosis after screw fixation.
Conclusion: the rate of complications after medial femur neck fractures is only in part dependent from the disruption of blood circulation. The minimised cut out risk, the avoided micromovements and rotation stability of the GN allows a relevant reduction of the local complication rate and secondary prosthesis implantation rate.
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Disclosure: I am Author of one of the Implants (GN) tested in the study.

O120

PROXIMAL FEMORAL LOCKING COMPRESSION PLATE SHOWS HIGH RATE OF COMPLICATIONS IN MEDIUM-TERM FOLLOW-UP FOR UNSTABLE PROXIMAL FEMUR FRACTURES

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Introduction: To assess the outcome in patients treated with proximal femoral locking compression plate (PF-LCP 4.5/5.0, Synthes ©) for unstable inter- and subtrochanteric femoral fractures.
Material and methods: A retrospective analysis of fourteen patients with proximal femur fractures (AO: 31-A1: n=1/7.1%; 31-A2: n=4/28.5%; 31-A3: n=8/57.1%; 32-B1: n=1/ 7.1%) treated with a PF-LCP at a Level 1 trauma centre between 2011 and 2015 was conducted.
Results: Fourteen patients were available for follow-up with a mean follow-up time of fifteen months (range 6 to 29). Primary outcome included fracture healing, postoperative complications and postoperative ambulatory status. Male to female ratio was 1:1. Mean age was 59 ±16 years. Thirteen patients (92.1%) achieved union in a mean of 11 ±5 weeks. Five patients (35.7%) had implant-associated complications like non-union, malrotation, late implant-associated infection, proximal screw fracture and posttraumatic impingement of the hip. Consequently, four patients (28.5%) had to undergo revision surgery. There was no reported case of secondary varus collapse or cut out. At the end of the follow-up all fractures were healed.
Conclusion: Medium-term outcome after PF-LCP in proximal unstable inter- and subtrochanteric femur fractures shows a high rate of complications (35.7%).These findings are supported by results of other groups [1-3]. However, further studies to evaluate risk factors associated with failure of this implant are required.
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Disclosure: No significant relationships.

O121

DISTAL LOCKING OF IM NAIL IN TROCHANTERIC FEMUR FRACTURES: CLINICAL AND BIOMECHANICAL GROUNDING

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Introduction: PFN is the method of choice for 31A and 31B trochanteric fractures. Although, nail's distal fixation type remains underestimated. Different amounts of screws applied in nail's distal part for similar fractures is typical.
Material and methods: We studied loadings on fixators in different variants of locking screws in distal part thereof using biomechanical simulation, depending on trochanteric fracture type. Elastically deformed fixator's features in fractures A1.2, A 2.1, A2.2, A2.3, A3 have been compared to the same of an intact bone, special attention was paid on loading levels in proximal and distal parts of nails and screws and on the index of sliding screws' movement along the fracture line.
Results: Minimal loading indexes are typical of A1 fractures. A1.2 fracture with undamaged greater trochanter's back wall requires no distal screws; A2.2, A2.3 fractures, less stable and complicated with bone fragments need both distal screws for better stabilization. A3 fractures are only rotationally unstable; one screw in the lower part of oval hole and use of long PFN is quite enough to enable patient's early use the limb. Our approach was applied to 103 patients with trochanteric fractures. The average age was 69 years old. We haven't got any distal interlocking problem, neither lateral migration nor medial protrusion of the hip screws. Average Harris Hip Score in 4 weeks - was 56.6, in 4 month – 64.4, in 1 year – 71.2.
Conclusion: Differentiated approach to the quantity of screws for distal fixation of trochanteric nail eliminates the majority of complications relating to trochanteric IM nailing.
Disclosure: No significant relationships.

O122

CABLE PLATE FIXATION FOR VANCOUVER TYPE B1 PERIPROSTHETIC FEMORAL FRACTURE

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Introduction: The guidelines for the treatment of typeB1 fracture according to the Vancouver classification is open reduction and internal fixation. Various treatment options described in the literature, focus mainly on open reduction and internal fixation, with or without allogeneic strut graft or revision using long stem.
Material and methods: 20 patients with Vancouver type B1 fracture treated with osteosynthesis using cable plate between (2006-2014), reviewed retrospectively. Average age of 81yrs(63-88) 11 fracture in cemented stems, 9 in uncemented stems. The average follow-up was 21 month 3 patients died within 4 months. Postop protocol: 6 weeks toe touch, 6 weeks partial weight bearing, then full weight bearing if there is no displacement.
Results: 12 out of remaining 17 patients fracture united (71%) Non-union was recorded in 4 out of 17 patients due to failure of osteosynthesis, (fractures around stem tip) Implant migration in one patient who had fracture 7 weeks after uncemented THR (?B2). All failed osteosynthesis were revised successfully using long stem prosthesis that allows immediate full weight bearing. Deep infection in one patient.
Conclusion: Our experience shows that we should consider subcategorising Vancouver type B1 into fractures around the body of the stem and fractures around the tip of the stem Internal fixation with cortical onlay strut graft recommended for fractures around stem tip, Meanwhile fractures around stem body could be treated with internal fixation without strut graft using biologic fracture technique. However, in instances when either internal fixation or long stem revision treatment option is feasible, revision arthroplasty should be the preferred option.
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Disclosure: No significant relationships.

O123

FACTORS AFFECTING THE RATE OF POSTOPERATIVE SURGICAL SITE INFECTIONS IN PATIENTS AFTER HIP HEMI ARTHROPLASTY

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Introduction: A deep surgical site infection (SSI) is a serious complication after hip hemiarthroplasty (HA) resulting in prolonged hospital stay, high impairment rates and increased treatment costs. Most of previous studies combined the total hip replacement (THP), internal fixation (IF) and HA together despite their different entities. The objective of the present study was to clarify the prognostic factors causing deep SSI's in the HA group only.
Material and methods: Data were extracted from a prospective hip fracture database and completed by retrospective review of the electronic hospital records. A total of 916 patients in two level II trauma teaching hospitals (1 January 2011 to 1 May 2016) were enrolled.
Results: A total of 92 patients (10%) had a surgical site infection and 44 patients (4.9%) developed a deep SSI infection. After univariable analyses of potential related factors the multivariable model showed a few significant associated factors with deep SSI. The level of experience measured by the number of operations per year of the surgeon was a significant prognostic factor (OR 0.93, p =0.042). Secondly the occurrence of a haematoma (OR 9.6, P<0.001), reoperation (OR 4.7, p =0.004), and a surgery time shorter than 45 (OR 5.1, p =0.002) and longer than 90 minutes (OR 2.7, p =0.034) were significant.
Conclusion: The number of operations performed per year is a significant factor for deep SSI's. Secondly, a hematoma, reoperations and both shorter and longer duration of surgery were associated with deep SSI's after a HA. No association was found between the anatomical approach, moment of surgery and the use of wound drains.
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Disclosure: No significant relationships.

TRAUMA SYSTEMS 2

O124

THE EFFECT OF ANTIBIOTIC PROPHYLAXIS ON WOUND INFECTIONS FOLLOWING IMPLANT REMOVAL; RESULTS OF THE WIFI-TRIAL, A DOUBLE BLIND PLACEBO CONTROLLED RCT

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Introduction: In the Netherlands about 18,000 implant removal procedures are performed annually. For clean surgical procedures, the rate of postoperative wound infections (POWI) should be less than ~2%. However, rates of 10-12% following implant removal have been reported in retrospective studies, specifically following implant removal after lower leg fracture surgery. Currently, surgeons individually decide whether antibiotic prophylaxis is indicated. The aim of this study was to assess the effectiveness of antibiotic prophylaxis during implant removal.

Material and methods: This study was a double-blind placebo controlled randomized trial in patients with implant removal following a lower leg fracture. Patients were randomized between a single dose of i.v. cefazolin and a placebo. Primary outcome was a POWI. With 2 x 250 patients a reduction from 10% to 3.3% of POWI could be detected. Patient, fracture and treatment characteristics were collected.
Results: In 22 months 500 patients were randomized in 21 hospitals. Patients were predominantly female (55%), median age was 45, 3.4% of patients suffered from diabetes and 26% were smokers. In 72% of patients the primary surgeon was a resident and a tourniquet was used in 13% of procedures. Fifteen percent of patients suffered from a POWI. Eighty two percent of infections were superficial and 18% were deep. In the antibiotic prophylaxis group this was 13% and in the placebo group 16% ($p = 0.41$). Factors significantly associated with POWI were infection following primary fracture treatment ($p<0.001$) and diabetes ($p<0.001$).
Conclusion: This is the first prospective randomized study on implant removal. We found a high rate of postoperative wound infections. Antibiotic prophylaxis during implant removal did not reduce the rate of POWI and should therefore not be routinely administered. Patients with an infection following primary fracture treatment and diabetes are at risk for development of a POWI following implant removal, mandating extra caution from physicians.
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Disclosure: No significant relationships.

O125

PREHOSPITAL CONTROL OF LIFE-THREATENING TRUNCAL AND JUNCTIONAL HAEMORRHAGE IS THE ULTIMATE CHALLENGE IN OPTIMIZING TRAUMA CARE; A REVIEW OF TREATMENT OPTIONS AND THEIR APPLICABILITY IN THE CIVILIAN TRAUMA SETTING

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Introduction: Exsanguination following trauma is potentially preventable. Extremity tourniquets have been successfully implemented in military and civilian prehospital care. Prehospital control of bleeding from the torso and junctional area's remains challenging but offers a great potential to improve survival rates. This review aims to provide an overview of potential treatment options in both clinical as preclinical state of research. Since many options have been developed for application in the military primarily, translation to the civilian situation is discussed.
Material and methods: Medline (via Pubmed) and Embase were searched to identify known and potential prehospital treatment options. Treatment options were listed per anatomical site: axilla, groin, thorax, abdomen and pelvis Also, the available evidence was graded in (pre) clinical stadia of research.
Results: Identified treatment options were wound clamps, injectable haemostatic sponges, pelvic circumferential stabilizers, resuscitative thoracotomy, resuscitative endovascular balloon occlusion of the aorta (REBOA), intra-abdominal gas insufflation, intra-abdominal self-expanding foam, junctional and truncal tourniquets. A total of 70 papers on these aforementioned options was retrieved. No clinical reports on injectable haemostatic sponges, intra-abdominal insufflation or self-expanding foam injections and one type of junctional tourniquets were available.
Conclusion: Options to stop truncal and junctional traumatic haemorrhage in the prehospital arena are evolving and may offer a potentially great survival advantage. Because of differences in injury pattern, time to definitive care, different prehospital scenario's and level of proficiency of care providers; successful translation of various military applications to the civilian situation has to be awaited. Overall, the level of evidence on the retrieved adjuncts is extremely low.
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Disclosure: No significant relationships.

O126

THE DENIM COMMUNICATION TOOL FOR PREHOSPITAL TRAUMA HAND OVER: A NATIONAL CONSENSUS

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Introduction: In the Netherlands standard prehospital trauma care by EMS is extended by Physician staffed Helicopter Emergency Medical Services (P-HEMS) care for the severely injured. Accurate communication is critical to ensure adequate decision making, though handovers are often incomplete. The aim of the DENIM study (a Delphi-procedure on the identification of prehospital trauma patients in need of care by Mobile Medical Teams) was to assess which information was deemed critical for proper situational assessment and generate a consensus-based communication tool for prehospital trauma hand over.
Material and methods: A three round digital Delphi study was performed. P-HEMS physicians/nurses, trauma surgeons, EMS paramedics and emergency medical operators where asked to state their opinion regarding factors influencing prehospital communication. Statements were presented and panellists were asked to if they agree or disagree to the statement, using either a five-point Likert scale. Results of the previous rounds were fed back to the panellist in order for them to revise their opinion and converge toward groupconsensus.
Results: 64 panellist completed the DENIM. From the first round principle themes arose: factors that influence communication, critical information for proper handover, factors influencing collaboration

and how training may aid. The second round focused on what type of information was deemed essential for handover. The third round determined the exact content of a minimal prehospital trauma handover. The experts agreed to a set of ten parameters creating a method for hand over in the prehospital setting.
Conclusion: A new prehospital communication model, based on national consensus amongst experts was generated. The model helps to structure hand over and provide the essential information.
References:
Disclosure: No significant relationships.

O127

DEVELOPMENT AND INTERNAL VALIDATION OF A PREDICTION MODEL AS BASIS FOR PREHOSPITAL TRIAGE OF TRAUMA PATIENTS IN THE NETHERLANDS

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Introduction: Prehospital trauma triage is essential in providing appropriate care for patients at risk for severe injury, to improve chance of survival and avert disabilities.[1−3] Incorrect triage results in undertriage and overtriage.[4−7] The American College of Surgeons Committee on Trauma recommends an undertriage rate below 5% and an overtriage rate below 50%.[4] The aim of this study is to develop and internally validate a prehospital trauma triage prediction model to lower especially the undertriage rate.
Material and methods: Prehospital and in-hospital data of all adult trauma patients transported by the Regional Ambulance Services Utrecht between 2012 and 2014 were analysed. Ten hospitals were included in the study. Using univariate and multivariate logistic regression analysis, 43 variables were tested for their value to predict severe injury (Injury Severity Score (ISS) > 15). Using a Receiver Operating Characteristic curve, the optimal cut-off point was chosen as to achieve the lowest possible undertriage rate, with an overtriage rate of $\leq 50\%$. For internal validation, a bootstrapping technique with 1000 resamples was used. Calibration, discrimination and clinical usefulness were determined.
Results: In total, 4,950 adult trauma patients were included, 436 (9%) had an ISS > 15. The final prediction model included 10 independent prehospital predictors and had an undertriage and overtriage rate of 8.5% and 49.9%, respectively. Internal validation of the model showed strong calibration, discrimination (c-statistic: 0.83) and clinical usefulness (sensitivity: 93.0%, specificity 52.0% and accuracy 0.89).
Conclusion: This newly developed and internally validated prehospital prediction model results in a relatively low undertriage rate, with an acceptable overtriage rate.
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Disclosure: No significant relationships.

O128

IS THE THORACOLUMBAR INJURY CLASSIFICATION AND SEVERITY SCORE (TLICS) APPLICABLE TO UK PRACTICE?

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Introduction: The TLICS (thoracolumbar injury classification and severity score) is designed to help classify, and propose management for, thoracolumbar spine fractures. Several studies have reported good reliability and validity but to date no UK data has been reported. Several of these series have MRI studies for all patients, which does not reflect UK practice. This study aims to assess the reliability of TLICS in specialist UK spinal surgery practice.
Material and methods: Clinical and radiographic data for 130 patients was reviewed by three spinal surgeons. Injuries were scored independently using the TLICS classification. Fleiss-Kappa values were calculated to assess inter-rater reliability. The actual management was compared with the TLICS algorithm to evaluate validity.
Results: The inter-rater k coefficient was 0.55 (CI 0.47-0.63) for proposed TLICS management category. This represents moderate agreement. TLICS 0-3 (nonoperative management) k = 0.61 (substantial agreement). TLICS 4 (surgeons choice) k = 0.15 (slight agreement). TLICS >4 (operative management) k = 0.68 (substantial agreement). 22 patients had a mean spdated core >4 (operative management) and 17 of these had surgical stabilisation. No patients with a mean score <5 underwent surgery.
Conclusion: TLICS has moderate reliability and vailidty for use in UK trauma patients. To our knowledge this has not previously been evaluated in the UK but is comparable to previous studies worldwide. Perhaps unsurprisingly the poorest reliability is for patients in the operative/non-operative management category (TLICS=4). Importantly the category suggesting surgical treatment (TLICS >4) has highest inter-rater reliability.
References:
Disclosure: No significant relationships.

O129

MODIFIED TRAUMATIC BLEEDING SEVERITY SCORE (M-TBSS): THE PERSPECTIVE FOR THE PREDICTION OF THE NEED FOR THE MASSIVE TRANSFUSION IN PRE-HOSPITAL SETTING

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Introduction: Massive Transfusion (MT) is an important topic in trauma resuscitation. Early administration of blood products with higher plasma and platelet ratios are associated with decreased mortality. We have developed TBSS as an objective scale which accurately indicate the severity of hemorrhage [1]. However, the TBSS takes time to determine because it requires systolic blood pressure (SBP) after infusion of 1000ml of crystalloid. This study aimed to test the accuracy of the Modified TBSS for the need for MT, which was consisted of SBP on arrival instead of after crystalloid infusion.
Material and methods: This is a single-center retrospective study of severe trauma patients admitted between 2010 and 2014. The TBSS and the Modified TBSS on arrival were retrospectively calculated. The predictive value for the need for the MT was compared by area under the receiver operating characteristic curve (AUC) analysis.
Results: Three hundred patients were enrolled. MT was given to 25% of patients. The AUC of the TBSS was higher than that of the Modified TBSS (0.956 VS 0.915, p =0.001). The Modified TBSS presented high accuracy defined as the AUC of more than 0.9. When we performed the 2nd modification of TBSS, which was consisted of presence of unstable pelvic fracture instead of the AO type classification of the pelvic fracture, the AUC of this score was 0.907.
Conclusion: The predictive value of the Modified TBSS is high. The Modified TBSS is calculated earlier in resuscitation than the original TBSS. The modification of the TBSS is the first step to use it in pre-hospital setting.
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Disclosure: No significant relationships.

O130

FATAL ROAD TRAFFIC ACCIDENTS IN MERSEYSIDE, ENGLAND: A DESCRIPTIVE STUDY OF FACTORS INVOLVED

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Introduction: Fatal road traffic accidents (RTAs) are a preventable cause of death. The aims of the study were to provide an overview of fatal RTAs occurring in Merseyside, identify common factors involved, and provide baseline data to drive a trauma prevention programme.
Material and methods: Data of fatal RTAs in Merseyside from January 2013 to June 2016 was collected retrospectively from STATS19 forms recorded by police officers at the scene of the accident. Data including victim demographics, road, weather and lighting conditions, and identified contributing factors was collated into an excel spreadsheet. Chi squared test was utilised to determine statistical significance of categorical values.
Results: There were 80 fatal RTAs over the 42-month period. 58 (72.50%) of victims were male. The mean age was 45 years. There was an even distribution of accidents throughout the week, with 45 (56.25%) accidents occurring on weekdays and 35 (43.75%) occurring over the weekend. Road surface was dry in 48 RTAs (60%; p=0.074). Weather conditions were unfavourable in only 18 cases (22.5%; p= <0.005), whilst 46 cases occurred in daylight ((57.50%; p= 0.18). 38 accidents occurred at a junction (47.50%; p= 0.655). 46 RTAs involved a pedestrian, of which 35% (n=12) occurred at a pedestrian crossing facility (p =0.046). Only 15 accidents involved skidding and overturning (18.75%; p= <0.005). Contributing factors were dangerous vehicle movement (36.25% of RTAs), driver judgement error (33.75%), over-speeding (30%), pedestrian error (25%), loss of control of vehicle (22.5%), alcohol/drugs (12.5%) and road/environmental factors directly affecting accident (6.25%).
Conclusion: Most RTAs occurred in favourable weather, visibility and road conditions. The two commonest contributing factors were dangerous vehicle movement and driver judgement error. It is therefore evident that the main area that needs to be addressed is human error.
References:
Disclosure: No significant relationships.

O131

E-BIKES; TOO FAST, TOO FURIOUS! ANALYSIS OF E-BIKE VERSUS CONVENTIONAL BICYCLE RELATED ACCIDENTS

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Introduction: Bicycles are a popular transportation method in the Netherlands. In 2015, e-bike sales were 28% of total national bicycle sales and nowadays >10% of the bicycles is an e-bike. E-bikes are heavier and faster than normal bicycles, which could increase the risk of greater injury when having an accident. However, there is a lack of literature on this important issue.
Material and methods: An ongoing prospective cohort study of patients with an e-bike related accident, treated at the Department of Trauma Surgery of the University Medical Center Groningen, was started from June 2014. Patient characteristics were collected. The Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS) were determined. Differences between e-bikers and conventional bicyclists were analyzed performing a matched pair analyses. Groups were matched based on age, gender and occurrence of comorbidity.

Results: From June 2014 to May 2016, 550 patient suffered from a bicycle accident: 107 were e-bikers (19.5%). E-bikers suffered significantly more frequent from polytrauma (22.4%) than conventional bicyclists (11.2%). The mean ISS was significantly higher in e-bike related accidents (10.1) compared to conventional bicycle accidents (6.6). There were no differences in mortality between e-bikers (3.7%) and conventional bicyclists (3.7%). Head injury was significantly more severe in e-bikers than in conventional bicyclists, demonstrated by a mean AIS of 3.1 and 2.5 respectively.
Conclusion: E-bikers are at a greater risk in traffic than conventional bicyclists. E-bikers suffer more frequently from polytrauma and are heavier injured than conventional bicyclists. Further research is needed to identify risk factors for getting an accident.
References:
Disclosure: No significant relationships.

ACUTE CARE SURGERY: GALLBLADDER

O132

ANALYSIS ON THE RISK FACTORS FOR POSTOPERATIVE COMPLICATIONS IN PATIENTS WHO UNDERWENT URGENT LAPAROSCOPY CHOLECYSTECTOMY

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Introduction: The purpose of this study is to determinate the factors that had influence in the incidence of complications in those patients with acute cholecystitis who underwent emergent laparoscopic cholecystectomy
Material and methods: This is an observational analytical prospective cohort study in which we reviewed patients who underwent laparoscopic cholecystectomy for acute cholecystitis. Patients have been included from 1 January 2009 to 31 December 2014. Patient were divided in three group following the Tokyo classification for acute cholecystitis (group 1=grade I, group 2=grade II, group 3=Grade III)
Results: During the period of study 473 patientes were included. 193 patients (40' 8%) presented postoperative complications: 119 type I according to the Clavien – Dindo classification; 29 (6' 13%) type II; 30 (6' 34%) type III and 14 (2' 95%) type IV. We have observed that middle age, the scale of risk PPossum, mean hospitality stay, days of evolution and operative time were relate with the appearance of postoperative complications. In relation to the qualitative variables, sex, the Charlson scale, APACHE II, degree of cholecystitis severity, conversion, vesicular plastron at the diagnosis and signs of complicated cholecystitis diagnosed by ultrasound had statistical significance. When we performed a multivariate analysis, just female sex and ultrasound signs of complicated cholecystitis at the diagnosis were related with the appearance of postoperative complications
Conclusion: The knowledge of potential risk factors for possible postoperative complications, allow professionals to establish a correct indication of procedures and a close postoperative surveillance of those patients with risk factors.
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Disclosure: No significant relationships.

O133

A CONSERVATIVE SURGICAL APPROACH TO GALLSTONE ILEUS: AN OUTCOME ASSESSMENT

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Introduction: Gallstone ileus is a rare complication of cholelithiasis whose mainstay treatment is surgery[1]. However, there is no consensus about its most appropriate surgical strategy[2]. The objective of this study is to define whether a conservative surgical strategy could be considered adequate treatment for this condition
Material and methods: The records of 19 patients with a diagnosis of gallstone ileus during the period 2005-2016 were reviewed. Data collected included: patient demographics, the type of surgery performed, operative time, and postoperative morbidity and mortality rates. Based on the surgical strategy undertaken, patients were divided into two groups: group 1 (G1) included those who had a definitive biliary procedure, and group 2 (G2) included those in which surgery was limited to the treatment of the intestinal obstruction. In G2, disease recurrence and the subsequent need to re-operate, and the risk of developing gallbladder carcinoma were evaluated
Results: There were 13 females and 6 males, with an average age of 84 years. G2 included 84% (16/19) of the patients. The mean operative time was significantly shorter in G2 (97 vs. 228 minutes; p-value = 0.0003). The overall postoperative morbidity rate was 37% (7/19), and was higher for G1: 67% (2/3) vs. 31% (5/16). However, the difference was not statistically significant (p-value= 0.52). No mortalities were reported. Upon follow-up, none of G2 patients had recurrent disease or developed gallbladder cancer
Conclusion: A conservative surgical approach to gallstone ileus seems to be sufficient in elderly patients with co-morbidities that would benefit from a considerably shorter operative time and less extensive surgery
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Disclosure: No significant relationships.

O134

NEAR-INFRARED FLUORESCENCE CHOLANGIOGRAPHY DURING LAPAROSCOPIC CHOLECYSTECTOMY – OUR INITIAL EXPERIENCE

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Introduction: Intraoperative cholangiography has a well-established role in delineating bile duct anatomy during difficult laparoscopic cholecystectomies. One of the latest alternatives is the utilisation of fluorescence cholangiography with prior injection of indocyanine green dye (ICG).
Material and methods: We assessed the ease of use and benefits of fluorescence cholangiography in five patients that underwent laparoscopic cholecystectomy for cholelithiasis. A difficult cholecystectomy was suspected in one of the cases, given increased BMI (32.8) and recent history of acute cholecystitis and biliary pancreatitis. Two milliliters of ICG (ICG-Pulsion, Pulsion Medical Systems GmbH, Germany) were injected 45 minutes before surgery and 1 milliliter at induction. High definition intraoperative images as well as fluorescent images were provided by a dedicated near-infrared/ICG laparoscopic system (Karl Storz GmbH, Germany). The colour images were changed to fluorescent images by using a foot switch.
Results: During the dissection in Calot's triangle the junction between common hepatic duct and cystic duct was clearly visualised with fluorescing imaging The critical view of safety was established. The cystic duct was isolated and divided using fluorescence intermittently to confirm the anatomy. There were no intraoperative or postoperative complications. All the five patients were discharged within 24 hours from admission. The ICG dye lasted throughout the entire laparoscopic procedures.
Conclusion: We have found fluorescence imaging useful in determining the anatomy in Calot's triangle, as well as quick and easy to perform. It is a less invasive, radiation free and thus potentially more convenient to carry out compared to radiographic intraoperative cholangiography for potentially difficult laparoscopic cholecystectomies.
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Disclosure: No significant relationships.

O135

PRE-OPERATIVE CLINICAL JAUNDICE DOES NOT INCREASE COMPLICATION RATE IN LAPAROSCOPIC COMMON BILE DUCT EXPLORATION

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Introduction: Many centres now offer single-stage management of choledocholithiasis with LCBDE at the time of laparoscopic cholecystectomy (LC).[1,2] Jaundice with or without cholangitis was a feature in one-fifth of the presentations in a recently published series of over four thousand LC.[3] The aim of this paper is to determine whether the presence of clinical jaundice at the time of LCBDE increases the complication rate of this procedure.
Material and methods: Retrospective data were analysed from 334 patients undergoing LCBDE between 1998 and 2016. A pre-operative bilirubin level of 3mg/dL (51μmol/L) was used to identify patients with jaundice at the time of their operation. Primary outcome measures were 30-day mortality and post-operative morbidity. Secondary outcome measures evaluated post-operative length of hospital stay.
Results: 89 patients (27%) were included in the jaundice group. There were no deaths in this group compared to 3 deaths in the group without jaundice. The 3 deaths were due to cardiac events related to the patient's co-morbidities and the difference between the two groups was not statistically significant (p =0.57). There were no statistically significant differences between the jaundice and non-jaundiced groups when comparing major (5.6% v 8.6%; p =0.49) or minor (3.4% v 9.4%; p =0.10) complications. There was also no statistical difference in the length of post-operative hospital stay between the two groups (median 2.5d v 3d; p =0.23).
Conclusion: Single stage management of choledocholithiasis and its acute complications is becoming more widely available and the presence of jaundice does not appear to increase the incidence of post-operative mortality, complications or length of post-operative stay.
References: National Institute for Health and Care Excellence (NICE). Gallstone disease: diagnosis and management. Clinical Guideline [CG188], October 2014.

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Disclosure: No significant relationships.

O136

LAPAROSCOPIC APPROACH FOR LITHIASIC ACUTE CHOLECYSTITIS IN IMMEDIATE EMERGENCY

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Introduction: Laparoscopic cholecystectomy performed in immediate emergency for lithiasic acute cholecystitis(AC) has gained ground in the last two decades reaching a rate of over 80-90% in experienced centers. Studies show that there are no statistically significant differences between laparoscopic cholecystectomy performed in immediate emergency versus delayed emergency, but there is a much shorter hospitalization.
Material and methods: During January 2013 - December 2015 the IInd Surgical Clinic of Timisoara County Hospital performed 386 laparoscopic cholecystectomies for lithiasic acute cholecystitis. Patients were analyzed retrospectively. On admission, they showed right upper quadrant pain, fever, localized peritoneal irritation, ultrasound signs of AC (distended gallbladder with thickened walls> 4-5 mm, sandwich sign, fluid around the gallbladder), leukocytosis> 10,000 bcm. All these patients were operated in the first 24 hours of hospitalization. Patients with signs of common bile duct stones, jaundice or pancreatitis associated with AC were excluded.

Results: Of the 386 patients, 232 had vesicular hydrops or inflammatory subhepatic block; 106 showed phlegmonous AC +/- pericholecystic fluid; 48 had gangrenous AC with localized peritonitis fluid. The rate of conversion was 5.4% (21 patients). Iatrogenic lesions were found in 7 cases (1.8%). Postoperative complications (Clavien I-V) appeared in 12% of the cases (46 patients). Mortality was 0.5% (2 patients).
Conclusion: Laparoscopic cholecystectomy in immediate emergency is a safe approach in patients without signs of common bile duct stones, jaundice, or pancreatitis associated with AC. Morbidity and mortality are similar to other approaches according to literature. The key point of this kind of approach is the surgical team experience.
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Disclosure: No significant relationships.

O137

INDICATIONS FOR A TRANSINFUNDIBULAR APPROACH (TIA) TO THE COMMON BILE DUCT FOR ACUTE CASES OF CHOLEDOCHOLITHIASIS

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Introduction: Many centres are now offering single-stage management of choledocholithiasis with LCBDE.[1] Traditionally the CBD is accessed via choledochotomy or transcystically.[2] Recent systematic review has shown that transcholedochal stone extraction is associated with increased risk of bile leak.[3] When Calot's triangle cannot be safely dissected due to acute inflammation a sub-total cholecystectomy without CBD exploration ± post-operative ERCP is performed. We describe a safe method of accessing the CBD via a transinfundibular approach (TIA) in complex cases of gallstone related disease.
Material and methods: A retrospective search of our database of LCBDE identified four patients who underwent LCBDE via TIA. The indication for TIA and successful exploration of the CBD were primary outcome measures. Secondary outcome measures included post-operative complications, post-operative hospital stay and whether diagnostic and/or therapeutic interventions were carried out.
Results: M:F ratio was 1:3 with median age of 62y. The indication in all 4 cases for TIA to the CBD was that acute inflammation did not permit dissection within Calot's triangle and therefore transcholedochal approach was contraindicated. Choledocholithiasis were found in all cases after successful exploration of the CBD. In all cases lithotripsy successfully managed choledocholithiasis. IOC was performed in 2 patients. There were no procedural related complications. Median post-operative hospital stay was 3.5d.
Conclusion: We describe a safe method of accessing the CBD (with intra-operative video footage) for diagnostic and therapeutic interventions when Calot's triangle cannot be dissected due to acute inflammation. This method can also be used in conjunction with sub-total cholecystectomy to facilitate single-stage management of choledocholithiasis in complex cases.
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Disclosure: No significant relationships.

O138

ACUTE CHOLECYSTITIS IN FRAGILE PATIENTS: RETROSPECTIVE STUDY OF PERCUTANEOUS VS. ENDOSCOPIC DRAINAGE

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Introduction: Early cholecystectomy is the gold standard treatment for acute cholecystitis(AC). However, in critically ill patients, cholecystectomy carries higher rates of morbidity and mortality. These patients have traditionally been offered percutaneous gallbladder drainage(PGBD). More recently endoscopic ultrasound-guided transmural stenting for gallbladder drainage(EGBD) has emerged as an alternative for the treatment of AC.
Material and methods: We retrospectively analyzed all the not-surgically-fit patients with AC that underwent EGBD (n=7) or PGBD (n=7) between 2014 and 2016 at our institution. Technical feasibility, efficacy and clinical outcome of both procedure were compared.
Results: Median age was 82 years in EGBD group and 86 years in PGBD group and median ASA was 3 in both groups. EGBD and PGBD median procedure time were respectively 20 and 35min and both procedures were effective in 100% of the cases. The median post-procedure hospitalization was 5 days in the EGBD group and 12,5 days the PGBD group (p =0,01). Post-procedural complications occurred in one patients of the EGBD group and 2 patients of the PGBD group (respectively 14,3 and 28,6%), but none of them was major. After a median follow-up of 10,1 months, no other episodes of AC were recorded and OS was similar in both group.
Conclusion: In high-risk patients with AC, EGBD and PGBD are safe and feasible alternatives to surgery, with similar morbidity and mortality. However, patients that underwent EGBD seems to had a shorter, statistically significant, post-procedural hospitalization. We concluded that EGBD should be considered as a treatment option in AC. Further studies are needed to assess its cost-effectiveness.
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Disclosure: No significant relationships.

O139

OUTCOMES FOLLOWING DIFFERENT METHODS OF CLOSURE OF CHOLEDOCHOTOMY IN LAPAROSCOPIC COMMON BILE DUCT EXPLORATION (LCBDE)

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Introduction: Laparoscopic cholecystectomy and LCBDE is the recommended method for the treatment of choledocholithiasis with gallbladder in-situ.[1,2] The CBD is accessed via choledochotomy or transcystically.[3] Closure of choledochotomy (primary closure vs stent vs T-tube) has been related to post-operative complications and conflicting evidence exists over which is the superior method.[4] The aim of this paper is to report our experience of the various methods of choledochotomy closure.
Material and methods: Retrospective data were analysed from 226 patients who underwent choledochotomy during LCBDE between 1998 and 2016. Patients groups were based on choledochotomy closure: primary closure(P), stent(S) or T-tube(T). Outcome measures included post-operative morbidity, return to theatre and post-operative hospital stay.
Results: Group P consisted of 42 patients with 2 major (one pancreatitis) and 6 minor complications. Group S comprised of 138 patients with 19 major (thirteen pancreatitis) and 11 minor complications. 46 patients in group T had 5 major (one pancreatitis) and 5 minor complications. The incidence of pancreatitis between the groups were not statistically significant [P(2.4%) vs S(9.4%); p =0.19], however the incidence of pancreatitis and hyperamylasaemia were significantly higher in the stent and T-tube groups [P(4.5%) v S(33.3%); p =0.0001, P(4.5%) v T(21.7%); p =0.0284]. A statistical difference between groups was observed for post-operative hospital stay [T>S>P; median 7.5d vs 4d v 2d; p =0.0006 and p =0.0032]. There were no observed differences for total number of major/minor complications or return to theatre.
Conclusion: Our data suggests that primary closure of choledochotomy is safe and offers advantages over T-tube and stented closure and is our preferred method of closure.
References: National Institute for Health and Care Excellence (NICE). Gallstone disease: diagnosis and management. Clinical Guideline [CG188], October 2014.

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Disclosure: No significant relationships.

SKELETAL TRAUMA: LOWER LIMB

O140

ADDITION OF MEDIAL HELICAL PLATE TO OSTEOSYNTHESIS OF SUPRACONDYLAR FEMORAL FRACTURES

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Introduction: Supracondylar-femoral fractures have traditionally been treated with lateral condylar buttress-plates. However these had high failure rates mostly because of varus collapse. Additional medial-plates were herefore proposed. The introduction of locked plates, significantly improved results and became standard. Still, moderate failure-rates have been described. Recently the additional medial-plate has resurfaced, mostly for revisions. As we can roughly predict fracture- and patient-types at risk of non-union, we hypothesized that in selected cases an additional medial helical-plate might be used as primary surgery.
Material and methods: Twelve patients were treated with lateral locking-plates and additional medial bridging plate with 90° helical-shape. We used a minimal invasive procedure for the second plate. Distal tibial plates were used as they gave the best anatomical reduction. Eight were periprosthetic fractures. One was treated for non-union, another for previous mal-union. All other patients had primary procedures, preformed by an experienced trauma-orthopedic surgeon. After permission by the ethical board, we retroactively evaluated them concerning union, clinical- and functional-outcome.
Results: Mean follow-up was 24 months. One patient showed a non-union that only became obvious after removal of the plates. Until this point no complaints were made. No patients needed hardware-removal due to complications or loss of reduction. No patients demonstrated heterotopic ossifications after the quadriceps-split.
Conclusion: Multiple predictors of non-union after lateral locking-plate osteosynthesis, have been recognized. In these fractures an additional medial helical plate might be an option worth considering during primary surgery. We hypothesized this could help achieve favorable outcomes by alleviating plate-fatigue without introducing new complications. Preliminary results seem promising.
References:
Disclosure: No significant relationships.

O141

CLINICAL AND FUNCTIONAL OUTCOME OF SURGICALLY TREATED PATELLAR FRACTURES - A RETROSPECTIVE ANALYSIS

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Introduction: Patellar fractures are most commonly treated by open reduction and internal fixation (ORIF) with an anterior tension band wiring or a combination of cannulated lag screws with tension band wiring. However, the complication rate following ORIF of the patella remains high and is often associated with a poor functional outcome.
Material and methods: 111 patients with 113 surgically treated patellar fractures between January 2005 and December 2014 were included in this retrospective single-center study. All demographic, clinical and radiographic variables were analyzed using the University Hospitals Leuven electronic medical file database. The fracture types were grouped in simple or complex, based on the X-rays or CTs. Functional outcome was assessed using Knee Injury and Osteoarthritis Outcome Score (KOOS) questionnaires and processed by bivariate correlation and logistic regression analysis
Results: There were 67 simple fractures (59.3%) and 46 complex fractures (40.7%). The overall complication rate was 48.7%, including 19.5% material related complications. In 69 patients (61.1%) material was removed. The outcome was rather poor, with considerable impairment in all KOOS subscales. Knee related quality of life was rated as worst (median 62.5, IQR 37.5-81.25). The poor outcome was significantly correlated with complex patellar fractures and its implants.
Conclusion: A high complication rate, as well as functional impairment and reduced quality of life are frequent after the operative treatment of patellar fractures. Fracture severity was strongly associated with poor functional outcome and quality of life.
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Disclosure: No significant relationships.

O142

THROMBO-EMBOLIC COMPLICATIONS IN BELLOW-THE-KNEE TRAUMA- DON'T LOOK AT THE INJURY, LOOK AT THE PATIENT

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Introduction: Although thrombo-embolic events are associated with pelvic and femoral fractures, their occurance in so-called bellow-the-knee injuries raised the question whether thrombo-prolylaxis should be prescribed for patients sustaining this type of injuries or not. The authors present this paper in order to propose a different approach focused on the risk factors of the patient, and not on the type of the injury.
Material and methods: A retrospective study was performed, including 164 patients operated between 01.01.2012-01.01.2015 for bellow-the-knee injuries, with complete medical records and follow up for 18 months available;the fractures affected: tibia(proximal-12, shaft-34, distal-10), ankle (58), talus (10),calcaneum(16), foot (12) and achillean tendon ruptures (12). The same evaluation protocole was used including Doppler Compression ultrasound and pulmonary CT scan when VTE was suspected. The incidence of VTE was evaluated in correlation with: type of injurym type of stabilistion, time from injury to trauma, type of thrombo-prophylaxis, Caprini risk score
Results: The incidence of VTE in the study group was 11%, with no signifficant differences regarding type of injury or stabilization. The incidence of VTE was signifficantly higher in patients with higher Caprini scores and lower when type of thrombo-prophylaxis was established according to this score.
Conclusion: This study supports the idea that evaluating the VTE risk should be done cosidering the global risk factors of the patient, not of the injury. Individualised thrombo-prophylactic treatment according to the Caprini scale signifficantly decreased the number of VTE events, thus sustaining the necesity of an integrated approach focused on the patients condition, not on the bone injury
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Disclosure: No significant relationships.

O143

SUPRAPATELLAR NAILING OF THE TIBIA

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Introduction: Abstract: "Suprapatellar nailing of the tibia " Vandesande Wim, MD, Orthopedic Trauma Surgeon Department of Orthopaedic and Trauma Surgery, AZ ST DIMPNA, Geel, Belgium; Board Member of BOTA, The Belgian Orthopedic Trauma Association The objective of this study was to examine to feasibility of using the suprapatellar (SP) entrance portal to the tibia for every tibia fracture which is amenable for tibia nailing. Can we use this portal in every tibia nailing and can we avoid cartilage damage using a dedicated trocar and sleeve system?
Material and methods: Between February 2015 and oktober 2016, all tibia fractures which where amenable for tibia nailing in our institution where done via the SP portal. A total of Twenty Five consecutive patients where included in this prospective study. In every case a Synthes expert tibia nail was used and a dedicated trocar for reaming and a dedicated sleeve for insertion of the nail was used. At the beginning and end of each case an arthroscopy was performed of the patella-femoral joint and possible cartilage damage was examined.

Results: In all cases the suprapatellar portal was perfectly feasible and in no case a conversion to an infrapatellar portal was needed. Going suprapatellar facilitates using the image intensifier in both planes and it is a lot easier to do reduction manoeuvres, Pollar screws etc in my personal experience as opposed to nailing through the infrapattelar portal.Cartilage damage was noted in one case at the time of arthroscopy immediately after the procedure. It consisted of a 5 by 5 mm area of bare bone at the most proximal limit of the patellar trochlear groove which had been damaged by the reamers. We can only explain this complication through lack of attention of holding the trocar sufficiently down during reaming because both trocar and sleeve where intact in that particular case.
Conclusion: Use of the suprapatellar portal is possible in every type of tibia fracture, has no adverse effects on reduction and fixation. This approach has the advantage of ease in use over the Infrapatellar approach. Patella-femoral cartilage damage is not seen when using the dedicated trocar and sleeve system correctly. However if the technique is not carried out meticulously, and the trocar is not held firmly down during reaming, cartilage damage in the knee can occur, as I learned the hard way in one case.
References: My presentation will show both the technique in detail and will go in to the study result.
Disclosure: No significant relationships.

O144

FIXATION OF THE POSTERIOR MALLEOLUS: FUNCTIONAL AND RADIOLOGICAL OUTCOMES AFTER CHANGING OUR OPERATIVE STRATEGY TO THE POSTEROLATERAL APPROACH

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Introduction: Criteria for fixation of the posterior malleolus are changing towards a more aggressive approach. Classically the posterior malleolus is fixated, merely using AP screw fixation, if the posterior fragment is >25-33% of the articular surface. Recently, anatomical reduction and fixation through a posterior approach was suggested to have favorable outcomes, also in case of smaller fragments. Therefore, we changed our operative strategy in 2011 to a more aggressive strategy in which also smaller fragments were anatomically reduced and fixated.
Material and methods: Two different retrospective cohort studies were compared with a similar follow-up period of 3-5 years. The first cohort of trimalleolar fractures was operated between January 2007 and December 2010 (n=53) The second cohort, after changing our operative strategy, was operated between January 2011 and December 2013 (n=38). Functional and radiological (osteoarthritis and reduction) outcomes were compared between the two groups.
Results: Posterior fixation was performed in 25% (cohort one) where it increased to 36% (cohort two). Functional outcomes were not significantly improved from AOFAS 85 in cohort one to 89 in cohort two and from AAOS 85 in cohort one to 87 in cohort two. VAS-pain was 1.9 in cohort one and 1.7 in cohort two. Some degree of osteoarthritis was present in 27% (cohort one) and 26% (cohort two) respectively. Severe osteoarthritis was present 17% (cohort one) versus 11% (cohort two).
Conclusion: The change towards a more aggressive operative strategy has not led to a significant improvement of functional outcomes.
References:
Disclosure: No significant relationships.

O145

OPEN REDUCTION AND INTERNAL FIXATION OF THE POSTERIOR MALLEOLUS VIA THE POSTEROLATERAL APPROACH IS RADIOLOGICAL SUPERIOR TO 'A TO P' SCREW FIXATION

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Introduction: Functional outcome in trimalleolar fractures depends for the greater part on the position of the posterior malleolus. Anatomic reduction and fixation of the posterior malleolus is suggested to be essential. This can be easily done via a direct posterior approach. We compared the post-operative photographs of all operated trimalleolar fractures on fracture diastasis and step-off.
Material and methods: All trimalleolar fractures (X-ray and CT-scan in some patients if available) operated in two major teaching hospitals from 2007 till 2013 were analyzed on size of posterior fragment, post-operative gap and step-off by three observers. Patients with posterior fragments >5% of the involved articular surface were included.
Results: 272 trimalleolar fractures were analysed, 188 met the inclusion criteria. 24 were 'A to P' fixated, 55 underwent open reduction and internal fixation through a posterior approach, 109 underwent fixation of lateral and/or medial malleolus without posterior malleolus fixation. The size of posterior fragment was 34% in the AP group, 28% in the posterior group and 16% in the 'no-fixation' group. Differences in fragment size were not significant between the AP and posterior group. A step-off >1mm was found in 38% (A to P group), 9% (posterior group) or 31% respectively (no-fixation group). No step-off was found in 54% (A to P group), 87% (posterior group) and 49% respectively (no-fixation group).
Conclusion: Fixation of the posterior malleolus through an open posterior approach leads to better radiological results as compared to to 'A to P' screw fixation or no fixation at all.
References:
Disclosure: No significant relationships.

O146

MANAGEMENT OF CLOSED ANKLE FRACTURES – A REVIEW OF NEW BRITISH ORTHOPAEDICS ASSOCIATION STANDARDS FOR TRAUMA (BOAST) GUIDELINES

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Introduction: Ankle fractures are a common presentation of trauma, accounting for 9% of fractures and being second to the proximal femur in incidence of lower limb fractures. The principles of

management are to correct the ankle mortise, fibula length, and talar shift. The BOA have released new guidelines for the management of closed ankle fractures, with a focus on early identification, fixation and mobilisation to limit associated complications.
Material and methods: Patients referred with a closed ankle fracture requiring fixation, over a five month period, were included. Our primary outcome measures were time to reduction, imaging obtained, time of surgery, and post-operative mobilisation. Mechanism of injury and type of fracture were also noted.
Results: Forty-three patients were identified, including 18 bimalleolar and 6 trimalleolar. One patient was transferred to the ward prior to confirmation of reduction. All patients had at least a two week period of immobilisation post surgery.
Conclusion: New guidelines for ankle fractures focus on early identification, management and mobilisation. This guidance advocates pre-reduction radiographs, and review of post-reduction radiographs prior to transfer to the ward. Fixation should be within 48 hours, followed by immediate post-operative mobilisation. Nineteen patients (95%) were operated on within a week, with around 40% having surgery the following day. The remaining patients were admitted for elevation, with surgery delayed due to swelling. All our patients were immobilised post operatively for wound healing. Our belief is that these patients should receive early fixation and mobilisation, but not to the detriment of soft tissue care.
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Disclosure: No significant relationships.

O147

PROPHYLAXIS OF VENOUS THROMBOEMBOLISM IN PATIENTS WITH A NONSURGICAL FRACTURE OF THE LOWER EXTREMITY IMMOBILISED IN A BELOW-KNEE PLASTER CAST; A RANDOMISED CONTROLLED TRIAL

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Introduction: Immobilisation of the lower leg is associated with deep vein thrombosis (DVT). However, thromboprophylaxis in patients with a below-knee plaster cast remains controversial. We examined the efficacy and safety of nadroparin and fondaparinux in these patients.
Material and methods: The PROTECT study was a multicentre study that enrolled adults with a fracture requiring below-knee immobilisation. Participants were randomised for either the control group or one of the intervention groups: daily subcutaneous self-injection of either nadroparin (2850 IE anti-Xa = 0·3 ml) or fondaparinux (2·5 mg = 0·5 ml). A venous duplex sonography was performed after removal of the cast or earlier if thrombosis was suspected. Primary outcome was the relative risk of developing DVT in the control group compared with that in both intervention groups.
Results:
467 patients were enrolled and randomised for either the nadroparin group (n=154), the fondaparinux group (n=157), or the control group (n=156). A total of 273 patients (92, 92, and 94 patients, respectively) were analysed. The incidence of DVT in the nadroparin group was 2/92 (2·2%) compared with 11/94 (11·7%) in the control group, with a relative risk of 5.4 (95% CI 1·2 – 23·6; p = 0·011). The incidence of DVT in the fondaparinux group was 1/92 (1·1%), yielding a relative risk of 10·8 (95% CI 1·4 – 80·7; p = 0·003) compared with that in the control group.
Conclusion: Thromboprophylaxis with nadroparin or fondaparinux significantly reduces the risk of DVT without any major adverse events in patients with an ankle or foot fracture who are treated in a below-knee cast.
Disclosure: We received a non-restrictive educational grant from GlaxoSmithKline.

O148

EXTENSILE VS. LIMITED APPROACH FOR THE TREATMENT OF CALCANEAL FRACTURES-PEDOBAROGRAPHIC GAIT ANALYSIS

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Introduction: Extensile lateral approach is the standard surgical approach for the treatment of intraarticular calcaneal fractures. The disadvatage of this approach is a high risk of wound healing problems. Less invasive approaches minimize this risks, however the possibility of fracture reduction is more tricky.The aim of the study was to compare the extensile lateral and limited sinus tarsi approach in treating of calcaneal fractures from the perspective of early functional results using pedobarographic gait analysis.
Material and methods: Twenty two patients treated for unilateral calcaneal fracture were devided into 2 groups according to used surgical approach. No other disorders of the gait and axial system prior injury was known. Pedobarographic gait analysis using an Emed-c system (Novel, DE) was performed 6 month after surgery. The observed factors were as follows: C.T. (ms)…….Contact time total P.P. (kPa)……. Peak Pressure total Fmax (N)……..Maximal Force C.T.heel-total(ms)……Contact time of the heel total P.P. heel (kPa)……. Peak Pressure under the heel
Results: Constant changes between injured and healthy foot were observed in all patients: lateral shift of centre of pressure line(COP), shortening of C.T. heel, decrease of P.P. under the affected foot. On the other hand no significant differences in these parameters between the two groups were observed.
Conclusion: Pedobarographic gait analysis is suitable method for the monitoring of the changes in the dynamic parameters of gait. Limited surgical approaches in the treatment of calcaneal fractures give

comparable early functional results as when using extensile lateral approach.

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Disclosure: No significant relationships.

POLYTRAUMA CARE

O149

RISK FACTORS, CLINICAL PRESENTATION AND MANAGEMENT OF OF MOREL-LAVALEE INJURY AFTER BLUNT TRAUMATIC INJURY

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Introduction: Morel-Lavallee lesion (MLL) is an infrequent entity of closed degloving injuries which is associated with a substantial morbidity in trauma patients. We sought to describe the clinical presentation, diagnosis and management of MLL in Qatar.

Material and methods: It is a retrospective analysis for pelvic trauma patients with provisional diagnosis of MLL between 2010 and 2012. Data included demographics, presentations, management and outcome were analyzed.

Results: of the total of 580 pelvic injury cases, 183 (31.5%) were diagnosed with MLL with a mean age of 30.4±12.3. Majority of MLL patients were obese (74.5%) and 80 (44%) patients had pelvic fracture. Non-operative management (NOM) was successful in 90% of the cases and surgical invention was indicated in 6.6% cases. Failure of NOM was observed in 3.8% cases. Non-obese patients were more likely to sustain severe Glasgow Coma score (GCS<8) with lower mean GCS at ED (p =0.001) than obese patients. Clinical diagnosis of MLL cases was common in obese patients whereas higher frequency of non-obese patients had missed clinical diagnosis on initial presentation (p =0.001). The overall mortality rate was 12.6% and it was non-significantly higher in non-obese patients (9.5% vs. 5.7%, p =0.39) than those with obesity. Multivariate analysis after adjusting for potential confounders showed injury severity score to be independent predictors of mortality in MLL patients.

Conclusion: one-third of the pelvic injury cases were diagnosed with MLL and the vast majority was obese. The majority of cases was diagnosed clinically with acute presentation and was successfully treated conservatively. The link of obesity and MLL needs further evaluation

References: 2016 Jan;47(1):115-25. doi:10.1016/j.ocl.2015.08.012.

Disclosure: No significant relationships.

O150

IS THERE AN ADVANTAGE OF USING THE BERLIN DEFINITION FOR THE ASSESSMENT OF POLYTRAUMA PATIENTS - THE ASPECT OF INTERRATER RELIABILITY? AN ANALYSIS OF THE UNIVERSITY HOSPITAL ZUERICH DATABASE

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Introduction: To establish an unquestionable and internationally comparable definition of polytrauma the Berlin Definition arose through a consensus process. It assumes an insufficiency of the determination of the grade of injury using the ISS Score only.

Material and methods: The University Hospital Zürich trauma database of one year with a total of 359 patients was chosen. These patients were coded within two different groups (internal trauma database and TraumaRegister DGU®) by different coders. For the analysis of the interobserver reliability of the trauma scores n=319 patients were included by the inclusion criteria of the TraumaRegister DGU®. For the additional analysis of the interobserver reliability of the several polytrauma definitions the study collective was reduced to n=187 patients by excluding secondary allocated patients and death due to declared intention. The statistical measure of the interobserver reliability is Cohen's-Kappa-Coefficient. The Mann-Whitnay-U Test was used for continuous variables. For categorial variables the Chi-Square was used considering the correcture of Yates and the Fisher-Exact-Test.

Results: The statistical analysis of the interrater reliability in view of the trauma scores evinces good accordance determining the ISS (0.829), NISS (0.832), AIS Abdomen/Pelvis (0.898) and TRISS (0.867). The AIS External only shows questionable accordance (0.676), whereas all other AIS groups match excellently. The statistical analysis of the interrater reliability of the polytrauma definitions demonstates moderate accordance in the ISS groups with ISS>=16 (0.425), ISS>=18 (0.579) and ISS>=20 (0.573), respectively. The Berlin Definition (0.865) shows complete accordance.

Conclusion: In comparison to the ISS based polytrauma definitions the Berlin Classification is less rater reliant.

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Disclosure: No significant relationships.

O151

TIME TO CT AS KEY PERFORMANCE INDICATOR TO RESTRUCTURE THE TRAUMA TEAM IN A LEVEL II TRAUMA CENTER

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Introduction: Time is crucial in optimal treatment of trauma and delays are linked to adverse outcome. It's renown that early CT scan facilitate treatment of life-threatening injuries and has become a standard part of the initial work up allowing better outcome especially if associated with a well coordinated Trauma Team (TT). Although the acceptable time to CT has not been defined, the optimization of time frame between arrival and CT might be considered a Key Performance Indicator (KPI) to assess maturity of the TT. In order to improve our performance we analyzed this time gap and restructured the TT through a "Roles and Responsabilities Protocol".
Material and methods: From January to June 2016 we activated the TT for red code (vital signs altered, airway compromise, high energy trauma, severe trauma kinetic) in 78 cases. Excluding patients discharged from the emergency department and patients who did not undergo CT imaging due to severity injuries causing immediate death or direct access to the OR we analysed arrival-CT time in 36 patients. We contemporary established a multidisciplinary working group in order to restructure our TT.
Results: Average time from patient arrival to first CT scan was 27' (min. 12'; max. 83'). The working group focused of these issues: -Communication with pre-hospital team -Emergency Room setup -Transfers -Roles and responsabilities among the team -Institution of hands-off team leader -Trauma checklist -Time keeping
Conclusion: Time to CT might be considered a KPI to train the TT; further analysis after the maturation or our new protocol will be reported in the future.
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Disclosure: No significant relationships.

O152

EMERGENCY DEPARTMENT THORACOTOMY – AN ANALYSIS ANALYSIS OF THE TRAUMAREGISTER DGU®

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Introduction: Heavy bleeding in case of thoracic trauma may require emergency department thoracotomy (EDT) a last chance to survive. Indications and procedures for penetrating trauma are fairly undeniable. Differences in prognosis of penetrating and blunt trauma out of a representative collective of the German TraumaRegister DGU® should be carved out.
Material and methods: All emergency thoracotomies out of the TR-DGU® (2009-2014) within the first 60 minutes in patients with an ISS $\geq$ 9 were identified. EDT were identified seperately. Mini thoracotomies and drainage systems were excluded.
Results: 99.013 patients with sufficient data were observed. 1.736 (1,8 %) received thoracotomy during hospital stay. 887 patients had an Thoracotomy within the first hour in the ED. 52.5 % were treated in supraregional trauma centers (STC), 36.4 % in regional (RTC) and 11.0 % in local trauma centers (LTC). The mortality referring to the level of the Trauma center was: LTC 39.4 %, RTC 20.9 % and NTC 20.8 %. The overall mortality rate showed no significant differences for blunt (28.2 %) and penetrating trauma (31.3 %). In case of cardiac arrest in the emergency room, a survival rate of 4.8% in blunt trauma and 20.7% in penetrating trauma was determined if EDT has been carried out.
Conclusion: Just over half the EDT was performed in STC. The overall mortality of 21,6 % in penetrating trauma was slightly higher than in blunt trauma. Emergency room resuscitation followed by EDT was survived in 4,8 % of blunt and 20,7% of the penetrating trauma patients.
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Disclosure: No significant relationships.

O153

THORACIC AND ABDOMINAL INJURIES ASSOCIATED WITH VERTEBRAL-MEDULLARY TRAUMA

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Introduction: A specific analysis of the relationship between thoracic and abdominal injuries and vertebral fractures is subject in few studies conducted in large trauma centers. Vertebral-medullary trauma is rarely singular, often being associated with injuries of the surrounding structures. The prevalence of multiple lesions is high, associating poor prognosis.
Material and methods: A retrospective analysis of 2575 patient treated in "Bagdasar Arseni" Emergency Hospital over a period of 3 years was performed.
Results: Less than half of the patients suffered concomitant spinal and abdominal and/or thoracic trauma. The mechanism was in a high percentage fall from heights closely followed by motor vehicle collisions. Lumbar vertebral-medullar trauma was associated with splenic, renal, hepatic, bowl lesions as well as retroperitoneal hematomas. Multilevel lumbar spine trauma was associated with a higher organ injury ratio compared with single level trauma ($p < 0.01$) including a twofold higher incidence of parenchymal organs (lung, spleen, liver and kidney) injury ($p < 0.01$). The level and type of fracture did not affect the incidence of associated abdominal and

thoracic injuries. Patients associating abdominal trauma were more severely injured mainly due to increased incidence of accompanying thoracic injuries although no significant difference in mortality was observed. The concomitance of thoracic or pelvic injuries resulted in a higher use of medical resources, generating an increased cost of hospitalization.
Conclusion: Abdominal and thoracic injuries occurred in patients with spine fractures follow a similar distribution pattern as in blunt trauma in general, occurring most commonly due to fall from heights and in association with multilevel vertebral fractures.
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Disclosure: No significant relationships.

O154

OPERATIVE STABILISATION OF CHEST WALL TRAUMA: SINGLE CENTER REPORT OF INITIAL MANAGEMENT AND LONGTERM OUTCOME

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Introduction: Conservative treatment of even severe thoracic trauma including flail chest was traditionally the standard of care. The aim of this study was to critically review our indications and results of internal fixation of rib fractures after blunt thoracic Trauma in the longterm course.
Material and methods: We analysed the prospectively collected data of a consecutive series of patients having had internal rib fracture fixation at our institution from 8/2009 until 12/2014 and we retrospectively studied the late outcome by clinical examination or personal interview.
Results: From 1398 patients with a thoracic trauma treated at our institution during that time period 235 sustained a severe thoracic trauma (AIS $\geq$3). In 23 of these patients 88 internal rib fixation were performed using the MatrixRIB® system. The mean age of these patients with chest wall stabilisation was 58$\pm$10 years with a mean ISS of 23$\pm$10. Operation time was 120$\pm$51 minutes. From 18 local resident patients follow up could be obtained after an average time period of 27.6 (12-68) months. All of these patients were free of pain and had no limitations in their daily routine. Of all implants, 5 splint tips perforated the rib in the postoperative course but all patients remained clinically asymptomatic. Plate osteosynthesis showed no loss of reduction in the postoperative course. No case of hardware prominence, wound infection or non-union occurred.
Conclusion: Locked plate rib fixation seems to be safe and beneficial not only in the early posttraumatic course but also after months and years patients remain asymptomatic and complete recovery is the rule.
References:
Disclosure: No significant relationships.

O155

STILL ALIVE…AND WELL

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Introduction: Road accidents usually put the surgeon on call in variety and difficult situations. Impalement is an uncommon and spectacular injury, which combines aspects of both blunt and penetrating trauma.
Material and methods: We present the case of a 40 years old patient, a victim of a road accident (driver) which occurred on a bridge, pierced by a metal bar from the bridge, subsequently falling off the bridge aproximately 10m. An emergency surgical intervention has been caried out of removing the impaled object [length =120cm, diameter =10cm), the entrance point being in the right hypochondrium and the exit located at the left flank) with the following lesions observed intraoperatively: grade 2 hepatic rupture, grade 3 splenic rupture, grade 1 colon and enteral lesions, greater omentum and gastrocolic ligament lacerations, grade 1 caudal pancreatic hematoma, lesions of ileal mesentery (grade 1), medium hemoperitoneum, double fractures of the X right rib anteriorly, abdominal wall trauma with musculoaponeurotic dilacerations and partial tegument devitalization.It has been carried hemostasis, splenectomy, extramucosal suturing of colonic lacerations, mesenteroraphy, partial omentectomy, costal eschilectomy, drainage; partial anterior abdominal wall reconstruction, skin excisions. Postoperative CT examination showed bilateral basal contusions of the lungs (grade 2 contusion). In post-operative period, the patient was admitted in the ICU and continue receieving support treatment being extubated day 3 postoperatively with a favorable evolution, besides, requiring a reintervention for skin necrosis at the exit wound.
Results: The patient was discharged 25 days postoperatively.
Conclusion: A dramatic accident, in which a metal bar through its weight have contributed for carring out a temporary hemostasis.
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Disclosure: No significant relationships.

O156

MANAGEMENT OF THORACOLUMBAR FRACTURES IN THE MULTIPLY INJURED PATIENT - EXPERIENCE OF A UNITED KINGDOM LEVEL 1 MAJOR TRAUMA CENTRE

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Introduction: Leeds Major Trauma Centre (MTC) in the United Kingdom opened on 2nd April 2013. This increased involvement in the multi-specialty management of complex trauma patients from admission through to rehabilitation. This study aimed to identify the epidemiology of spinal injuries in multiply injured patients - including both clinical and radiological outcomes.
Material and methods: Prospective data from the 'Trauma Audit and Research Network (TARN)' and hospital documentation. All patients with thoracolumbar injuries (02/04/2013 - 01/10/2015). Data was cross-referenced with available imaging.
Results: 101 patients were identified and 93 had complete data for inclusion. 48.5% of patients were from outside the hospital catchment area. 72 were male and mean age was 47 (range 8-96). Mechanism of injury included fall >2m (47%), road traffic collision (40%), fall <2m (9%), crush/blow (4%). 45% had multi-level vertebral injuries. 83% were vertebral body fractures - AO types A1/2 (40%) A3/4 (38%), B (15%) and C (7%). Mean thoracolumbar injury and classification severity score (TLICS) was 2. 22 patients underwent operative stabilization (mean TLICS 3.8) - of which 3 had a neurological deficit as a result of injury. At 1 year, 2 patients had a persistent neurological deficit and 2 were experiencing ongoing low back pain. There was one complication (screw pull-out). 2 patients had a second procedure to remove metalwork. No conservatively managed patient required subsequent surgical intervention.
Conclusion: Spinal fractures are common in the multiply injured patient. In our series most (78%) were successfully treated without surgery. However, when operative intervention is required the clinical outcomes are good.
References:
Disclosure: No significant relationships.

CEREBRAL AND SPINAL TRAUMA

O157

THE SIMULTANEOUS FACIAL COMPUTED TOMOGRAPHIC SCANS IN ASSESSING FACIAL FRACTURE FOR SELECTIVE PATIENTS WITH TRAUMATIC BRAIN INJURY

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Introduction: Patients with traumatic brain injury (TBI) may have concomitant facial fractures. While most head-injured patients receive head computed tomography (CT) scans for initial evaluation, the objective of our study is to investigate the value of simultaneous facial CT scans in assessing facial fracture in patients with TBI.
Material and methods: During January 1, 2015 to December 31, 2015, 1649 consecutive patients presenting to our emergent department (ED) with TBI and receiving CT scans using the protocol including head and facial bones were enrolled. The clinical data and CT images were reviewed with a standardized format.
Results: In our cohort, 200 patients (12.1%) had at least one facial fracture shown on CT scans. Subjects with facial fracture were more common to have initial loss of consciousness (ILOC) ($p<0.001$), alcohol drunk ($p=0.021$), falling from elevation ($p=0.039$), motorbike collision ($p<0.001$), a Glasgow coma scale (GCS) of 8 or less ($p<0.001$), moderate or severe degrees of head injury severity scale (HISS) ($p<0.001$), positive physical examination findings ($p<0.001$), intracranial hemorrhage ($p<0.001$) and skull bone fracture ($p<0.001$). There were 166 (83.0%) patients with facial fractures required further facial CT scans instead of conventional head CT scans only. Open surgery was mandatory in 73 (44.0%) of the 166 patients, in whom that broken tooth ($p=0.011$) and lower face fracture ($p<0.001$) were more frequent.
Conclusion: TBI patients with risk factors may carry higher probability of concomitant facial fractures, which are easily missed in routine head CT but often require surgical repair. Therefore we highly recommend simultaneous facial CT scans in selective TBI patients.
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Disclosure: No significant relationships.

O158

COMPLICATIONS OF SKULL RECONSTRUCTION AFTER DECOMPRESSIVE CRANIECTOMY

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Introduction: Decompressive craniectomy can be a life-saving procedure when increased intracranial pressure cannot be reduced with conservative measures. Later reconstruction of the skull using the stored bone flap is often associated with complications, the most frequent being bone resorption. These complications require new procedures and often result in the reconstruction of the skull using an expensive patient specific cranial implant.
Material and methods: We retrospectively analyzed the database of all adult patients in our center who underwent cranioplasty after decompressive craniectomy in the last ten years. 74 patients were found eligible for inclusion. Bone flap size, duration of the procedure and age are important known risk factors for the development of complications. We included these and other clinical parameters in our analysis.

Results: 29,7% of our patients who received in the first place an autologous cranioplasty developed a complication which necessitated removal of the bone flap and the implantation of a custom made implant. Descriptive statistics demonstrate a significantly higher amount of complications in younger patients (20-40 years, p =0,027). Bone flap size or duration of the procedure were not statistically significant risk factors. We also saw a trend towards lower complications when bone flaps were stored according to a biobank protocol (p =0,075).
Conclusion: Cranioplasty using the stored bone flap after decompressive craniectomy is associated with a high percentage of complications. Selecting patients at risk could possibly indicate cases where an immediate custom-made implant, either using commercially available skull substitutes or a titanium implant forged with SPIF (Single Point Incremental Forming) technique would be required.
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Disclosure: No significant relationships.

O159

DEVELOPING A NEW BIOCOMPOSITE MATERIAL FOR SUBSTITUTION OF CRANIAL AND VERTEBRAL POST-TRAUMATIC BONE DEFECTS

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Introduction: The aim of our work was to develop a new biocomposite material with superior mechanical (higher resistance) and biological characteristics (increased osteogenesis by inducing new osteoblasts formation) compared with classic biomaterials. This new biocomposite has the clinical potential to be used as substitute for spine and cranial posttraumatic bone defects.
Material and methods: We developed a new biocomposite material with a greater osteogenic properties by addition of an osteogenic bioactivator (OB) to classic biomaterials with HAP matrix reinforced by Ti-based powder particles. The adition process was performed using aquoas solution immersion and MAPLE coating technique. The micro-injection molding technique is used for the first time to process complex shaped and small sized bone implants and an original and innovative application of MAPLE coating technique is used to process hybrid biocomposite coatings on Ti substrate.
Results: The surface specific and porous distribution measurements demonstrated a superior foaming effect generated by TiH2, CaCO3 si NH4HCO3. The porous structures of the sample showed a double porous volume compared with the TIH2 sample. The measurements of OB – cyclodextrin interactions showed a decreased of the melting temperature. The OB – cyclodextrin complex improved the molecular stability of biomaterials. Moreover, adding the OB to the biocomposite increase the osteogenesis by inducing the differentiation of mesechymal stem cells and formation of new osteoblasts, conferring a better biocompatibility to this biocomposite.
Conclusion: Our results show that the new biomaterial composite (OB + HAP reinforced by Ti-based powder particles) obtained using the MAPLE coating technique has superior mechanical and biological characteristics compared with classic biomaterials used in spinal and cranial bone substitution. Acknowledgment: This work was supported by a grant of the Romanian National Authority for Scientific Research, CNCS – UEFISCDI, project number 244/2014
References:
Disclosure: No significant relationships.

O160

BRAIN TRAUMA FOUNDATION GUIDELINES FOR INTRACRANIAL PRESSURE MONITORING: COMPLIANCE AND EFFECT ON OUTCOME

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Introduction: Brain Trauma Foundation (BTF) guidelines recommend intracranial pressure (ICP) monitoring in patients who sustained severe traumatic brain injury (TBI).[1] Compliance to BTF guidelines is variable and the effect of ICP monitoring on outcomes is controversial.[2–3] The purpose of this study was to assess guidelines compliance in patients who sustain a severe TBI and to analyse the effect of ICP monitoring on outcomes.
Material and methods: Trauma Quality Improvement Program (TQIP) database study (2013-2014). Blunt trauma patients with isolated severe TBI and GCS <9 who had an ICP monitor placed were included in the study.
Results: During the study period 13,188 patients with isolated severe TBI met the BTF guidelines for ICP monitoring. ICP monitoring device was placed in 1,519 (11.5%) patients. The unadjusted 30-day mortality was similar between the two groups (32.1% vs. 31.7%, p =0.756). Stepwise logistic regression analysis identified age $\geq$65 years old, hypotension on admission, AIS 4, and AIS 5 as independent predictors for mortality. ICP monitoring was not an independent protective variable in terms of mortality. ICP placement was independently associated with increased overall complications (OR 2.089; 95% CI, 1.85-2.358; p<0.001), infectious complication (OR 2.282; 95% CI, 2.015-2.584; p<0.001), and poor functional outcomes (OR 1.889; 95% CI, 1.575-2.264; p<0.001).
Conclusion: Compliance with the Brain Trauma Foundation guidelines for ICP monitoring is poor. ICP monitoring does not seem to have any survival benefit in patients with isolated severe TBI and is associated with more complications and increased utilization of hospital resources.
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Disclosure: No significant relationships.

O161

SURGICAL MANAGEMENT OF POSTTRAUMATIC FRONTO-NASAL CSF FISTULA

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Introduction: Fronto-nasal cerebro-spinal fluid (CSF) fistula represents a direct communication between subarachnoid cisterns and nasal cavity, secondary to a basal skull fronto-etmodial fracture. This complication usually occurs in up to 5-9% of all patients with traumatic brain injury (TBI). Most of the fistula (60%) occurs within first 3 days after TBI, and 95% occur within first 3 months after TBI. The main indications of the surgery are: 1. Persistent CSF leak for more than 2 weeks, despite of the conservative treatment, 2. Re-opened fistula and 3. Fistula complicated with recurrences meningitis.
Material and methods: From 1068 patients with traumatic brain injury (TBI) admitted in Neurosurgery Clinic, "Bagdasar-Arseni" Emergency Hospital between January 2006 and May 2016, 124 patients presented posttraumatic CSF fistula of the anterior cranial fossa. For all patients a complex therapeutically management protocol was applied which included: lumbar puncture, continuous lumbar drainage, external ventricular drainage and direct surgical treatment of the fronto-nasal fistula using an intracranial approach. The medium follow-up was 4,5 years
Results: From 124 patients with posttraumatic fronto-nasal CSF fistula, 48 patients have been operated using an intracranial approach, in 29 patients an external ventricular drainage was performed and in 19 patients continuous lumbar drainage for 3-5 days was used. For the rest of 28 patients between 3 and 8 lumbar spinal punctures successfully resolve the fistula. There was no death in this series and no intraoperative incidence. One patients presented postoperative wound infection which completely remitted after 7 days of antibiotics. Two patients presented postoperative anosmia. One patient presented postoperative seizures
Conclusion: Successful treatment of a CSF fistula depends on a correct identification of fistula location. Complex neuroimaging studies are required in order to perform a precise preoperative planning. If the patients are carefully selected, the success rate of surgical procedure could be high, up to 90%.
References:
Disclosure: No significant relationships.

O162

DOES THE TYPE OF INTRACRANIAL PRESSURE MONITORING DEVICE AFFECT OUTCOMES IN ISOLATED SEVERE BLUNT TRAUMA BRAIN INJURIES?

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Introduction: Intracranial pressure (ICP) monitoring has become the standard of care in the management of severe head trauma. Intraventricular (IVD) and intraparenchymal (IPD) are the most commonly used devices. The effect of the type of device on outcomes is still unclear. [1–3] The purpose of this study was to compare outcomes between the different types of ICP monitoring devices, in patients with isolated severe blunt head trauma (TBI).
Material and methods: Trauma Quality Improvement Program (TQIP) database study (2013-2014). Blunt trauma patients with isolated severe TBI who had an ICP monitor placed were included in the study.
Results: There were 105,721 patients with isolated severe TBI. Intracranial pressure monitoring catheter was placed in 2,562 (2.4%) patients. Overall, 1,358 (53%) had an IVD and 1,204 (47%) had an IPD. The severity of head AIS did not influence the type of ICP monitoring. There was no difference in the median ISS, ISS>15, head AIS 4, 5, and need for craniectomy between the two study groups. The unadjusted 30-day mortality was significantly higher in the IVD group (29% vs. 25.5%, $p = 0.046$). There was no significant difference between the two groups with regards to hospital stay, ICU stay, ventilation days, and functional outcome. Stepwise logistic regression analysis identified age $\geq$65 years old, head AIS 5, and GCS <9 as independent variables associated with increased mortality. The type of ICP monitoring was not an independent risk factor for mortality.
Conclusion: The type of ICP monitoring device does not have any effect on outcomes in isolated severe TBI.
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Disclosure: No significant relationships.

O163

OVERNIGHT REPORTING OF SPINAL TRAUMA; ARE REGISTRAR REPORTS SUFFICIENT TO GUIDE MANAGEMENT?

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Introduction: Since becoming a major trauma centre the Leeds General infirmary has developed a standardised approach to trauma imaging including thin slice reconstruction of the spine. Registrar reports issued at the time of scanning are crucial in the initial management of the patient and this review was conducted to assess the accuracy of overnight musculoskeletal reporting. This study aimed evaluate the accuracy of spinal trauma reporting by on-call registrars. To review commonly-missed injuries and assess if missing these injuries may affect subsequent management.

Material and methods: Retrospective review of 150 consecutive provisional reports issued by on-call registrars. Overnight reports were compared to the consultant-approved report which was considered the gold standard. Those cases with 'missed' spinal injuries were then reviewed with a spinal surgeon to assess how subsequent management may have been affected.
Results: 14% (21) of registrar reports were changed after consultant review. The 21 cases involved 27 injuries. The most commonly-missed spinal injuries were vertebral body endplate (9) and transverse process fractures (7). After reviewing the imaging with a spinal surgeon only one case would have been managed differently. There would have been no operative management of this patient.
Conclusion: Overnight reporting of spinal imaging in trauma is considered highly accurate. Subtle transverse process and vertebral endplate fractures are the most commonly-missed spinal injuries on CT; their subsequent management is unlikely to be altered.
References:
Disclosure: No significant relationships.

O164

HELICOPTER VERSUS GROUND PREHOSPITAL TRANSPORTATION IN ISOLATED SEVERE HEAD TRAUMA: A RETROSPECTIVE ANALYSIS FROM THE NATIONAL TRAUMA DATA BANK

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Introduction: The effect of pre-hospital helicopter transportation on mortality has been previously analysed in polytrauma patients with discordant results.[1−3] The purpose of this study was to analyse the survival benefit of helicopter transport (HT), compared with ground emergency medical services (EMS), in patients who sustained a severe isolated traumatic brain injury (TBI).
Material and methods: National Trauma Data Bank (NTDB) retrospective study (2007-2014). Adult patients (≥16 years-old) with a severe isolated blunt TBI transported by helicopter or EMS.
Results: During the study period, 145,559 patients met the inclusion criteria. Overall, 116,391 (80%) patients were transported via ground EMS and 29,168 (20%) via helicopter. Median transportation time was longer for HT patients (41 vs 25min, $p<0.001$). At presentation, HT patients were more likely to have hypotension (2.7% vs 1.5%, $p<0.001$), GCS <9 (38.2% vs 10.9%, $p<0.001$), and head AIS 5 (20.1% vs. 9.7%, $p<0.001$). The unadjusted overall mortality was significantly higher in the HT group (12% vs. 7.8%, $p<0.001$). Stepwise logistic regression analysis identified age ≥65 years old, male gender, hypotension, tachycardia, GCS <9, head AIS 4 and 5 as independent predictors of mortality. Helicopter transportation was an independent protective factor against mortality (OR 0.799; 95% CI, 0.739-0.865; $p<0.001$). Regardless of head AIS, helicopter transport was an independent predictor of survival (AIS 3: OR 0.486, $p<0.001$; AIS 4: OR 0.658, $p<0.001$; AIS 5: OR 0.873, $p=0.019$). A prolonged transport time was not an independent predictor of mortality.
Conclusion: Helicopter transport in adult patients with isolated severe TBI is associated with an improved survival.
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Disclosure: No significant relationships.

APPENDICITIS & PERFORATED ULCER

O165

SURGEON-PERFORMED ULTRASOUND INTEGRATED WITH ALVARADO AND ANDERSSON SCORES IN THE DECISION MAKING OF SUSPECTED ACUTE APPENDICITIS: PRELIMINARY RESULTS

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Introduction: Alvarado and the appendicitis inflammatory response score (Andersson) are still used as a help for diagnosing acute appendicitis. No studies integrating ultrasound (US) with scores are available in literature.
Material and methods: Twenty five consecutive patients (9 males, 16 females, mean age 38 yrs) with a clinical suspicion of acute appendicitis were prospectively enrolled. Both scores were calculated, followed by a surgeon-performed US. Only patients with positive US underwent laparoscopic appendectomy. A phone follow-up was performed on discharged patients (mean FU 6.4±3.2 mo.).
Results: According to the stratification groups for both tests (1-4: low probability; 5-8: indeterminate; ≥ 9: high), 1 patient in the low probability zone had a positive US (1/14, with Alvarado=4, 7%; 1/18 with Andersson=2, 5.2%). In the indeterminate zone, US obtained a definitive diagnosis of acute appendicitis in 36% of cases using Alvarado (4/11) and 66% using Andersson (4/6), respectively. Five out of 25 pts (20%) had positive US. Intraoperative findings and histology confirmed acute appendicitis (4 phlegmonous, 1 advanced). All patients but one with a negative or different US diagnosis were discharged. A 12- yr-old girl was admitted in pediatric ward. The follow-up was obtained on 17/20 non-admitted patients. None underwent surgery, except the above mentioned 12-yr-old girl (negative appendectomy for persistent pain 4 months after discharge).
Conclusion: Surgeon-performed US enhances the rate of right clinical decisions. Whatever is the therapeutic strategy (non-operative vs. surgery), US reduces both over- and under-treatment rates. Its role is higher in the indeterminate risk group for both scores (around 50% not requiring surgery in literature).
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Disclosure: No significant relationships.

O166

UNNECESSARY COMPUTED TOMOGRAPHY SCANS AFTER POSITIVE ULTRASOUND FOR DIAGNOSIS OF ACUTE APPENDICITIS IN PATIENTS PRESENTING TO THE EMERGENCY DEPARTMENT

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Introduction: Literature has drawn attention to the overuse of computed tomography (CT) scans for the diagnosis of acute appendicitis in patients presenting to the emergency department. Efforts to reduce the excess radiation and radiocontrast related adverse effects have led to research on alternative diagnostic modalities.Ultrasound has emerged as a diagnostic tool that could aid in the diagnosis of AA. High specificity of US in the diagnosis of AA makes it an attractive option to support the diagnosis of AA.
Material and methods: Retrospective study of consecutive patients admitted from our academic tertiary-care hospital with a final hospital diagnosis of acute appendicitis. We reviewed all imaging modalities performed We present results as medians with interquartile ranges (IQR). We present results as medians with interquartile ranges (IQR).
Results: 941 patients with a diagnosis of acute appendicitis from 23/12/2011-20/11/2014; median age 33 years 524,(55.7%) were male; race/ethnicity:White(29.2%); Asian(31.5%); Black(6.3%); Hispanic(0.6%), and Others(32.4%). Duration of pain was 2-6h(6.5%); >6-24h (41.3%); >24h to 3d(32.3%); >3d to 1wk(14.0%); > 1 wk40(4.5%). Rovsing[6.0%]); obturator[3.4%]); and psoas(51 [5.4%]). Diarrhea in (15.8%). Median WBC was 13.3. Prior visit to ED for similar symptom(6.0%). CT scan 831(88.3%) patients. US 292(31.0%) and positive for appendicitis in 123(43.6%). Sixty-two 50.4%) of patients with an US positive for acute appendicitis still had a CT scan done prior to surgery.
Conclusion: ED patients with US positive for AA seem to be receiving potentially unnecessary CT scans, resulting in needless radiation and radiocontrast exposure. Future research needs to examine whether US may safely rule in AA without increasing negative laparotomies.
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Disclosure: No significant relationships.

O167

A NEW DIAGNOSIS SCORE FOR ACUTE APPENDICITIS: RIPASA SCORE

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Introduction: Acute appendicitis is one of the most common surgical emergencies. We want to determine the usefulness of the RIPASA score for the diagnosis of acute appendicitis, using histopathological results.
Material and methods: From May 2014 to March 2016 154 patients were included in this study. The diagnosis of acute appendicitis was made clinically associated with abdominal ultrasound. The RIPASA score was applied at admission to our surgical department. The resected appendices were sent for histopathological examination. We have correlated 15 parameters of RIPASA score with the anatomopatological results.
Results: Within 23 months, 154 patients were recruited to the study: 63 males (40.9%) and 91 females (59.1%). 136 patients were confirmed histologically for acute appendicitis. The rate of negative appendicetomies were 11.69%. The optimal cutt-off threshold score was 7.5. Sensitivity of RIPASA score was 92.8%.
Conclusion: RIPASA score is useful to diagnose acute appendicitis.
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Disclosure: No significant relationships.

O168

WHEN IS IT TIME CRITICAL TO OPERATE IN APPENDICITIS?

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Introduction: Delay of operative management of acute appendicitis may adversely affect post-operative outcomes and increase the

likelihood of post-operative complications occurring. We aim to correlate the duration of symptoms with intra-operative findings to create a timeline of pathological change in appendicitis.
Material and methods: Appendicectomies performed at a large teaching hospital between June 2015 and July 2016 were prospectively analysed. Time of onset of pain, operative findings, pre-operative C-Reactive Protein (CRP) and White Cell Count (WCC) were recorded. Intra-operative findings were categorised by the macroscopic appearance of the appendix, which was subdivided into erythematous, purulent, necrotic and perforated. These results were correlated with the duration of symptoms. Statistical analysis was completed using Mann Whitney U and Chi-squared tests.
Results: Data for 225 patients was prospectively collected during the study period, of these, 190 had appendicitis proven on histology. Median time to operation from symptom onset was 49 hours. Median time for the appearances of erythematous, purulent, necrotic and perforated appendicitis to develop was; 36.5 hours, 41 hours, 55.5 hours and 86 hours respectively (P-value<0.0001). Median CRP of the non-perforated and perforated appendicitis groups was 22 mg/L and 161 mg/L respectively (P-value<0.0001). Our data demonstrated that after 72 hours of symptoms the likelihood of a perforated appendicitis increased significantly (P-value<0.0001) when compared to 60-72 hours.
Conclusion: A significant increase in the likelihood of a perforated appendicitis occurs after 72 hours of symptoms, when compared to 60-72 hours. We can therefore argue that it may be reasonable to prioritise patients approaching 72 hours of symptoms for operative management.
References:
Disclosure: No significant relationships.

O169

WHAT MAKES A MECKEL'S DIVERTICULUM COMPLICATED: A RETROSPECTIVE ANALYSIS OF 39 CASES

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Introduction: Despite the progress of the medical diagnostic and therapeutic tools at our disposal, complicated Meckel's Diverticulum (MD) still represents a challenge for surgeons[1]. Aim of this study was to review the outcomes of patients who underwent surgery for complicated MD and compare histological results of incidental MD.
Material and methods: We reviewed 39 patients who underwent surgery for a MD from 2005 to 2016. Twelve of them (31%) showed complicated MD (Group A); the remaining 27 (69%) had an incidental MD (Group B). In the first group, main outcome measures included type of surgery performed, convertion rate, type of resection, mean operative time, postoperative course, morbidity, mortality. Hystopathological results were compared.
Results: Eight patients (67%) had abdominal pain, three (25%) bowel obstruction and one (8%) gastrointestinal bleeding. Mean BMI was 25.8 kg/m^2. A preoperative diagnosis of complicated MD was carried out only in one case (8%). 11 patients (92%) had laparoscopy. Conversion rate was 18%. Tangential resection with stapler was performed on 92% of patients. Mean hospital stay was 6.6 days. Morbidity was 25%. No deaths were recorded. An MD normal enteric-type was found in 33.3% (n=4), an enteric-type MD with flogosis and/or necrosis in 50% (n=6) and 16.7% (n=2) showed a Gastric mucosa-type MD. No significant differences, in terms of histological findings, were found in the group with an incidental MD.
Conclusion: Definitive diagnosis of complicated MD can be made during surgical exploration. Laparoscopy might have a crucial role in the diagnostic-therapeutic algorithm, and tangential resection may allow a complete removal of ectopic tissue.
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Disclosure: No significant relationships.

O170

SURGICAL MANAGEMENT OF GASTRO-DUODENAL PERFORATED ULCER – STILL A CHALLENGE FOR SURGEONS?

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Introduction: Gastro-duodenal ulcer is a benign condition that in the new era of medical treatment is a rare presentation in a surgical department as an elective case. Usually, the surgeon on call is faced with patients having a complicated ulcer with hemorrhage or perforation, with or without stenosis, in a bad condition. This situation requires sometimes difficult surgical procedures and intensive care measures.
Material and methods: We analyzed a lot of 30 patients admitted in the Department of Surgery of Elias Hospital between 1st of January 2015 and 30th of September 2016 with perforation of a gastro-duodenal ulcer.
Results: 12 patients were presented with gastric ulcer and 18 patients with duodenal ulcer, operated by laparoscopic or open approach. Surgical procedures performed, outcome and complications were analyzed. Laparoscopic approach was not possible in all cases because of the association with hemorrhage or a late presentation with purulent peritonitis. Also a review of the literature on the topic was performed.
Conclusion: The conclusion is that perforation of a gastro-duodenal ulcer can still present a challenge for surgeons because of late presentation, association with hemorrhage or poor nutritional status.
References:
Disclosure: No significant relationships.

O171

SHORT AND LONG TERM OUTCOME OF SURGICAL MANAGEMENT OF PEPTIC ULCER COMPLICATIONS IN THE ERA OF PROPTON PUMB INHIBITORS

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Introduction: Surgery for peptic ulcer (PU) complications is infrequent. The objective of this study was to evaluate the short-term and long-term outcomes of emergency operations for PU complicatons.
Material and methods: Retrospective review of operated patients (2007-2015).
Results: 81 patients were included (8.9 patients/y'): 70 (86.4%) male; 11 (13.6%) female. Indications for operation were: 18 (22.2%) hemorrhage; 62 (76.5%) perforation; 1 (1.2%) gastric-outlet obstruction. Sixteen (19.8%) had initially an anti-acid surgical procedure. Six (7.4%) patients had repeat operation for recurrent or persistent complication. Of these, two had an anti-acid procedure in the first operation. Sixteen (19.8%) patients died during the index hospitalization. Three (3.7%) patients were rehospitalized for a peptic ulcer complications 3-24 months after their index hospitalization. One patient, who was operated for repeat perforation 3 months following the first operation, was treated empirically for HP between the two operations. In comparison to perforation, patients operated for hemorrhage were older (69.9±20.3y' vs. 52.1±19.9y'; p =0.0015), more commonly had a history of PU or NSAID treatment (55.6% vs. 19.4%; p =0.0054), underwented more commonly an antiacid procedure during their index operation (61.1% vs. 6.5%; p<0.0001), and had a higher mortality (38.9% vs. 14.5%; p =0.0406).
Conclusion: Mortality is significant following surgery for complications, relatively more pronounced in patients undergoing surgery for hemorrhage. Recurrent operations and hospitalizations for complications are not uncommon, even in patients who underwent antiacid procedures and HP eradication. This stresses the need for strict followup in these patients.
References:
Disclosure: No significant relationships.

MILITARY & DISASTER

O172

ANALYSIS OF 6 MAJOR MEDICAL INCIDENTS SINCE 2010

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Introduction: Since 2010 our medical system on average had to face 1 major medical incident a year. Every of the major medical incidents required reorganisation of the emergency medical services (EMS) and the affected hospitals.
Material and methods: Study explored casuality volume and injury patterns as determined by secondary triage and outlined the timeline of rescue, transport and treatment at the hospital as well as the pattern of the casualty load.
Results: Depending primarily on the accessibility to the accident site, the time lapse between crash and arrival of the first casualty to the hospital was between 29 minutes (train crash occured less than 2 km from the hospital) and 2hr25 min (highway crash with difficult access and relatively remoteness). On average it took at least an hour from the crash till arrival of the first casualty. But then nearly all patients arrived in a matter of an hour. If the crash occured in the urban area, the lightly injured arrived first and if it happened in isolated place with difficult extrication, then heavily injured came sooner than lightly injured. In the older crashes, the emergency medical service (EMS) flooded the nearest hospital, while in the latest the EMS distributed patients among various hospitals.
Conclusion: Hospitals have time to adapt to the massive influx of patients, if they are timely notified of the major medical incident. The distribution pattern in the latest incidents also proved value of the MRMI training of the EMS and medical system as a whole!
References:
Disclosure: No significant relationships.

O173

MASS CASUALTY INCIDENTS AT SEA - SOFTWARE SUPPORTED TRIAGE AND TRANSPORT PRIORITIZATION OF PATIENTS

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Introduction: The number of passengers travelling with ferries and cruise ships worldwide has increased tremendously in recent years. Mass casualty incidents (MCI) at sea are low probability but high consequence events that overwhelm local emergency resources stressing the need for a structured emergency plan. In this extreme situation patient triage is required in order to prioritize patient treatment and transportation to medical facilities, but may be difficult for non-medical personnel. We therefore aimed to develop a computer-based triage and transport prioritization tool for non-medical personnel.
Material and methods: Based on existing triage algorithms and expert consensus a tablet-software for MCI scenarios was developed. Preceding experiments evaluated the systems' technical performance and stability. In order to further investigate the application for operations at sea a performance model was developed to compare triage results between surgeons and non-medicals. Surgeons and non-medical personnel were asked to prioritize patient groups with varying information and patient numbers. Kendall's Concordance-coefficient was calculated using SPSS software.
Results: Among surgeons a high concordance was found when triaging a small number of patients and reduced information. Consent was lower in a scenario with many patients and much clinical information. Evaluation of concordance between surgeons versus software-algorithm revealed good overall performance.
Conclusion: Software supported triage is a useful tool for non-medical personnel especially in MCI with a high number of patients. Tablet based triage may increase coordinative efficiency in transport prioritization. Further research should evaluate triage performance at sea.
References: 2015 Nov;33(11):1687-91
Disclosure: No significant relationships.

O174

DEVELOPMENT OF A CONCEPT FOR MASS CASUALTIES AT SEA: TRIAGE TAGS FOR OFFSHORE INCIDENTS

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Introduction: Mass casualty incidents are one of the most complex challenges in prehospital environment. While occurring at sea, it might be more complicated because of the surrounding element, distance, limited resources, vessel structure and missing practical experience.
A triage tag is a first responders tool to distribute limited resources. They were enhanced in the last centuries but nearly non is adjusted to frame conditions of mass casualty at sea.
Material and methods: We made a literature review to find, adapt or develop an optimal triage tag for mass casualties at sea. Therefore we compared different common triage tags from several institutions and countries, e.g. the red cross, LüDoG and METTAG
Results: In available literature we found several triage labeling tags for mass casualties. Most of them were developed for onshore incidents. Only few of them were developed for offshore situations, especially for war vessels or ferries. Non of them respect the specifics on oil rigs. One further problem is the involvement of onshore rescue teams in offshore mass casualty incidents.
Conclusion: To the authors it seems be most meaningful to adapt a well established onshore-system to sea-requirements.
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Disclosure: No significant relationships.

O175

AN INNOVATIVE DISTRIBUTION SYSTEM FOR OXYGEN IN MASS CASUALTIES

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Introduction: Only limited resources of oxygen are available in the offshore environment. Mass casualties may necessitate the application of oxygen in many patients at the same time. Since the transfer of those patients to land may take hours and the transfer to rescue ships might be difficult there is a need for mobile systems with high capacities of oxygen.
Material and methods: A structured analysis had been carried out to evaluate possibilities in production and stocking of oxygen in maritime environment concerning medical and technical aspects. They have been compared to currents recommendations available onshore. The requirements for a mobile system offshore were collected to develop a prototype.
Results: The most safe and practicable option for the storage of oxygen obviously is the use of compressed gas cylinders as widely known onshore. However, any systems producing oxygen are not applicable in an offshore environment as well as the stocking of liquid oxygen. A high volume and mobile oxygen unit was built in a hybrid of a backpack and a trolley which is water resistant, could be winched and has little weight through the use of carbon in the gas cylinders. Simultaneously they allow to work at high pressure with an increased amount of oxygen.
Conclusion: 8 patients can be treated with oxygen the same time for almost two hours with an innovative and mobile distribution system.
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Disclosure: No significant relationships.

O176

TRANSFUSION: SAFETY AND EFFECTIVITY OF FROZEN BLOOD PRODUCTS IN COMBAT

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Introduction: The Netherlands Armed Forces use -80°C frozen red blood cells (RBCs), plasma and platelets combined with regular liquid stored RBCs, for the treatment of (military) casualties in Medical Treatment Facilities abroad. Our objective was to assess and compare the use of -80°C frozen blood products in combination with different transfusion protocols and their effect on safety and the outcome of trauma casualties.
Material and methods: Blood bank and combat casualties data from Afghanistan 2006-2010 for 272 (military) trauma casualties with or without massive transfusions (MT: ≥6 RBC/24hr, N=82 and non-MT: 1-5 RBC/24hr, N=190) were analyzed retrospectively. In November 2007 a massive transfusion protocol for ATLS® class III/IV hemorrhage was introduced in military theater. Blood product use, injury severity, length of stay and in-hospital mortality were assessed pre- and post- introduction of the MTP.
Results: No ABO incompatible blood products were transfused and only 1 mild transfusion reaction was observed with 3,060 transfused products. In hospital mortality decreased post-MTP for MT patients from 44% to 14% (p =0.005) and for non-MT patients from 12.7% to 5.9% (p =0.139).

Conclusion: This report describes for the first time that the combination of -80°C frozen platelets, plasma and red cells is safe and at least as effective as standard blood products in the treatment of (military) trauma casualties. Frozen blood can save the lives of casualties of armed conflict without the need for in-theater blood collection. These results may also contribute to solutions for logistic problems in civilian blood supply in remote areas.

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Disclosure: No significant relationships.

O177

THE IMPACT OF RESCUE SURGERY ON THE ACTIVITY OF THE EMERGENCY SURGERY UNIT OF A MAJOR ITALIAN HOSPITAL

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Introduction: Rescue surgery is nowadays recognised as one of the main duties of emergency surgery. It requires great efforts both in diagnosis and treatment. Although receiving more attention than in the past in United States and most of Western Europe, its perception in Italy is still poor. We decided to analyse the amount of work dedicated to rescue surgery patients in our Emergency Surgery Unit in terms of lenght of stay and costs and compare it to other emergency, non trauma surgerical patients.

Material and methods: We analysed retrospectively 350 patients admitted consecutively from 1st of january to 30th of june 2016 in our Unit. We divided the emergency patients vs trauma vs rescue patients. We have considered lenght of stay and costs as primary outcome. Secondary outcome were deaths, number of operations/procedures and ITU days

Results: The mean lenght of stay for rescue patients versus emergency surgery patients is significantly higher. The mean LOS is 17 days vs 8 days The mean total cost of rescue surgery patients has been on average one and a half - twice the cost of emergency surgery patients.

Conclusion: This study shows that rescue surgery has a great impact on our emergency surgery unit activity; we believe its importance is probably not recognized but we have shown a significant difference between "standard" emergency surgical patients versus rescue patients.

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Disclosure: No significant relationships.

O178

TERRORIST ATTACK IN NICE: THE MEDICAL RESPONSE

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Introduction: After Paris, France was hit again by terrorism in the city of Nice on the French Riviera during the night of July 14th 2016. At 10:33 pm, a 19 ton cargo truck crashed into crowds gathered along the seafront for celebrating the Bastille day. This attack wounded more than 400 and killed 86 pedestrians.

Material and methods: We report here the planning and operationalizing of the medical response.

Results: On-site incident command post coordinated the 559 healthcare and rescue providers, including 33 MDs, 58 nurses and 468 firemen. Many (critical) victimes were immediately transported to the nearest hospital: Lenval children hospital. Then the prehospital triage process categorized victims on a 4 level scale: Immediate Emergency, Delayed Emergency, Minor Emergency and Dead or Dying People. They were directed towards trauma centers for children or adults. Our institution is a level one trauma center for adults. The first patient came in at 11:13 pm. The triage process was driven by a ED physician, a trauma surgeon and an anesthesiologist. The mean time of patient's triage was 2'27 +/- 1'45 min. At 11:30 pm, the « White Plan » was activated, leading to a major staff reinforcement and a change of the patient's flow organization: 38 ED rooms were available, 13 OR and 40 ICU beds. Surgical teams took care of 18 patients that night: 6 for abdominal surgery, 1 for thoracic surgery and 11 for osteo-articular damage control surgery.

Conclusion: Terrorist attack overcrowed trauma center. Such attack needs a coordination of all resources, and unit dedicated to damage control.

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Disclosure: No significant relationships.

O179

WEIRD AND UNPREDICTABLE TRAJECTORIES OF BULLETS IN TORSO WOUNDS MADE BY LETHAL FIREARMS

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Introduction: Wounds made by firearms are more and more frequent in the emergency rooms of hospitals. They imply a complex therapeutic decision together with a thorough knowledge of the bullet trajectory through the wound made by the firearm.
Material and methods: There are presented three cases of people that got shot to whom the trajectory of the bullets through the body of the victims was not predictable at all, one of them even requiring a transfer from the province to the Emergency Clinical Hospital Bucharest for surgical maneuvers of searching and extracting the bullet.
Results: All the patients were operated in emergency with good results.
Conclusion: The knowledge possessed by the trauma surgical team regarding the possible trajectories of the bullets through the victim's body represents an important clinical therapeutics decision element. The wounds made by firearms are caused by ricochets, shrapnel, bullets or buckshots. It is important to establish with accuracy the trajectory of the ballistic projectile through the victim's body for extraction, grooming and stabilization of the victim from a haemo dynamic point of view.
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Disclosure: No significant relationships.

THORACIC TRAUMA

O180

THE ROLE OF LUNG ULTRASONOGRAPHY IN THE DIAGNOSIS AND MANAGEMENT OF TRAUMATIC PNEUMOTHORAX

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Introduction: The use of sonography for trauma patients is not limited to the initial diagnosis or the unstable patients that cannot perform CT (computed tomography) scans. Lung Ultrasound (LUS) has been proven to be accurate for the diagnosis of pneumothorax in the setting of trauma, rivalling recently the use of conventional chest x-rays. We aim to analyze our experience with LUS for the diagnosis and management of traumatic pneumothorax.
Material and methods: We analyzed 43 trauma patients admitted in our department in the period January 2015 and August 2016. The patients included had a diagnosis of pneumothorax following blunt or open trauma of the chest using either imaging modality, x-ray, CT or LUS. During their hospital stay 267 LUSs were performed and the results were compared to the other imaging results in evaluating the presence of pneumothorax.
Results: In 113 examinations chest x-ray or CT was available in the same day for comparison. In 32 cases the result of LUS was compared to CT scans and the diagnosis of pneumothorax was present in 28 cases on CT scan and 27 cases on LUS. When compared to conventional radiology, 81 cases, LUS fared favorably detecting pneumothorax in 75 cases compared to 71 for conventional radiology.
Conclusion: LUS in trauma, either in the initial stage or as follow-up for patients admitted in the ICU or the general ward can offer useful information regarding lung and heart function. It is as efficient for the management of pneumothorax and has all the added benefits of ultrasound over ionizing radiation imaging.
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Disclosure: No significant relationships.

O181

CLINICAL SIGNIFICANCE OF COMPUTERIZED TOMOGRAPHY SCAN FINDINGS IN THE MANAGEMENT OF OCCULT PNEUMOTHORAX IN PATIENTS WITH BLUNT CHEST TRAUMA

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Introduction: Occult pneumothorax is an intrapleural air missed by chest radiography and picked up by computerized tomography scanning. The management of this type of pneumothorax is debatable. We sought to evaluate the management of occult pneumothorax in our Level I trauma center and to determine which clinical factors predicted failure of observation.
Material and methods: We conducted a retrospective study for patients who was found to have occult pneumothorax post blunt chest trauma between 2010 and 2014. Pneumothorax was confirmed and quantified by computed tomography scanning. Data included patients demographics, Injury mechanism and severity, mechanical ventilation, tube thoracostomy, hospital length of stay, complications and outcome.
Results: There were 150 patients (92% males) with occult pneumothorax identified in our trauma database registry, of them 27 patient had bilateral occult pneumothorax. The mean age of patients was 31 years. The majority of patients was involved in motor vehicle

crashes and fall from height. Tube thoracostomy was successfully avoided in 128 patients (85%). Seventeen patients underwent immediate tube thoracostomy and 5 patients required chest tube insertion for x-ray evidence of pneumothorax progression and for development of respiratory compromise with oxygen desaturation. Mechanical ventilation was required for 34 patients and there were no reported cases of tension pneumothorax or empyema.
Conclusion: Occult pneumothorax can be managed safely in stable chest trauma patients, whereas selective tube thoracostomy should be considered for patients with occult pneumothoraces who have an evidence of increase in size of pneumothorax on follow-up x-ray or become symptomatic after the initial conservative management. Prospective studies are needed
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Disclosure: No significant relationships.

O182

THE SIGNIFICANCE OF A CONCOMITANT STERNAL FRACTURE IN FLAIL CHEST PATIENTS AS A RESULT OF A POLYTRAUMA: INCIDENCE, CONCOMITANT INJURIES, CLINICAL COURSE AND OUTCOME - AN ANALYSIS OF 21741 PATIENTS FROM THE TRAUMAREGISTER DGU®

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Introduction: Isolated Sternal fractures (SF) rarely show complications, but their influence in a thorax trauma of the seriously injured still remains unclear.
Material and methods: A retrospective analysis of the TraumaRegister DGU® was carried out involving the years 2009-2013 (ISS>=16, primary admission to a trauma center). Cohort formation: Unilateral and bilateral FC injuries, respectively with and without a concomitant SF.
Results: 21741 patients (25% female) met the inclusion criteria, 3492(16.1 %) showing SF. Unilateral FC patients were on average 53.6 +/- 18,4 years old, bilateral FC patients were on average 55,2 +/- 17,7 years old. The ISS in unilateral FC amounted to 31,2 +/- 13,0 points, and in bilateral FC to 43,4 +/-13,1. FC with a SF occurred more frequently as an injury to car occupants, and less frequently as an injury to motorcyclists or in injuries due to falls.
Conclusion: Patients with an SF additional to a FC had longer hospital and ICU stays and were longer artificially respirated as those patients without a SF. SF indicates possible cardiac and thoracic spine injuries.
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Disclosure: No significant relationships.

O183

IN SEARCH OF RISK FACTORS FOR MORTALITY AND COMPLICATIONS IN PATIENTS PRESENTING WITH MULTIPLE RIB FRACTURES: A RETROSPECTIVE STUDY

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Introduction: In patients presenting with multiple rib fractures due to blunt chest trauma, morbidity and mortality is well recognized in literature (1,2). The aim of this study was to identify potential risk factors for the development of complications in patients with multiple rib fractures.
Material and methods: All patients with multiple rib fractures presenting at the emergency department between January 2012 and January 2015 were included in this retrospective study. Exclusion criteria were solitary rib fracture, an abbreviated injury score (AIS) larger than 3 for head/neck/abdomen, and death in the first 24 hours. Multivariate analyses were performed to detect significant independent risk factors for in-hospital mortality and the development of pneumonia.
Results: Between January 2012 and December 2014, a total of 235 consecutive patients were included in the analyses. Overall in-hospital mortality rate was 3.6% after conservative management (n=223) and 0% after operative treatment (n=12) (p =0,65). Multivariate analysis showed the following independent risk factors for mortality in patients with multiple rib fractures: *age* and *hematopneumothorax*. For the development of pneumonia, independent risk factors were *smoking*, *chronic medication* $\geq$ *5* and *a patient delay of more then 3 days*.
Conclusion: The present study identified risk factors for mortality and for the development of pneumonia in patients with multiple rib fractures. These risk factors should be considered in the management of patients with multiple rib fractures and might even help to select patients that could benefit from early operative fixation.
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Disclosure: No significant relationships.

O184

RADIOLOGICAL LUNG VOLUME ESTIMATES IN TRAUMA PATIENTS UNDERGOING STABILIZING SURGERY FOR FLAIL CHEST

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Introduction: Surgery for flail chest has become more common in recent years with the development of new fixation techniques (1). Three-dimensional (3D) reconstructions of computer tomography (CT) images of the thorax can be used in planning surgical procedures. The aim of this study was to use CT images for studying long-term patient outcome by examining chest wall healing and estimating lung volumes.
Material and methods: Twenty patients who underwent surgical fixation of flail chest as a result of blunt trauma were included in the study. Exclusion criteria were pre-existing severe pulmonary, neurological or musculoskeletal diseases that influence lung volume and movement of the thorax; severe brain or spinal injury and lung resection. The 3D reconstructions were based on images with 0.625mm slice thickness and produced in the program AW Volume Share^{TM} 5 (GE Healthcare). Radiological estimates of lung volume were created by the program and based on air filled lung tissue. Standardized lung function tests (2) were performed at follow-up and Forced Vital Capacity (FVC) was recorded.
Results: Twenty patients, 14 men and six women with median age 64 (40-90) were included in the study. Median ISS was 18 (9-48) and median NISS was 28 (13-48). The median follow-up time was 4.7 years after trauma (3.8-5.1). Median total radiological lung volume at initial CT was 2,9 l (1,2-6,2) and at follow-up 5,4 l (2,1-7,8). Lung function tests showed a median FVC of 3.23 l (1.48-5.84) at follow-up.
Conclusion: Patients with flail chest who undergo stabilizing surgery have an improved estimated radiological lung volume at follow-up.
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Disclosure: No significant relationships.

O185

OUTCOME OF SURGICAL FIXATION OF COMPLEX RIBS FRACTURES IN A UK MAJOR TRAUMA CENTRE

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Introduction: We aimed this study to assess the outcome of patients undergoing internal fixation of complex rib fractures in our unit.
Material and methods: We analysed consecutive patients undergoing operative fixation of rib fractures from March 2014 to May 2016. The primary outcome measures were need for ITU admission and hospital length of stay.
Results: 102 patients (66 male, 36 female, mean age 61 years) underwent Rib fractures fixation during the study period. Road traffic accidents were the source of trauma in 39(38.2%), fall from height in 38(37.3%) and fall downstairs in 21(27.5%) patients. Thirty-eight (37.3%) patients had isolated chest trauma but 64(62.3%) had additional major injuries. 53(52%) patients required ITU admission with mean ITU stay of 4.7 days (1-34) days. The mean length of hospital stay was 13.6 days (3-51 days). Patients with additional major injuries stayed significantly longer ($p = 0.01$). All these parameters were better as compared to previously reported patients treated non-operatively. Sixty-Five (63.7%) patients underwent their ribs fixation within 48 hours of the injury while 37(36.3%) patients had their surgery after 48 hours. Surgery within 48hrs resulted in significantly less number of ITU admissions ($p = 0.06$), shorter ITU stay ($p = 0.01$), fewer chest infections ($p = 0.001$), reduced duration of mechanical ventilation ($p = 0.03$) and tracheostomies ($p = 0.02$) and; shorter hospital length of stay (11.5 days versus 17.3 days, $p = 0.008$).
Conclusion: Surgical stabilisation of multiple rib fractures is safe, improves morbidity and mortality both in multiply injured and isolated chest trauma patients. Early fixation is recommended to reduce the need for ITU stay and mechanical ventilation.
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Disclosure: No significant relationships.

O186

INNOVATION OF RIBS PLATES FOR THE FLAIL CHEST STABILISATION - BENEFITS

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Introduction: Method of choice in the treatment of flalil chest is surgical stabilisation with osteosynhtesis of ribs in contemporary period.
Material and methods: On the bases of clinical experiences with use Judet plates in stabilisation of the flail chest was perform innovation of ribs plates. In was constructed new plates including new instruments. Goals for development of the plates were: 1. New technical parameters of the plates: the possibility of bending plates in all directions, new fixative clips. 2. Use of locked screw for plate fixation: adequate fixation in case of screws penetrating only through anterior cortical layer of the rib. 3. New instruments: holding tongs, formed and fixative pliers. 4. Plates fixation to the rib with the assistance of fixative clips: with minimal compression of intercostal vessels an nerves. In preclinical study was new plates used in anatomical model of the thorax and in the cadaverine.
Results: Operating technics with new plates was performed with sufficient results both in the thorax model and the cadaverine. Fixation of the plates in combination with anchorage of fixative clips to ribs and using of the locked screws for penetration only throug anterior cortical layer of the rib is with adequate stability.
Conclusion: Innovative technics for rib osteosynthesis in flail chest help to extend this method for stabilisation of serious chest wall injury. This technics is simple, with short duration for plate fixation and adequate stability.

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Disclosure: No significant relationships.

O187

VIDEO-ASSISTED THORACOSCOPIC SURGERY VERSUS TUBE THORACOSTOMY RE-INSERTION FOR THE PERSISTENT/RETAINED TRAUMATIC HAEMOTHORAX: INTERIM RESULTS OF A RANDOMISED PROSPECTIVE STUDY

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Introduction: The retained haemothorax after first tube thoracostomy insertion is common, with reported incidences of up to 20% in trauma patients. The management of retained haemothoraces varies significantly between institutions and amongst trauma surgeons. The aim of this study is to compare the outcomes between the two modalities of treatment, namely Video-Assisted Thoracoscopic Surgery (VATS) and re-insertion of a Thoracostomy Tube(TT).
Material and methods: A prospective randomised study of VATS versus TT reinsertion, for retained traumatic haemothoraces was established at the Trauma Centre at Groote Schuur Hospital. A predetermined sample size was generated using PASS 12 software. All stable patients (aged 18-60 years) with a retained haemothorax were included in the study following informed consent. Exclusion criteria included haemodynamic instability, polytrauma and underlying chronic lung disease. Demographics, type of procedure, hospital stay and complications were documented for each patient. Statistical analyses were performed using the Student t test for normal distributions and Mann-Whitney-Wilcoxon rank sum test where appropriate. A P-Value < 0.05 was considered statistically significant.
Results: The initial sample comprised 30 patients, 14 in the VATS arm and 16 in the TT arm. Three patients were excluded.Data from 27 (12 VATS, 15 TT) patients was subjected to analysis. The length of stay was similar in both groups. The complication rate was significantly higher in the TT group than the VATS group (47% vs. 0%, $P = 0.008$). Clinical follow up in both patient groups was 50%.
Conclusion: Preliminary results suggest that VATS for retained traumatic haemothoraces is associated with lower morbidity than tube thoracostomy
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Disclosure: No significant relationships.

O188

THORACIC TRAUMA - ANALYSIS OF THORACIC TRAUMA SEVERITY SCORE IN A LEVEL III TRAUMA CENTER

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Introduction: Grading of injury severity in blunt thoracic trauma is of paramount importance. The New Injury Severity Score (NISS) and Thoracic Trauma Severity Score (TTSS) are two score commonly used for initial assessment of trauma victims. Our aim was to evaluate if these scores accurately predict complications, need of mechanical ventilation (MV) or death in thoracic trauma patients.
Material and methods: We retrospectively reviewed all patients admitted in our institution with blunt thoracic trauma in 2015, regardless of severity or associated injuries. Demographic and clinical data were analyzed; NISS and TTSS were calculated. Statistical analysis was performed using SPSS.
Results: We included 103 patients, with a median age of 65.87 years, predominantly males (68%, n=70). The most frequent mechanism of trauma was fall from height (54.5%), followed by road traffic accident (28.2%). The majority of patients had rib fractures (90.3%), with pneumothorax in 42.7%, hemothorax in 36.9% and pulmonary contusion in 39.8%. Associated trauma in another system was present in 38.8% of the patients. Mean NISS was 18 (IQR 17). TTSS was calculated in 55 patients with a mean of 10 (SD 3.094). Complications were described in 14.1% (pulmonary in 12.6%). Overall mortality was 3.9% (n=4). NISS and TTSS were both statistical predictors of the need for MV and length of hospital stay but did not reach statistical significance in predicting complications or mortality.
Conclusion: Although TTSS appears to be a predictor of complications in ward patients, a larger scale review is needed. However, this score can be used in early intensive care unit referral.
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Disclosure: No significant relationships.

COMPLEX LIMB INJURIES

O189

MAJOR TRAUMATIC LOWER LIMB AMPUTATIONS AND ASSOCIATED INJURIES IN CIVILIAN TRAUMA

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Introduction: Major limb amputations are infrequent in civilian trauma. The high-energy mechanisms causing these injuries are diverse, and help explain the frequent associated life-threatening injuries.
Material and methods: Descriptive and retrospective analysis from the Trauma Registry of a level I Hospital between 1993 and 2015. We assessed the different mechanisms, associated injuries, morbidity, mortality and length of stay (LOS). SPSS statistics V21 software was used in the analysis.
Results: 34 patients were admitted with a traumatic lower limb out of 2430 severe trauma admissions (0.013%). Median age was 44 (IQ range 28-64) years old. The mechanisms of injury were: 17 runovers (7 train runover as suicide attemps), 6 motor vehicle collision (MVC), 5 occupational accidents with limb wound, 5 falls from a height, 1 gunshot wound (GSW) and 1 explosion. Median ISS was 26 (IQ range 17-34), and NISS 34 (SD 19.75-34). Associated life-threatening injuries included: 15 patients associated severe thoracic injuries (pneumothorax, hemothorax, major lung contusions, bronchial injuries or destruction of thoracic wall), requiring a chest drain in 7 cases and surgery in 1 case. 10 patients had an unstable pelvic fracture (4 required angioembolization), 6 patients underwent abdominal surgery for bleeding control, and 5 suffered a severe brain injury. 30-day mortality was 12%, morbidity not associated to the stump wound was 88,3%, median ICU LOS was 18 days and median LOS 70 days.
Conclusion: In our experience major limb amputation is not a frequent injury and they are related to high energy trauma and high ISS. Associated life-threatening injuries are common and carry out a high morbidity and mortality.
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Disclosure: No significant relationships.

O190

SEVERE COMBAT-RELATED LOWER LIMB INJURY: WHY AMPUTATION IS NO FAILURE

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Introduction: The use of IEDs is a frequent method of insurgents to inflict harm on deployed military personnel. Consequently, lower extremity injuries make up the majority of combat related trauma. Explosions, rarely encountered in a civilian population, can lead to substantial disability. It is important to study the impact of these lower extremity injuries and their treatment on functional outcome and quality of life.
Material and methods: All Dutch repatriated service members receiving treatment for wounds on the lower extremity sustained in the Afghan theater between 2005 and 2014, were invited to participate in this observational cohort study regarding their physical and mental health. We therefore used the SF-36, EQ-6D and LEFS questionnaires. Statistical analyses were performed to identify differences between combat and non-combat related injuries and between limb salvage treatment and amputation.
Results: Battle casualties were significantly younger of age, sustained more severe injuries and needed more operations. Their long-term outcome scores in areas concerning well-being, social and cognitive functioning, were significantly lower. Amputees experienced higher physical well-being and less pain compared to those treated with limb salvage surgery.
Conclusion: Wounded service members, amputees included, are able to achieve high levels of activity, proving a remarkable resilience. These long-term results demonstrate that amputation is not a failure for casualty and surgeon, and strengthen a life before limb mindset in the initial phase. For future research we recommend the use of adequate coding and injury scoring systems to predict outcome and give insight in the attributes that are needed to cope with a serious battle injury.
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Disclosure: No significant relationships.

O191

PROVIDING OF OPTIMAL BIOLOGICAL AND BIOMECHANICAL CONDITIONS FOR HEALING AND REGENERATION OF BONE TISSUE

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Introduction: During the past twenty years it has been more clearly defined conditions desirable to be provided during fractures healing and regeneration of bone tissue. However optimal biological and biomechanical conditions are still not accurately defined.
Material and methods: As material were used series of experimental animals, standard and new developed implants and series of patients. Animals have been operated in Niš and Novi Sad. Biomechanical investigations of animal's spacemen's were performed in the laboratories of the Mechanical Faculty University of Niš and in Davos. Series of patients were from Orthopaedic and traumatology clinic of Clinical center Niš and five more Orthopaedic centers.
Results: In the results it has been shown that preservation of blood supply plays very important role in bone union. Biomechanical characteristics of devices with balanced 3D stability provide much better conditions for bone union. It has been also shown that additional features of implants and devices as axial dynamisation is very important in increasing rate of bone union. It has also been confirmed that balanced 3D stability leads to better bone regeneration during the bone lengthening.
Conclusion: Preservation of blood circulation and balanced 3D biomechanical stability including axial dynamisation leads to better bone union and regeneration.
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O192

THE PROTECTIVE EFFECT OF MONTELUKAST AGAINST SKELETAL MUSCLE ISCHAEMIA-REPERFUSION INJURY: EXPERIMENTAL RAT MODEL

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Introduction: Montelukast is a selective leukotriene D-4 receptor antagonist which specifically and reversibly inhibits cysteinyl leukotriene-1 receptor(1). The aim of this study was to investigate the protective effect of Montelukast on skeletal muscle reperfusion injury created as acute ischaemia-reperfusion(IR) injury in Wistar albino rats.
Material and methods: The rats were randomly separated into 2 groups as the control (IR) group and the treatment (IR+Montelukast) group.Ischaemia was obtained in the extremity with the femoral artery clamp.After reperfusion following a 2-hour period of ischaemia, muscle samples were taken for biochemical and histopathological evaluation.
Results: Malondialdehyde levels were determined to be at a statistically higher level in the control group compared to the Montelukast group (p: 0.002, $p < 0.01$). The superoxide dismutase levels were determined to be at a statisically higher level in the Montelukast group compared to the control group (p: 0.001, $p < 0.01$). In the histopathological examination of the ischaemic muscles,oedema, PMNL infiltration and erythrocyte extravasation levels were found to be statistically significant higher in the control group than in the Montelukast group. Oedema, PMNL infiltration and erythrocyte extravasation levels were observed to be significantly reduced in the treatment group compared to the control group.
Conclusion: In this model of skeletal muscle acute IR injury,the protective effect of Montelukast against skeletal muscle reperfusion injury was emphasized.It was concluded that montelukast could accelerate functional recovery in the extremity by limiting the local and systemic complications caused by reperfusion,in cases such as extremity trauma with vascular injuries and extremity surgery with prolonged tourniquet application.However, further experimental and clinical studies are required to confirm this effect.
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Disclosure: No significant relationships.

O193

FRACTURES WITH LARGE BONE DEFECTS TREATED WITH MASQUELET TECHNIQUE. REVIEW OF LITERATURE AND CASES REPORT

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Introduction: Treating opened fractures with important diaphyseal bone defects is always a real challenge for surgeons. Among bone reconstruction techniques, Masqueleťs is one of the choices we are able to perform.
Material and methods: Review of literature about Masqueleťs Technique, and evaluate our experience using it for acute bone defects treated with the membrane induction technique. We have performed 5 cases in 2 femurs and 3 tibias through 2016 with a minimum follow up of 12 months after last surgery.
Results: The mean defect in our five cases size was 6x4cm on average. Bone union was evident in 100% of cases (5/5). The average time to union was 6.5 months. We had neither cases of infection nor amputations required after using this technique.
Conclusion: Masquelet technique is one of the proposed strategies managing posttraumatic segmental bone loss due to opened fractures with encouraging results. This technique conventionally used in cases of non-union cases, but it could play an important role treating acute bone defects. It fulfills the goal of controlling infection before bone reconstruction, apart from the induced membrane and its possible

biological potential. On the other hand, we have to face a two-stage surgical process and long period of immobilization, to prevent early graft resorption among others.

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Disclosure: No significant relationships.

O194

LOWER LIMB VS UPPER LIMB REPLANTATIONS

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Introduction: Today, upper limb replantation is a common procedure in most plastic surgery units. The need for reconstruction of lower limb amputations is increasing, due to high-energy trauma in road accidents and work-related injuries. The indication for lower limb replantation is still controversial. Compared with upper limb replantations, indications are more select due to the frequent complications in lower limb salvage procedures, such as severe general complications or local complications such as necrosis, infections, nonunions, the need for secondary lengthening, or other reconstructive procedures.

Material and methods: We present our experience with upper and lower limb replantations, compare those procedures and their final outcomes, trying to evaluate the correct indications and establish a therapeutic protocol

Results: We had a large number of upper limb replantations, so we gain a lot of experience in this field. In comparison with the upper limb, we had a smaller number of lower limbs replanted, but we observed, in some of those cases good functional outcome, that encouraged us to extend our knowledge in this procedure

Conclusion: Upper limb replantation is an established procedure, but lower limb replantation is rarer. Lower limb replantation may have successful outcomes if careful selection of patients takes place. Despite varying outcomes following successful replantation surgery, patients generally prefer to retain their own limbs rather than have a prosthesis and this should be considered as part of the informed decision making process by clinicians.

References:

Disclosure: No significant relationships.

O195

BIPHASIC MIXTURE OF CALCIUM SULPHATE HEMI-HYDRATE AND HYDROXYAPATITE BONE SUBSTITUTE FOR POSTTRAUMATIC BONE DEFECTS AND OSTEOMYELITIS: EXPERIMENTAL EXPERIENCES WITH FOLLOW UP (INDICATIONS AND LIMITATIONS)

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Introduction: There are different strategies for treatment of post-traumatic bone defects and osteomyelitis, but all treatments have a high risk for pseudarthrosis and recurrent infections.

Material and methods: A novel method with a biphasic mixture of calcium sulphate and hydroxyapatite (with or without gentamycin additive) bone substitute was used alone (41 patients), or in combination with allograft (bone chips or femoral head, 19 patients), to fill up bone defects. Indications were posttraumatic bone loss or bone defects after treatment for osteomyelitis. During the period 11.2014 – 10.2016, 60 patients (36 male, 24 female, mean age 51 years, 65 treatments) were treated for following indications: (open) defect fractures (n = 38), pseudarthrosis (n = 16), osteomyelitis (n = 11). In 36 patients 45 risk factors could be identified: e.g. coronary heart disease (n = 15), pulmonary disease (n = 2), psychiatric disorders (n = 9). In total 693 ml calcium phosphate-hydroxyapatite filler was used (485 ml without, 208 ml with gentamycin) in 65 surgical procedures (mean 10.7 ml)

Results: In 56 of 60 patients, bone healing could be achieved (93.3%). In 4 cases with osteomyelitis multiple revisions were needed with removal of the bone filler at last. In one case with large femoral bone defect, during follow up broken screws in a plate were exchanged. Histological examinations in patients during bone healing show different osteointegration of this bone substitute.

Conclusion: During follow up of 60 patients with (large) bone defects up to 23 month with use of a biodegradable bone filler, encouraging results were observed with a high percentage of bone healing and limited number complications (6.7%).

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Disclosure: Medskin Solutins Dr. Suwelack, BBraun, Switzerland Bone Support, Switzerland

O196

THE MANAGEMENT OF FRACTURES IN HAEMOPHILIC PATIENTS

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Introduction: Haemophilia is an inherited blood disorder associated with haemorrages due to a deficiency of coagulative factors. Once considered a life-threatening disease, Haemophilia nowadays has in

the haemophilic arthropathy its most frequent complication requiring complex orthopaedic procedures. In traumatology, fractures in haemophiliacs remain demanding conditions. In case of fracture, the goals are: prevention of blood loss by intermittent infusions of factor concentrates, early fixation of fractures, and early rehabilitation. Whether consider a Deep Venous Thromboembolism (DVT) prophylaxis or not in such subjects is still debated. We present our experience on the management of fractures in haemophiliacs without DVT prophylaxis.

Material and methods: Ten male haemophiliacs reported fractures in their limbs (7 in lower and 3 in upper limbs) with a mean age of 32.3. Three patients presented coinfections (HIV and HCV). All patients were operated by the same surgeons and evaluated by the Haemophilia multidisciplinary team. A haematologic protocol was done consisting in the administration of boli of factor concentrates and tranexamic acid. No DVT prophylaxis was proposed. All patients underwent to US examination for the detection of DVTs.

Results: All patients were successfully treated and followed-up until fracture healing. No patient showed complications or DVTs after surgery and referred a satisfactory recovery

Conclusion: Haemophilia is a rare disease associated to the high risk of bleedings. It is reasonable not to perform a DVT prophylaxis in limb fractured haemophiliacs when a dedicated multidisciplinary team endorse the management of such complex patients. A tailored haematologic approach, an adequate surgical procedure and an early dedicated rehabilitative protocol are sufficient to ensure bleeding limitation and DVT prevention in trauma or elective orthopaedic surgery

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Disclosure: No significant relationships.

POLYTRAUMA: MONITORING

O197

UTILITY OF LIVER AND INTESTINAL FATTY ACID BINDING PROTEINS TO RULE OUT BLUNT ABDOMINAL INJURY IN ADULT TRAUMA PATIENTS

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Introduction: Blunt abdominal trauma presents diagnostic challenges. Specific serum markers to rule out the absence of intra-abdominal injury (IAI) would valuable. Aim of this study was to prospectively assess the utility of liver- (L-FABP) and intestinal fatty acid binding proteins (I-FABP) in ruling out the presence of IAI in a large cohort of polytrauma patients (NTR2211).

Material and methods: All consecutive adult patients admitted to the shock room with suspicion of serious injury were included. Blood samples were obtained upon admission (T0) and 3h (T3) and 24h (T24) post-trauma. IAI was defined as the presence of injury on CT-scan or during surgery.

Results: We included 600 patients (452 male (75%)). Median [IQR] age was 48 [33]. 61 (10%) sustained IAI (median AIS 3 [2]). Median ISS was 18 [23.5], mortality 19%. Median T0 L-FABP (ng/ml) and I-FABP were 86.1 [537.5] and 4.2 [22.3] resp. in the IAI group vs. 37.9 [78.1] and 1.5 [2.] in the non-IAI group (both $p<0.001$). T3 L-/I-FABP were higher ($p<0.001$) in the IAI group. Median T24 L-FABP (ng/ml) and I-FABP were 45.5 [53.3] and 0.7 [1.55] resp. in the IAI group vs. 34.1 [41.0] and 0.56 [0.83] in the non-IAI group ($p = 0.70$, $p = 0.21$ resp.). To rule out IAI, cutt-off points were calculated for L-FABP (T0) at 32.7 ng/ml with sensitivity 89%, NPV 98% and for I-FABP (T0) at 1,26ng/ml with sensitivity 91%, NPV 98%.

Conclusion: L- and I-FABP are significantly higher in IAI patients the first hours after injury. L- and I-FABP can aid in ruling out IAI in trauma patients.

References:

Disclosure: No significant relationships.

O198

FIBRIN DEGRADATION PRODUCTS/FIBRINOGEN RATIO (FDP/FIB RATIO) REFLECTS THE REQUIREMENT OF PACKED RED BLOOD CELL TRANSFUSION IN PATIENTS WITH BLUNT TRAUMA

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Introduction: To find clinical factors that can predict the requirement of packed red blood cells (pRBC) transfusion in patients with blunt trauma on arrival at hospital.

Material and methods: We conducted blood tests of trauma patients whose trauma severity was suspected more severe than 3 and over in AIS between May 2013 and April 2014. The patents were divided into two groups according to the requirement of pRBC transfusion within 24 hours after arrival {blood transfusion (BT) group and control}. We compared complete blood count, coagulation makers, physical findings and results of FAST at arrival. The exclusion criteria were set as follows: patients < 18 years of age, with patients with conditions and/or diseases that result in a coagulation abnormality, and those who refused study participation.

Results: We could analyze 347 patients (BT goup 14/control 333). In the univariate analysis, there were significant differences in GCS, the rate of positive FAST, hematocrit, prothrombin time, activated partial thromboplastin time, Fib, and FDP. The multivariable analysis showed that positive FAST, GCS, Fib, and FDP influenced the requirement of pRBC. From the results of area under receiver operative characteristic curves (AUROC) analysis, Fib, and FDP were well-balanced makers that predict the requirement of pRBC in patients with trauma. We analyzed the relationship between FDP/Fib ratio and the requirement of pRBC. FDP/Fib ratio had a better correlation with the requirement of pRBC than FDP or Fib's own (AUROC; FDP 0.874, Fib 0.877, FDP/Fib 0.899).

Conclusion: FDP/Fib ratio is simple and has higher possibility to become a predictor for pRBC transfusion.
References:
Disclosure: No significant relationships.

O199

IMPLEMENTATION OF THE NON-INVASIVE CARDIAC OUTPUT MONITORING DEVICE "ICON" FOR THE INITIAL HEMODYNAMIC MONITORING IN TRAUMA PATIENTS: A FEASIBILITY STUDY

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Introduction: Assessment of hemodynamics is crucial during the initial evaluation of trauma patients. As an adjunct to the commonly used vital signs, early monitoring of the cardiac output (CO) provides additional information and may improve volume resuscitation. The goal of this prospective pilot study was, therefore, to evaluate the feasibility of a new non-invasive CO monitoring device in the Emergency Department (ED).
Material and methods: Single-centre prospective observational pilot study including 20 trauma patients admitted to a level 1 trauma center. CO was continuously monitored for 60 minutes after ED admission using ICON® (Osypka Medical GmbH, Berlin, Germany). ICON® measures changes of the thoracic bioimpedance to calculate CO. Conventional vital signs (blood pressure, heart rate, shock index) were recorded simultaneously. Feasibility, safety, reliability, user-friendliness, and impact on standard ED procedures were assessed.
Results: Thirteen (65%) patients were male, median ISS was 10.5 (IQR 14.8). Median CO over time was 9.8l/min (IQR 4.6). No adverse effects of the ICON® were recorded. The device proved to be user-friendly with no negative impact on routine ED care. In four patients, detachment of electrodes was observed and in four patients the CO recording was temporary discontinued. Short-term changes of the CO (increase or decrease) were observed after the placement of electrodes and when patients were transferred from or to the stretcher.
Conclusion: The ICON® proved to be a be feasible tool for the initial hemodynamic monitoring of trauma patients in the ED, although changes of the CO were observed during patient transfers and after the placement of electrodes.
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Disclosure: The ICON device and accessories were provided by Anel Gmbh (Bern, Switzerland) for use in this study. The Device was returned after completion of the data collection phase.

O200

TRANS CERVICAL GUNSHOT TRAUMA IN THE NONOPERATIVE MANAGEMENT ERA

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Introduction: It is considered that trans-cervical gunshot trauma (TCT) poses greater probability of lesions and risk of complications. We compared TCT patients with a group of subjects with penetrating cervical trauma, to identify differences in severity, treatment and prognosis.
Material and methods: Retrospective revision of patients, with penetrating neck trauma treated between 2013 and 2016. TCT was defined as an injury which traversed the middle line. Demographics, clinical manifestations, diagnostic methods, treatments and results were registered. Discrete variables are presented as quantities and proportions, and are compared through Fisher's test. Continuous variables are described as median and interquartile range (IQR) and are compared with the Kruskall-Wallis technique. A $p<0.05$ was deemed significant in a two-tailed test.
Results: 202 patients were included. 94 (46.5%) received stab wounds (SW), 79, (39.1%) not trans-cervical gunshot wounds (GSW) and 29 (14.4%) TCT. 20.8% were asymptomatic and 25.7% were not studied. Lesions occurred in 23.8% of the patients. 9.4% received surgery and 14.4% non-operative management (NOM) Hospital stay was 3 days (IQR 2 - 16). 8.0% of patients had complications and 6.9% died. The ISS was significantly less in patients with SW. The proportion of patients with lesion and the proportion of subjects treated non-surgically increased progressively from SW to TCT (table) Complications were less frequent in patients wounded by SW. Patients with TCT had the most prolonged hospital stay. Mortality rates were similar (table)
Conclusion: TCT had greater risk of lesions and more severe trauma. NOM was most frequent among them. They had greater morbidity, longer hospital stay, and similar mortality
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Disclosure: No significant relationships.

O201

ORTHOPLASTIC MICROSURGERY

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Introduction: Levin SL defined Orthoplastic Surgery as "the principles and practices of both specialties Orthopedic and Plastic Surgery applied to a clinical problem, either by a single provider, or teams of

providers working in concert for the benefit of the patient". Reconstructive Microsurgery is vitally important in orthoplastic reconstruction.
Material and methods: Traditionally, in Romania, mainly plastic surgeons have done microsurgery. Plastic Surgery is a specialty that mainly concentrates on aesthetics, form, function and soft tissue reconstruction. Orthopedics is a specialty that mainly concentrates on functional biomechanics, bone, and joints
Results: The blending of these two specialties, "orthoplastic surgery", simultaneous applies the principles and practices of both specialties to clinical problems.
Conclusion: In order for a specialist to operate complex cases he must be prepared in microsurgery.
References:
Disclosure: No significant relationships.

Posters

ACUTE CARE SURGERY - ORGANIZATIONAL MODELS (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P001

COMPICATED COLON CANCER - EMERGENCY SURGERY

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Introduction: The aim of the paper is the study of emergency surgical treatment of patients presenting with complicated colon cancer.
Material and methods: Retrospective analisys of a group of 108 patients presenting in the emergency room with complicated colon cancer that underwent emergency surgery over a period of 5 years (2011 – 2015). Selection criteria were: diagnosis of complicated colon cancer and surgery within 24 hours from presentation.
Results: The patients with complicated colon cancer represented 37,9% of all colon cancer patients (285 pt). There were 25 cases of right colon cancer and 83 cases of left colon cancer. We observed 2 possible courses of action: single stage or two stage surgery. For complicated right colon cancer we noted 17 single-stage surgeries and 8 two-stage surgeries. In case of left colon cancer we encountered 21single-stage surgeries and 62 two-stage surgeries. Postoperative morbidity was higher for single-stage surgery even more so for left colon cancer.
Conclusion: For complicated left colon cancer two-stage surgery is preffered due to lower postoperative morbidity. Single-stage surgery can be performed safely in selected cases. For complicated right colon cancer, single-stage surgery tends to become routine.
References:
Disclosure: No significant relationships.

P002

ACUTE CALCULOUS CHOLECYSTITIS – OUR EXPERIENCE

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Introduction: The management of the acute calculous cholecystitis, from diagnosis to surgery, and then the discharge or the management of the complications, through relatively well-defined stages, different from one surgical department to another, depending on the technical equipment available at a time, is the subject of this paper.
Material and methods: This is a retrospective study (due to the ethic reasons) concerning the period june 2013 - june 2016, where 451 patients were diagnosed and operated for acute calculous cholecystitis, by laparoscopy and less frequent by open surgery; is studied the pathway from diagnosis to surgery and the complications are discussed too.
Results: The alkaline phosphatase and gammaglutamyl transpeptidase are more helpful diagnosing the possible cholestasis; the upper endoscopy and MRCP became more present now, defining more precise the disease of the pacient; the acces to ERCP, even it is organised is still difficult; multiple comorbidities(ASAIII/IV in 48% cases).The intraoperative colangiography is less frequent now; biliary peritonitis, "plastron" gallblader, pancreatitis, calculous associated jaundice and various forms of cholangitis are the dificulties; the complications and there treatment are discussed.
Conclusion: In an emergency surgical department, the cases can be addressed by different types of protocols, of variable complexity, where the cost price will allways play an important role. We found the late presentation of the patients, in the phase of complications - this, associated with the comorbid conditions, lead to long hospitalization period in the years of the laparoscopic surgery and the interventional endoscopy. No difference, in terms of complications, between Hasson/Veress needle pneumoperitoneum.
References: Current surgical therapy, 11th edition - John Cameron
Disclosure: No significant relationships.

P003

IMPACT OF POINT OF CARE ULTRASOUND(POCUS) IN DIAGNOSIS AND/OR MANAGEMENT POLICIES AT THE EMERGENCY ROOM

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Introduction: The aim of this survey is to study the impact of point of care ultrasound(POCUS) in diagnosis and/or treatment at the emergency room
Material and methods: Prospective study from April 2015 to October 2016. 104 patients were included. Pocus exams were performed by two general surgeons with POCUS accreditation(basic and advanced MUSEC course and european MUSEC instructors) and experience in ultrasound(more than 200 exams each previous to the on course study). POCUS was performed in the following diseases: acute cholecystitis, acute appendicitis, acute diverticulitis, surgical site infections(superficial or deep), bowel obstruction, groin hernia, femoral hernia, pneumothorax and pleural effusions. For diagnosis, confirmation or change was studied in accordance with initial diagnosis or not. The management policy was divided in two groups according to POCUS results: strategy change and treatment change. In the strategy change we included 3 sections: orientation, added exams and avoided exams. In the treatment change, we added 4 sections: stop treatment, added medical treatment, added interventional procedure and continuation based on POCUS exams
Results: In 69 patients (66.34%), the clinical diagnosis was confirmed and in 27 (25.9%) the diagnosis changed. According to the management, in 60 patients (57.69%), the strategy was changed(49(81.66%) in orientation and 28 (46.66%) in avoiding other radiologic exams. Regarding the treatments changes: in 5 patients it was continued a conservative treatment based on POCUS, in 4 patientsmedical treatment was added, stop treatment in 5 and in 9 patients a interventional procedure was added
Conclusion: POCUS has a notorious impact in the treatment and the diagnosis at the emergency room
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Disclosure: No significant relationships.

P004

EMERGENCY SURGERY IN COLORECTAL NEOPLASIA

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Introduction: Colorectal cancer remains one of the most prevalent malignancies worldwide and a leading cause of cancer related death. Colorectal cancer requires emergency surgery in case of obstruction, peritonitis or acute lower gastrointestinal hemorrhage. The aim of the study is to analyze the patients with colorectal witch required emergency surgery in the Surgery Clinic of the "Elias" Emergency Hospital between January 2014 and September 2016.
Material and methods: We performed a retrospective study that analyzed a total of 96 colorectal resections performed in emergency, representing 32.9% of 292 colorectal resections performed in the clinic during this period.The cases were represented by 44 women and 52 men with an average age of 68 years old. The emergency surgery was made in the patients as follows: 76 for obstructive tumors, 7 for acute lower gastrointestinal hemorrhage, and 13 cases of peritonitis. About half of the cases (45) came in stage IV disease.
Results: The most frequent operations were represented by: Hartmann intervention (32%), right or left hemicolectomy (25%) and stoma (10.5%).Associated morbidity was 35% with a mortality of 19%.
Conclusion: Colorectal emergency surgery for neoplasia can be safe and has very good oncologic results.
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Disclosure: No significant relationships.

P005

EMERGENCY LAPAROTOMY – A FIVE YEAR AUDIT

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Introduction: Increasing evidence show that mortality related to emergency laparotomy is significantly higher than that of elective surgery. Aim: The objective of the current study is to evaluate the 30-day morbidity and mortality in patients with an emergency laparotomy.
Material and methods: Retrospective study of patients admitted in a tertiary emergency center during August 2012 – August 2016. Inclusion criteria: (1) laparotomy performed in less than 24 hours from admission (2) diagnosis of acute disease. As a control group we have used propensity score matching, with a ratio of 1:2, with patients receiving major surgeries grouped in the area of upper gastrointestinal, hepatobiliary and pancreatic, lower gastrointestinal and abdominal wall procedures, performed in more than 24 hours from admission.
Results: During five years there were 1410 patients meeting the inclusion criteria. The indication for emergency laparotomy was hemorrhage (22%), incisional hernia (19%), lower intestinal obstruction (14%), ischemia (9%), intraabdominal abscess (7%), lower intestinal obstruction (9%), anastomotic leakage (4%), and others in 16%. The mean age of patients was 56.23 +/− 20.13 years, with a maximum for sepsis and a minimum for peritonitis, and colitis.

The reintervention rate was 4.35%. There was a small correlation between patients' age and in-hospital stay, with no correlation between patients' age and mortality (p =0.502). There was a stron correlation between ASA score and mortality (P = 0.016).
Conclusion: Emergency laparotomy was associated with a significantly higher mortality than patients with major surgical procedures performed electively.
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Disclosure: No significant relationships.

P006

THE ROLE OF ULTRASOUND IN THE EARLY MANAGEMENT OF WOMEN PRESENTING WITH RIF PAIN

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Introduction: Acute right iliac fossa (RIF) pain in female patients remains a clinical challenge for general surgeons because of the wide differential diagnosis. 105 consecutive women presenting with RIF pain were studied to evaluate the role of ultrasound scan (USS) in the initial management by surgeons.
Material and methods: We prospectively audited all women presented to the surgical assessment unit, Royal Infirmary of Edinburgh with acute RIF pain over 6 weeks. The initial management plans, investigations, clinical findings and outcomes were recorded.
Results: A total of 105 consecutive patients were included. Four patients had incomplete records, leaving 101 patients for study. Fifty-eight patients (57%) had abdominal USS. Of these, 59% were normal, 17% were non-specific, specific pathology were identified on 17% USS and 7% were inconclusive. The sensitivity and specificity of USS in identifiying pathology were shown to be 64.3% with 97.7% respectively.
Thirty-six patients underwent surgery at some point during their admission. Of these, 13 had pre-operative USS performed. Diagnoses were correctly identified in 7 patients and missed or incorrectly shown in 6. USS was most reliable at identifying gynaecological pathology. Of the 58 USS ordered, 44 USS were judged to have been useful by the surgeons even though the majority of scans were normal (35/44), because they provided negative reassurance.
Conclusion: Despite its low sensitivity, USS remains useful as an initial non-invasive test to the general surgeons in the early management of women with acute RIF pain primarily for negative reassurance, but also to direct gynaecological referrals.
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Disclosure: No significant relationships.

P006A

STATE OF EMERGENCY SITUATION IS EFFECTIVE IN PREVENTING INDIVIDUAL CRIMES

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Introduction: As known Turkey experienced an unsuccessful coup attempt on July the 15th 2016. The government announced State of Emergency situation(SES) and make decrees to keep public order. We aimed to analyze the effect of State of Emergency situation on individual crime rates.
Material and methods: The individual crime rates of three months before July the 15th and after that, in State of Emergency, were compared and analyzed. Stab wounded patients (ICD code W26) who were admitted to emergency service(ES) were analyzed
Results: Number of stabbed patients who applied to ES was 67 before July the 15th, but the number of the patients who applied with the same wounding within the first three months after this time was 53.
Conclusion: There was a significant decrease in individual crime on SES. 67 patients (100%) was decreased to 53 (73%). In spite of SES rules were not democratic, it was successful in decreasing individual crime rate and protecting the people. SES of limited duration (for example 1 to 2 months) might be effective in decreasing crime and protecting innocents in districts with high rate of crime.
References:
Disclosure: No significant relationships.

P007

BLEEDING OF MECHANICAL DIGESTIVE ANASTOMOSIS AFTER PANCREATICODUODENECTOMY – OUR EXPERIENCE

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Introduction: Post-pancreaticoduodenectomy hemorrhage is a life threatening complication reported to occur in 2-7 % of patients. The most common location for a post-pancreaticoduodenectomy hemorrhage is the gastroduodenal artery stump. Nonetheless, unusual sources of hemorrhage exist. Bleeding from mechanical digestive anastomosis is an uncommon complication, potentially lethal if not evidenced intraoperatively or in the immediate postoperative.
Material and methods: From January 2011 to October 2016, 96 pancreaticoduodenectomies by the same surgical team were performed. 90 patients (93, 7%) had mechanical gastrojejunal anastomosis. Sentinel bleeding was defined as minor blood loss via

the nasogastric tube with an asympotmatic interval until the development of hemorrhagic shock.
Results: Sentinel bleeding occured in 3 patients (3,1 %), with median time of 5.6 days (range from 1 to 9 postoperative day). Early hemorrhage (< 24 hours) was recorded in one patient (66,6%) and late hemorrhage (> 24 hours) was recorded in two patients (33,3%). All three patients had bleeding of the jejunal mucosa between the staples line from the gastrojejunal anastomosis. Upper digestive endoscopy was performed in all cases, with hemostasis done using hemoclip and injection of diluted adrenaline. Two patients died due to complications related to massive bleeding. One patient required emergency open surgery, hand-sewing suture of the anastomosis being performed.
Conclusion: Intraabdominal complications after pancreaticoduodenectomy should be evaluated properly. The observation of sentinel bleeding on the nasogastric tube should lead to emergency intensive care treatment and endoscopy and dependent from the result to emergency relaparotomy to increase the likelihood of survival.
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3. G Rajarathinam. Post pancreaticoduodenectomy hemorrhage: outcome prediction based on new ISGPS Clinical severity grading. HBP Oxford 2008
Disclosure: No significant relationships.

P008

THE PRESENCE OF JAUNDICE IN AN ACUTE CHOLECYSTITIS – THE OPTIMAL APPROACH

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Introduction: The presence of jaundice in an acute cholecystitis could reflect pathologies in relation with the presence of the lithiasis, or simultaneous pathologies.
Material and methods: The authors did a retrospective study that included 35 cases of lithiasis of common bile duct with jaundice, over a period of one year, between January and December 2015. From these cases it was excluded one because the diagnostic was of carcinoma of the gallbladder. Variables such as diagnostic (ultrasound-US, magnetic resonance cholangiopancreatography-MRCP), endoscopic retrograde cholangiopancratography-ERCP, operating time, intraoperative cholangiography, conversion to open procedure, hospital stay.
Results: From 34 cases, 2 (5,88%) were operated in emergency, 8(23,52%) cholecystectomy after 24 hours and 24 went for ERCP. After ERCP, 15(44,11%) were with laparoscopic cholecystectomy and 9(26,46%) went for drainage the common bile duct.
Conclusion: MRCP is very useful for the aetiology of the jaundice. The goals of the treatment for these patients are ERCP and laparoscopic cholecystectomy despite of the length of stay and costs.
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Disclosure: No significant relationships.

P009

PERFORATED PEPTIC ULCER- A THREE YEAR COHORT

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Introduction: There has been a significant decline in the incidence of hospitalization and surgery for peptic ulcer disease which are attributed to better medical therapies,including proton pump inhibitors and helicobacter pylori eradication.
Material and methods: Cohort of patients admitted in our institution with perforated peptic ulcer,from January 2013 to December 2015.Clinical and operative details were collected.
Results: During the last 3 years were admitted in our hospital 26 patients with perforated peptic ulcer. 57% of patients presented to the hospital within 24 hours of the onset of abdominal pain.Medical history included nonsteroidal anti-inflammatory drugs in 7%,smoking in 19% and previous peptic ulcer in 11%. 46% of all patients didn'-have risk factors. 23% had preoperative shock.Emergency exploratory laparotomy was done in all except one patient in whom we made a successful conservative treatment with nasogastric decompression and antibiotics.Majority of the ulcers were juxta-pyloric or duodenal (80%). 92% of the patients had a simple closure with Graham patch using omentum and 8% had a resection surgery. We used drain in 44% of patients and nasogastric tube in 84%. A biopsy of ulcer edge was performed in all patients that had a simple closure. The average ulcer size was 1.8cm and there was no sign of malignity.Oral diet was started on the third day in most cases.There were two cases of leakage (8%). 23% stayed in Intensive Care Unit ant total median hospital length of stay was 9 days.The overall hospital mortality was 16%.
Conclusion: Early presentation, prompt diagnosis and emergent surgery are the pillars to successful management and good outcomes of PPU.
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Disclosure: No significant relationships.

P010

THE MANAGEMENT OF CHOLANGITIS IN AN EMERGENCY SETTING

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Introduction: Acute cholangitis is the main septic complication of choledocholithiasis. In the current era of evidence based medicine, the management of common bile duct stones follows a well-defined therapeutic algorithm. Whether the combined endoscopic-laparoscopic approach is more effective than laparoscopic common bile duct exploration is still a matter of debate. The present work aims to evaluate the particularities of choledocholitiasis emergency situations when current therapeutic algorithms cannot be respected. The aim of the paper is to evaluate the management of common bile duct stones complicated with cholangitis in an emergency versus elective setting.
Material and methods: Fifty one cases of choledocholitiasis, from November 2014 to September 2016, were retrospectively analyzed. Twenty eight patients had a positive diagnosis of cholangitis according to the TG13 criteria and 24 patients underwent a surgical or endoscopic intervention for biliary decompression in an emergency setting.
Results: Ten patients with severe cholangitis underwent immediate biliary decompression and 14 patients underwent early biliary decompression while 4 patients with mild cholangitis and the rest of patients with choledocholithiasis without cholangitis were managed in an elective setting. Immediate biliary decompression was obtained in open surgery in 8 cases and with ERCP in 2 case. Four deaths occurred, all in the severe cholangitis group.
Conclusion: Biliary decompression is the main element of treatment for choledocholitiasis complicated with cholangitis. The moment of biliary decompression depends on the severity of the case and minimal invasive surgery cannot be applied in every case.
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Disclosure: No significant relationships.

P011

ONE HUNDRED AND FIVE CONSECUTIVE LIVER INJURIES ANALYSED: AN ESTONIAN EXPERIENCE

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Introduction: Liver injuries are frequent following abdominal trauma, however, studies focused on the liver injuries are scarce in Estonia. Thus, we set out to study the incidence and outcomes of hepatic trauma at major trauma facilities in Estonia.
Material and methods: After IRB approval, all consecutive trauma admissions to the major trauma facilities in Estonia with liver injuries between 1/1/2009 and 31/12/2013 were included. Data collection included demographics, injury patterns, injury severity variables, and in-hospital outcomes. Primary outcome was in-hospital mortality. Secondary outcomes included rate of non-operative management and hospital length of stay (HLOS).
Results: During the 5-year study period, 105 cases were included with annual incidence of liver injuries at 1.6 per 100 000. Mean age was 31.3 $\pm$ 12,3 SD years and 75.5% were male. Penetrating trauma constituted 25% of the cases. Overall, mean injury severity score (ISS) was 14.6$\pm$10.5. Minor and moderate (Grade I-III) and severe (Grade IV, V) liver injuries constituted 93,3% and 6,7%, respectively. Isolated liver injury occurred in 30.5% (n = 32) of the patients. Non-operative management (NOM) was utilized in 70.4% (n = 74) of the patients and was successful at 98.6% of these cases. Angiographic embolization was used in 1.9% (n = 2) of all these cases. Mean HLOS was 11.7$\pm$10.5 days. In-hospital mortality was 4.8% (n = 5). Hemorrhage secondary to liver injury was the cause of death in 80% of the cases.
Conclusion: The annual incidence of liver injuries admitted to Estonian major trauma centers was 1.6/ 100 000.A total of 70.4% of patients were managed nonoperatively with an overall in-hospital mortality at 4.8%.
References:
Disclosure: No significant relationships.

P012

THE VALUE OF CR-POSSUM SCORE IN SURGERY FOR COLON CANCER

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Introduction: Risk scoring systems to predict mortality from elective or emergency surgery are important for both surgeons and patients and in auditing performance of surgery department. Colorectal Physiologic and Operative Severity Score for the Enumeration of Mortality and Morbidity (CR-POSSUM) was validated as an accurate predictor of outcome for colorectal surgery.
Material and methods: A retrospective review of patients who underwent colorectal surgery for cancer from January 2014 to September 2016 was done. Data needed for CR-POSSUM were recorded and predicted mortality was calculated. Two hundred ninety two patients were studied.
Results: Ninety six patients (32.9%) underwent emergency colorectal resections for complicated colorectal cancer while 196 underwent elective colorectal surgery for cancer. The median age was 68 years with a sex ratio of F:M = 0.8. Intestinal obstruction was observed in 76 cases, hemorrhage in 7 cases and peritonitis in 13 cases. The morbidity and mortality after emergency surgery was 35% and 19% while after elective surgery the rates were lower, 11% and 6,7%. The estimated mortality for emergency surgery for complicated colon cancer was 23,55% (3,28-73,38%) and 5,9% for elective surgery.
Conclusion: CR-POSSUM is an accurate predictor for mortality after surgery for colon cancer. It tends to overestimate mortality for both elective and emergency surgery. It may prove to be an useful tool for both patient care decisions and legal protection.
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Disclosure: No significant relationships.

P013

SURGICAL WARD ROUND PROFORMA IMPROVE DOCUMENTATION

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Introduction: In health care, keeping an accurate record of patient encounters is important for high quality care and medico-legal reasons.
Material and methods: Twenty clinical notes of in-patients admitted to the Emergency General Surgery Unit at Aintree University Hospital were retrospectively reviewed before and after the introduction of a ward-round proforma. Generic standards were gathered as recommended by the Royal College of Surgeons and Trusts Clinical records management policy. A questionnaire was given to seek the views of the MDT members involved in looking after patients before and after the proforma was implemented.
Results: Compared with pre-pilot analysis, there were no notes without any patient identification in the post-pilot analysis. Over 60% of case-notes had full patient name documented and 40% had all the patient demographics on every page, after the proforma was introduced. Furthermore, in the post-pilot analysis, 40% of case-notes had date/time of entries documented compared to 10% pre-pilot. Name and designation of the person making the entry was improved by 20% in the post-pilot analysis. A significant improvement in staff satisfaction after introduction of the proforma, with more than 80% saying their role and responsibilities were clear while being on the ward round compared to 40% pre-pilot. 70% of the MDT said that the ward round is frequently an effective mean of sharing information after the proforma was introduced, compared to 35% before it's implementation.
Conclusion: The ward round pro-forma is a useful tool that can facilitate the communication between the MDT members, whilst improving the medical record keeping standards.
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Disclosure: No significant relationships.

P014

NON-OPERATIVE MANAGEMENT OF PATIENTS WITH RIGHT SIDE THORACOABDOMINAL PENETRATING INJURIES: A SINGLE CENTER RETROSPECTIVE STUDY

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Introduction: To put forward the feasibility and clinically safeness of non-operative management of right side thoracoabdominal (RST) penetrating injuries for appropriate patient groups.
Material and methods: Medical records of 55 patients with right sided thoracoabdominal penetrating injuries who admitted to Istanbul School of Medicine, Trauma and Emergency Surgery Clinic between 2011 and August 2016 were examined. We managed non-operatively all stable patients with RST penetrating injury. All had liver and lung injuries confirmed by CT scans. Patients called back to the hospital to evaluate if they had any complaints after discharge. The evaluations were done accordingly by taking patient anamnase, chest x-ray and thorax CT if needed. Exclusion criterias were bilateral thoracoabdominal injuries, hemodynamic instability, and peritonitis signs.
Results: Fifty four of the patients were male and one patient was female (Female/Male = 1/54). The average of patients age was 27,22 years (range,13 - 56 years). Average length of hospital stay was 6 days. In 24 (43.6%) of the patients, organ injury was recorded. Among them, lung was the most injured organ with a percentage of 71 (17/24). Only 12 (21.8%). Median follow time of the patients who treated non –operatively was 2,6 years(72-5 months). While one of the patients has elevated diaphragm, the other ones haven't any complication.
Conclusion: Liver closes the right side of upper abdomen therefore right diaphragm injuries heal over without hernia. Because of that non-operative management of right side thoracoabdominal penetrating injuries is safe and feasible for selected patients. Also it can reduce morbidity and mortality rates by preventing unnecessary interventions.
References:
Disclosure: No significant relationships.

P015

IMPACT OF ULTRASOUND IMAGING RESULTS IN THE EMERGENCY DEPARTMENT ON TIMING OF SURGERY AND INCIDENCE OF COMPLICATED APPENDICITIS

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Introduction: Ultrasound (US) is commonly used in the workup of acute appendicitis in emergency departments (ED) in Israel. The objective was to determine the impact of ultrasound results on the timing of surgery and incidence of complicated appendicitis (gangrenous with/without perforation).
Material and methods: Retrospective study of patients operated for acute appendicitis in one medical center (1/12/06-31/12/2012). Timing of operation and operative findings were analyzed according to ultrasound results. Patients undergoing CT in the ED or no imaging at all, served as controls.
Results: 724 patients underwent US: 552 (76.2%) positive; 71 (9.8%) inconclusive; and 101 (14.0%) negative. 158 underwent CT and 467 did not undergo any imaging evaluation. Negative and inconclusive US led to delays in surgery beyond 12h' from admission in 66.4% and 38% patients respectively, higher when compared to those following positive US (12.7%), CT (12.1%) and no imaging at all (23.2%). Delays in surgery following negative and inconclusive US led to increased incidence of complicated appendicitis: negative US (43%); inconclusive US (27.1%); positive US (20.6%); and no imaging at all (24.1%). Patients undergoing CT had a 45.9% incidence of complicated appendicitis though most were operated early.
Conclusion: Inconclusive/negative US resulted in delays in surgery and in increased proportion of complicated appendicitis. Differences in referral may explain high incidence of complicated appendicitis in patients undergoing CT. Proportion of patients operated within 12h' was similar in those with positive US and those with no imaging at all. The proportion of patients with complicated appendicitis was similar in these two groups.
References:
Disclosure: No significant relationships.

P016

A NEW MODALITY; PRACTICAL IN USE, PREDICTING THE OVERALL MORBIDITY AND MORTALITY OF PEPTIC ULCUS PERFORATION (PUP): A RETROSPECTIVE STUDY

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Introduction: There are different modalities, or scoring systems defined such as; 'MPI (Mannheim Peritonitis Index), MOF (Multiple Organ Failure Score), Boey and PULP (Peptic Ulcus Perforation score) which are used in predicting morbidity and mortality rates for peptic ulcus perforation patients. But still, none of them has been accepted as the preferred approach over another. The aim of this study was to define an alternative modality which is practical in use based on the hospital database.
Material and methods: A total of 123 patients whom had a history of operation for perforation of peptic ulcus between years of 2010-2015 in Emergency Surgery Department of Istanbul Medical Faculty were included into the study. All the hospital database were evaluated retrospectively.
Results: Overall morbidity and mortality scores were 17% and 9% retrospectively. According to ASA scoring system; patients having ASA (score 3) had 5 times greater mortality rates than the ones below it (45% vs 9%). Patients having serum kreatinin levels above 1.50 mg/dl had %73 mortality (8/11) which was found 3 times greater than the ones below of that value. Also the mortality rates nearly doubled (36% vs. 64%) when the time past from the beginning of perforation till the admission was above 24 hours.
Conclusion: These parameters are basic and easy in application which make them practicable in use when compared with other known modalities. Evaluating this with multicentral and higher population groups may give more satisfactory results.
References:
Disclosure: No significant relationships.

P017

INJURIES OF ABDOMINAL ORGANS FROM 2001 TO 2015 - OUR EXPERIENCE, IMPROVING OF DIAGNOSTICS, USE OF EMBOLIZATION AND ENDOSCOPIC TECHNIQUES IN DIAGNOSTICS AND TREATMENT

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Introduction: The objective was to evaluate a group of patients hospitalized in the Traumacentre of University Hospital in Ostrava, Czech republic for injuries of abdominal organs in the years 2001-2015.
Material and methods: This retrospective analysis of a group total of 454 patients evaluates causes of injuries, injuries of various organs and the progress of therapy. Furthermore, we focused on the use of imaging techniques and the use of embolization and endoscopic methods of diagnosis and treatment.
Results: The most common causes of injury were traffic accidents. It was blunt trauma in more than 80% cases. We discovered injury to the spleen in 195 cases, liver injury in 120 cases, intestinal injury in 101 cases, diaphragm rupture in 46 cases, injury to the bladder and kidneys in 38 cases, serious injuries of major blood vessels in 34 cases, injury to the stomach in 16 cases, gallbladder and biliary tract injury in 6 cases and duodenal perforation in 4 cases Prevalent treatment for a given group was surgery. Though possibilities of conservative therapy gradually increased in given years. In diagnostics we considerably used ultrasonography and multiplanar CT scans. Another factor of improving the results of a conservative approach is the development of intensive treatment of shock and coagulopathy. The third factor is development of interventional and endoscopic techniques.
Conclusion: The basis for abdominal injuries remains quick and careful diagnosis of hemoperitoneum and pneumoperitoneum. Patients in hemorrhagic shock with injuries of abdominal cavity we

operate urgently using methods of "damage control surgery". Options of conservative treatment are increasing.
References:
Disclosure: No significant relationships.

P018

IATROGENIC BILE DUCT LESIONS

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Introduction: Post laparoscopic cholecystectomy biliary ducts lesions are feared complications. The aim of this study was to evaluate the gravity and the ways of treatment of these iatrogenic lesions.
Material and methods: This is a retrospective study on three years (01.2011-04.2014). We evaluated 7 patients with biliary duct lesions, all of them beeing registered after laparoscopic cholecystectomy.
Conclusion: Five of these patients were operated in other hospitals. One of these 7 patients was operated twice, within an interval of 1 year. The M/F ratio was of 2:5. We identified the following lesions: aberant bile duct (n = 1), a late choledocus stenosis (n = 1), lesion of the common hepatic duct (n = 1), lateral lesion of the CBD (common bile duct) (n = 1), complete lesion of the CBD (n = 2) and one concomitent lesion of the CBD and of the RHA (right hepatic artery). All the cases had increased hospital stay, with a minimum of 15 days (for the lateral lesion of CBD, which was observed and treated during the same surgery – the only one) and a maximum of 82 days for the one with lesion of the CBD and RHA (which had multiple reoperations) and increased hospital costs. The lesions were resolved using laparotomy. There were no deaths.
References: Bile duct lesions are rare and usually recognized postoperative. The immediate treatment in a tertiary level institution is the best solution, for which the correct diagnosis and transfer of the patients should be done as soon as possible.
Disclosure: No significant relationships.

P019

DISPLACED SUPRACONDYLAR FRACTURES OF THE HUMERUS IN CHILDREN

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Introduction: *Supracondylar humeral fractures (SCHF) are the most common elbow fractures in children, representing 3 % of all paediatric fractures.* We aim to investigate if emergency surgery is related to more complications.
Material and methods: We present a retrospective study of *SCHF* in 52 children, from May-2012 to May-2016, at '12 Octubre' University Hospital (Spain).
Results: The 50% of our patients were boys with a mean age of 5.5 years (2-11), being left elbow on 37 cases (71.1%). The 44.2% (23) corresponded to Type II of Gartland-Classification, 50% type III(26) and 5,8% were type IV(3) The distal fragment was in extension in 90,4% (47) and in flexion in 9.6% (5) with a mean Baumann angle of 19.5° (0°-64°). The 100% underwent surgery. The 82,7% (43) were operated in the emergency OR. In 94,2% (49) we achieved closed reduction. In 86.5% (45) fixation was performed with 2 Kirschner-Wires (KW) by an external approach and in 5,8% (7) 3KW were needed. We reoperated 3 patients (5.7%) because an unsatisfactory reduction in an average of 4 days (1-10). Patients had a mean range of motion(ROM) at 4 weeks of 104° (5-80°), and presented at hospital discharge 131° mean ROM (80-150) Up to 13,5% (7) presented any type of complication related to surgery (4 cases of anterior interosseous nerve injury,2 KW infection,1 radial nerve injury). Emergency procedures were not related to more complications, not even after midnight (p 0.560)
Conclusion: Currently, the Gartland classification is used, which has treatment implications. In surgical fractures any KW-configuration has shown higher efficacy. Overall, functional outcomes are good. In our sample, emergency procedures are safe and not related with poor outcomes.
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Disclosure: No significant relationships.

P020

A 23-YEARS PERSPECTIVE OF CARDIAC INJURIES AT ESTONIAN MAJOR TRAUMA FACILITIES

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Introduction: Cardiac injuries are highly lethal lesions following trauma and most of the patients decease in the prehospital setting. However, studies on cardiac trauma in Estonia are scarce. Thus, we set out to study cardiac injuries admitted to Estonian major trauma facilities during Estonian independence.
Material and methods: After IRB approval, all consecutive patients with cardiac injuries per ICD-9 (861.0 and 861.1) and ICD-10 codes (S.26) admitted to the major trauma facilities between 1/1/1993 and 31/7/2016 were retrospectively included. Cardiac contusions were excluded. Data collected included demographics, injury profile, and in-hospital outcomes. Primary outcome was mortality. Secondary outcomes were cardiac injury profile and hospital length of stay (HLOS).

Results: During the study period, 37 patients were included. Mean age was 33.1 ± 12.0 years and 92% were male. Penetrating and blunt trauma accounted for 89% and 11% of the cases, respectively. Thoracotomy and sternotomy rates for cardiac repair were 80% and 20%, respectively. Most frequently injured cardiac chamber was left ventricle at 49% followed by right ventricle, right atrium, and left atrium at 34%, 17%, and 3% of the patients, respectively. Multichamber injury was observed at 5% of the cases. Overall HLOS was 13.5 ± 16.7 days. Overall mortality was 22% (n = 8) with uniformly fatal outcomes following left atrial and multichamber injuries. All the patients with right atrial injury survived.
Conclusion: Overall, 37 patients with cardiac injuries were hospitalized to the major trauma facilities in Estonia. The annual incidence was 1.6 cases with overall mortality at 22%. Left ventricle was the most frequently injured chamber.
References:
Disclosure: No significant relationships.

P021

TRANSEXAMIC ACID, SURGICEL, FIBRINOGEN EFFECT ON FOUR DEGREE LIVER LACERATION IN THE RAT MODEL:A STREOLOGICAL STUDY

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Introduction: Tarnsexamic acid and Fibrinogen can play noticeable roles in the liver laceration healing process. In addition, SURGICEL have activity by increasing coagulation that could control bleeding durnig traumatic liver damage process. Therefore, in this study, the authors' objective was to investigate the effects of transexamic acid and Fibrinogen on the process of liver laceration healing in rat models according to stereological parameters.
Material and methods: In this experimental study, 30 male Wistar rats were randomly divided into 3 groups (n = 10): Surgicel-treated (S) group, and the transexamic acid-surgicel-treated (TS) group and Fibrinogen-Surgicel (FS) treated Group.The four degree liver injury induced in middle liver lobe and material inserted base on each group then reoperation were done for S, TS and FS group 14 days later. Liver volume, liver lobe volume density and hepatocyte count were estimated using stereological methods and were analyzed by the Kruskal-Wallis and Mann-Whitney U tests; $P < .05$ was considered statistically significant.
Results: The FS-treated group showed a better outcome in comparison with TS and S groups with no mortality, adhision formation or infection. The numerical density of hepatocyte, volume density of liver lobe in the FS-treated group were significantly higher than those in the S-treated Group ($P < .005$).
Conclusion: The authors showed that Fibrinogen and transxeamic acid has the ability to improve liver laceration healing by enhancing hepatocyte healing process in liver injuries.
References:
Disclosure: No significant relationships.

P022

APPROACH AND SOLUTIONS IN COLORECTAL EMERGENCIES

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Introduction: The main complications in emergency colorectal surgery are obstructions, perforations and bleeding. The most common cause of emergencies is represented by complicated colorectal tumors.
Material and methods: We made a retrospective study on a group of 288 patients in the period 01.01.2012 - present. Information was gathered from the observation sheet and the patients were selected using the informatic system Hippocrates.
Results: The most frequent cause of emergency surgery was oclussion in 68.75%. 29.29% of the tumors were located in the sigmoid colon and 21,21% in the rectum. 26.73% of the surgical interventions were Hartmann operations. In 165 of the 288 cases (57.29%) anastomosis were performed, frequently in the cases of right colon tumors. 64% of the anastomosis were performed manually. The most common postoperative complication was anastomotic fistula. Mortality was 11.11%.
Conclusion: Computer tomography should be performed prior to surgery at the patients with occlusions to exclude pseudoobstructions. Colorectal stents are a good option to treat occlusions in selected cases, either as a palliative treatment, or as bridge to surgery in order to avoid stomas.
References:
Disclosure: No significant relationships.

P023

PREDICTORS FOR NECESSITY OF EARLY BRAIN COMPUTED TOMOGRAPHY IN TRAUMA PATIENTS SUSPECTED BRAIN INJURY

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Introduction: Brain computed tomography (CT) is a useful diagnostic tool to determine the presence and extent of injury in patients with suspected brain injury. However, it is still under debate whether brain CT scan should be performed early on minor brain hemorrhage despite it may be time-consuming or unnecessary procedures. Thus, the aim of this study was to investigate indications for early CT scanning in suspected brain hemorrhage
Material and methods: The medical records of 913 trauma patients with suspected brain injury during the primary or adjunct primary survey, between January 2013 and June 2016 were reviewed retrospectively. Patients were divided into two groups according to brain CT findings: the brain hemorrhage group (n=200) and the normal brain group (n=638). Multivariate logistic regression analysis was

performed to determine predictors for necessity of early brain CT scanning in trauma patients suspected brain hemorrhage.
Results: Among the 913 patients, 838 underwent a brain CT. 200 (23.8%) patients had evidence of an acute traumatic intracranial hemorrhage on brain CT. CT findings after trauma included combined brain injury (68.8%), subarachnoid hemorrhage (17.6%), subdural hemorrhage (8.2%), unspecified intracranial hemorrhage (3.8%) and epidural hemorrhage (1.6%). Multivariate logistic regression analysis revealed that initial clinical factors, such as GCS (<11) (odds ratio [OR] 0.876; 95% confidence interval [CI] 0.749 – 0.876; $p < 0.001$), the presence of loss of consciousness (OR, 7.775; 95% CI, 2.582 – 4.48; $p < 0.001$), the presence of scalp laceration or hematoma (OR, 3.423; 95% CI, 1.681 – 2.742; $p < 0.001$), and ear bleeding (OR, 7.991; 95% CI,1.015-2.848; $p < 0.001$) were significantly associated with increased risk for brain hemorrhage in blunt trauma patients.
Conclusion: Scalp laceration or hematoma, GCS (<11), loss of consciousness, and ear bleeding can be used as predictors for necessity of early brain CT scanning in blunt trauma patients suspected brain hemorrhage.
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Disclosure: No significant relationships.

P024

A DIFFICULT DIFFERENTIAL DIAGNOSIS BETWEEN SIGMOID CANCER AND PSEUDOTUMORAL SIGMOID DIVERTICULITIS

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Introduction: Diverticulosis is a disease of modern man, one that continues to cause significant morbidity and mortality. Because of the high incidence of diverticulosis, a patient can have diverticulitis and an adjiacent cancer. Such combined possibility is unusual and confusing and certainly can delay the more important diagnosis.
Material and methods: The management of patients with sigmoid diverticulitis is still evolving. We report the case of 63 years old male known with sigmoid diverticulosis Hinchy III with multiple inflammatory episodes, abdominal – pelvic abscessed inflamatory block, spontaneously colocutaneous fistula. Patient was addmited in our service and incision, drainage of purulent collections parietal in left lower quadrant was performed. After partial remission of inflamatory phenomena he went under surgery and sigmoid segmental resection with anastomosis it was practiced. Postoperative evolution was without incidents. Histopathological diagnosis was colorectal adenocarcinoma, moderately differentiated and colonic diverticulitis with colocutaneous fistula.
Results: Complications of sigmoid diverticulosis such as fistulas, obstruction are best managed with surgical resection. Elective surgery may also be indicated to patients who have had two or more episodes of severe diverticulitis.
Conclusion: The timing and appropriateness of surgical treatment of sigmoid diverticular disease remain a topic controversy. The two diseases can present with similar clinical symptoms and radiological findings during the acute situation that can sometimes be difficult to interpret. Operation should be undertaken in patients with severe attacks, as determined by their clinical and radiological evaluation.
References:
Disclosure: No significant relationships.

P025

IS RESECTION WITH PRIMARY ANASTOMOSIS FOLLOWING DESTRUCTIVE COLON WOUNDS ALWAYS SAFE?

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Introduction: In colon injuries, primary repair is becoming the most common method of treatment. This study assesses our results in colectomies with primary anastomosis.
Material and methods: Data collected by a retrospective chart review, of all patients with abdominal trauma with colon injuries operated on at the Bucharest Clinical Emergency Hospital during a 10 years period, were analyzed.
Results: Out of 106 patients with posttraumatic colon injuries 13 cases with destructive colon injuries required colectomy with primary anastomosis. Mechanism of injury was blunt trauma in 11 cases and stab wound in 2 cases. Surgical treatment was performed in the first 12 hours from admission. Following the Colon Organ Injury Scale (CIS/ Moore) the lesions were grade II – V. All the cases had Abdominal Trauma Index higher than 25. There were two intraperitoneal abscesses and one anastomotic leak; 3 patients died due to sepsis.
Conclusion: Colonic injuries with high ATI or hypotension that are managed with resection and anastomosis are associated with high morbidity and mortality.
References:
Disclosure: No significant relationships.

P026

ACUTE CARE SURGERY UNITS IN SPAIN. DIFFERENT DESIGNS, SAME RESULTS?

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Introduction: Acute Care Surgery Units are still scarce in Spain. The existing ones have different designs depending on atributions and resources.
Material and methods: Retrospective cohort study analyzing working days surgical activity in two different Hospitals ACS Units in the same period of time two correlative years (January-February 2015-2016). Procedures were classified according to Kluger's Timing of Acute Care Surgery Classification (WJES 2013). Diagnosis, Type of surgery, grade of urgency (elective, deferred urgency or emergency), time to surgery from diagnosis (ideal and real), complications and mortality were studied.
Results: 94 patients underwent surgery in Hospital A, vs. 42 in Hospital B. 55% of global activity was elective surgery (71% vs.19%; $p < 0.001$). There are no statistically significant differences among

hospitals in patients age or gender, rate of laparoscopic surgeries, complications and mortality. Hospital A initiates surgical activity significatively earlier. Taking into account only emergency surgeries, most frequent procedures were cholecistectomies (18%), hernias (15%) and appendectomies (11%) without significant differenceas among Hospitals. There were no significant differences in the mean time to start emergency procedures, nor in the percentages of deferred urgencies, reinterventions or hospital stay. In Hospial A, the substraction Real Time to Surgery - Ideal Time to Surgery was significantly lower, although no differences in complication rates (HAvs.HB 44% vs. 38%; n.s.) or mortality (Avs.B; 7.4% vs.5.9%; n.s.) were observed.

Conclusion: Although productivity was different among ACS units, when specifically analyzing emergency surgery there were no statistically significant differences in morbility or mortality in the two models in spite of a difference in Time to Surgery favorable to more productive center.

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Disclosure: No significant relationships.

P027

IS THERE ANY ACCURATE DIANGOSTIC MODALITY FOR ACUTE APPENDICITIS IN EMERGENCY?- A STUDY IN 415 PATIENTS!

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Introduction: Acute inflammation of the appendix results in appendicitis,the most common abdominal surgical emergency.The diagnosis is usually made based on patient's clinical history,physical examination and laboratory studies.However,radiological exams are increasingly require,but how accurated are they?

Material and methods: 415 patients were enrolled in this retrospective study.Inclusion criteria were:underwent urgent surgery due to suspected acute appendicitis in our hospital from January1st to the present.

Results: From 415 performed appendectomies 55,7% were male/184 female. Mean age was 32,7 years/female and 29,95 y/male. Number of normal appendices in female patients38/184 were higher than in male ($p < 0.0001$). Patients with more than 24h complains have a statistically significant relation with a positive diagnosis confirmed by histopathology. The association between abdominal pain,laboratory alterations (CRPand/or WBC elevation)and appendicitis is considered to be statistically significant ($p = 0.0233$). The laboratorial tests WBC/CRP have a 95,05% sensitivity and 13,7% specificity. 231 patients needed radiological investigation;there's no statistical significant difference between patients who underwent radiological exams,others and the outcome ($p = 0.1319$). Abdominal Ultrasound scan has more specificity (63,7%) whereas abdominal CT scan has more sensitivity (90,6%). Relating the lab tests with the radiologic findings,we found out that association between them is considered to be not quite statistically significant. In the patients who have post-op confirmed appendicitis the relation between lab and radiological findings is considered not statistically significant ($p = 0.439$). Considering both exams positive,the association between lab plus radiological alterations and appendicitis is considered to be statistically significant ($p = 0.0159$).

Conclusion: Analytical and radiological changes may favor the appendicitis diagnosis.However the absence of these alterations does not exclude it.The medical history and physical examination still is of the utmost importance in successfully diagnosing and treating acute appendicitis.There is no examination more effective used alone.

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Disclosure: No significant relationships.

P028

NECROSECTOMY IN ACUTE PANCREATITIS: AFTER FOUR WEEKS IS BETTER

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Introduction: Severe acute pancreatitis (AP)continues to be associated with significant morbidity and mortality, despite the nowadays pancreatic surgical techniques and intensive care refinement

Material and methods: The aim of the current study is to correlate the timing of surgery with morbidity and mortality in patients with acute pancreatitis, stratified according to Atlanta 2012 classification, in the current era of intensive care and minimally invasive technologies. Retrospective study of patients admitted in a tertiary emergency center, between November 2012 and Nov 2015. Selection criteria: (1) acute pancreatitis; (2) open or minimally invasive surgical approach

Results: 624 patients were selected, with mild in 337 (54%), moderate severe in 243 (39%) and severe AP in 44 (7%) patients. The etiology was biliary in 250 (40%), alcohol in 108 (17.3%), hypertriglyceridemia in 31 (5%) and ERCP in 12 (2%) patients. The mean time to surgery was 9.8 ± 3.7 days and 26.43 ± 9.1 days in patients with moderately severe and severe AP, respectively. In patients with severe AP, the indication for surgery was infected (proved or suspected) necrosis in 18 (63%) of cases, lack of clinical progression in 10 (23%) and progressive multiple organ dysfunction in 6 (14%) patients.

Conclusion: In patients with severe acute pancreatitis, surgical intervention earlier than 28 days is associated with significant major complication and mortality rate. Nowadays combinations of intensive care and minimally invasive techniques may buy precious time for these patients.

References: Disclosure: No significant relationships.

P029

THE VALUE OF THE BEDSIDE INDEX FOR SEVERITY IN ACUTE PANCREATITIS (BISAP) SCORE

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Introduction: The aim of this study was to evaluate a relatively recent predictive score (bedside index for severity in acute pancreatitis - BISAP) in acute pancreatitis.
Material and methods: This is a retrospective analysis of 41 consecutive patients addmitted and treated for acute pancreatitis. Demographic, clinical data, CT-scan index and the severity parameters were collected. Univariate and multivariate analyses were performed with a dedicated statistical software (StatsDirect). Predictive role BISAP in acute pancreatitis was assessed.
Results: The total study group included 33 male and 8 female patients with a mean age 54 years and SD + 15 years. A significant correlation was found between pancreatitis severity and BISAP score ≥ 3 (test Fisher p = 0,02). Also, BISAP score demonstrated to be a good predictive tool for mortality (test Fisher p = 0.02).
Conclusion: While easy to calculate the BISAP score is a very useful predictive score for severity and mortality in acute pancreatitis patients.
References:
Disclosure: No significant relationships.

P030

SEVERE ACUTE PANCREATITIS COMPLICATED WITH ABDOMINAL COMPARTMENT SYNDROME – WHEN DECOMPRESION

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Introduction: A fearful complication of SAP (severe acute pancreatitis) is ACS (abdominal compartment syndrome), inducing a new organ dysfunction. ACS if ignored or too late sanctioned rises the morbidity and mortality of SAP. ACS results from inbalance between the increase of intraabdominal volume due to inflammatory edema, ascites, ileus, fluid overload and decrease in abdominal wall compliance due to abdominal wall edema and abdominal pain. Aim of the study is to assess mortality in patients with ACS.
Material and methods: 290 patients diagnosed with acute pancreatitis between 2013 and 2016 were reviewed and selected for the study 51 patients with SAP (17,5%). 11 patients (21,5%) out of 51, presented ACS requiring surgical decompresion and 40 had intraabdominal hypertension managed nonoperatively. Intraabdominal pressure measurements were performed using the intravesicular method.
Results: 7 patients with ACS required surgical decompression within the first week and 4 after two weeks. In all patients the alarming sign was decreasing hourly urinary output. In 4 patients with late abdominal surgical decompression had associated necrosectomy. 6 patients had a classic laparostomy and 5 had vacuum laparostomy. Planned reoperations were performed at 42-72 hours. In spite of obvious amelioration of intraabdominal pressure, the organ dysfunctions had an unfavorable course. All patients died, 10 during hospitalisation due to multiple organ dysfunction and 1 at 2 months of favorable course due to sudden massive retroperitoneal bleeding. All patients had laparostomy after 24 hours of documented ACS.
Conclusion: The timing of surgical decompression in ACS is crucial, any delay in doing it may aggravate organ dysfunction due to reperfussion injury.
Conclusion: The timing of surgical decompression in ACS is crucial, any delay in doing it may aggravate organ dysfunction due to reperfussion injury.
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Disclosure: No significant relationships.

P031

MANAGEMENT OF PEDIATRIC BLUNT ABDOMINAL TRAUMA IN A TERTIARY CENTRE

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Introduction: Trauma is the leading cause of mortality in the pediatric population. Traumatic intraabdominal injuries can result in significant morbidity and mortality.[1,2] The management of blunt abdominal visceral injuries can be nonoperative in up to 90% of cases. This is dependent upon the accurate diagnosis and the staging of the injured organ, but mainly on the hemodynamic stability of the patient.[1,3] This study is set out to describe our experience with the management of pediatric blunt abdominal trauma in a tertiary centre.
Material and methods: The records of all patients presenting to "Grigore Alexandrescu" Emergency Clinical Hospital for Children Bucharest with blunt abdominal trauma from January 2010 to July 2016 were retrospectively reviewed. Information was gathered about patient characteristics, traumatic mechanism, organs injured and management strategy.
Results: 79 children were included in the study. The patients were 1-17 (10 +/- 4,22) years old. 52 patients (66%) were males. The most common cause of injury was bicycle accidents (20 cases). Other causes included motor vehicle accidents (19 cases, passenger 11, pedestrian 8), blunt object trauma (13), playground accidents (12) and height falls (12). Liver injuries were recorded in 29 cases, spleen injuries in 19 cases, kidney injuries in 17 cases, pancreas injuries in 8 cases and hollow viscus injuries in 6 cases. 47 patients were managed nonoperatively. Mean hospital stay was 11 days (+/− 7,2).

Conclusion: Pediatric intraabdominal organ injury is a potential source of significant morbidity. Nonoperative management is the standard of care for the majority of these injuries, although continued hemodynamic instability mandates operative intervention.

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Disclosure: No significant relationships.

P032

IS TRAUMA IN NON-URBAN AREAS IN GREECE ANY DIFFERENT? EPIDEMIOLOGY AND TYPES OF INJURY IN A LOW-VOLUME GENERAL HOSPITAL

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Introduction: Greece is among the countries where databases on trauma care are lacking and the trauma system needs to be reassessed. Recently, efforts are taking place to design and apply a national trauma registry, in order to examine trends in mechanism and outcome of traumatic injuries. In the current study, the first year of a local registry from a low-volume, non-urban hospital is presented.

Material and methods: Retrospective review of data from trauma cases seen in casualty during the last year was conducted. All trauma cases were included, from minor (ambulatory patients) to major injuries (patients brought by paramedics). The patients were assessed and managed by General Practitioners, Surgical Residents and Surgeons, depending on the severity of injury.

Results: Over the last year, 3096 trauma patients were examined. Trauma workload is increasing from spring to autumn due to large numbers of visitors from other countries. The majority of cases (2232) were minor trauma. Principal mechanisms of injury in the remainder of cases were road traffic accidents (333) and falls (363), which means that blunt trauma accounted for the vast majority of cases. Principal patterns were head, chest and extremity injuries, with spine, pelvic trauma and burns at a much lower percentage. From the total of 3096 patients, 12 were P2 and another 12 were P1. Only 0.77% of the injured patients presented in casualty were eventually admitted in hospital.

Conclusion: This is a one-year report on trauma in a non-urban region in Greece. Trauma remains a surgical disease that needs dedicated surgical resources and this registry helps to clarify the type of trauma most commonly encountered and therefore to optimize the pre-hospital and hospital management of trauma patients. In an ideal health system, each geographic region should have at least one level I or level II trauma center at its center and within a thirty-minute transport time. These higher level hospitals should be supported by well-distributed level III and/or level IV facilities that serve to care for the larger volume of less severely injured patients. This arrangement conserves resources at the level I and II trauma centers for the patients with the most severe injuries.

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Disclosure: No significant relationships.

P032A

RECURRENT APPENDICITIS: A REMAINING DIAGNOSTIC DILEMMA

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Introduction: Recurrent appendicitis is a rare clinical entity that its true existence appeared to be under controversy among clinicians. However, the constant even though rare report of cases of recurrent appendicitis over the years poses a matter what is the true incidence of the disease among the healthy population and those suffered from acute appendicitis. The current study aims to define the frequency of the recurrent appendicitis compared to the reported cases of acute appendicitis.

Material and methods: A retrospective single centered study was conducted aiming to register every single case of patient that underwent appendectomy during a one year period time. Medical history records, laboratory testing and histopathology testing results were evaluated in order cases of patients presenting with manifestations of chronic appendicitis to be identified.

Results: During the study period, 105 appendectomies were performed. Two cases out of these 105 were identified as conditions of recurrent appendicitis. Two male patients of 18 and 35 years old presented suffering from recurrent abdominal pain localized in right lower quadrant. Histopathological examination of the resected appendix revealed chronic inflammatory fibrotic findings in the appendiceal tissue along with signs of partial obstruction.

Conclusion: Recurrent appendicitis is an uncommon clinical condition that often enough is misdiagnosed and misinterpreted to an atypical acute inflammation of the appendix. It is an existent physical disturbance that is characterized by recurrent mediate abdominal pain and certain histology chronic lesions. Appendectomy provides relief and cure to patients.

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Disclosure: No significant relationships.

P032B

THE PHONE - IS IT GOOD TOOL IN ORGANISATION OF THE EMERGENCIES STILL?

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Introduction: The communication and transmition of informations between all subjects participating on the care of patient is very important. But it's escalated in the emergencies cases and mass disasters. There are two main possible problems - accuracy of the informations and time factor. The standard type of the communication is ussually calling between ambulance and hospital for example. We present three parts of the care chain, where is some type of the data communication can be usefull - standard data protocol in the calling center in the case of the mass disaster, data protocol without voice calling between ambulance and hospital and system of activating teams on the emergency.
Material and methods: Retrospective questionnaire for the past and statistics from the PC was used in two main topics. In the communication between ambulance and hospital we was tracked the accuracy of the infomation and the time of acceptactions of the patients (phone calling vs.data sequences). In the hospital (emergency) we was tracked the time to activate teams in the case of monotrauma, polytrauma (or brain stroke) and massive disaster (needing minimall two teams with 4 persons). There was 20 questionnaire and 20 random cases in all groups and comparing of the results.
Results: The main difference we find in accuracy of the informations (3 vs.1,2), time of the activation teams - 1 team (4 persons) 125 vs. 45 sec., 2 teams (7 persons) 332 vs. 45 sec.
Conclusion: The results clearly shows that some type of data communication is significantly fast and more exact, especially in the case of several patients.
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Disclosure: Cooperating in the developing of the system MicroMedic - consultant.

P033

RETROSPECTIVE REVIEW: HOW DOES BOWEL RESECTION IN PATIENTS WITH INCARCERATED GROIN HERNIAS INFLUENCE THE OUTCOME

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Introduction: Groin hernias are very common and about 5 to 15% of all patients with groin hernia will require emergency surgery. The goal of this retrospective study was to review and evaluate the risk and outcomes of bowel resection in patients with incarcerated groin hernias.
Material and methods: We retrospectively analyze 59 patients who underwent emergency surgery for an incarcerated femoral or inguinal hernia, between January 2013 and December 2015. Patients were separated in two groups, Group A (patients who required intestinal resection, n = 12) and Group B (patients who did not required resection, n = 47). Demographic and surgical data were obtained and compared between the two groups.
Results: Patients age range from 30 to 91 years (mean age 72.8), with the older patients requiring bowel resection more often (Group A mean age 79.3; Group B mean age 71.3). Men required bowel resections more often than women (22% vs 17%). Inguinal hernias strangulate more than femoral hernias in this population, and the time of incarceration were higher in the group of patients who required intestinal resection. Group A patients had a longer hospitalization and had more overall complications than group B. Recurrence rate and mortality were significantly higher in Group A patients.
Conclusion: Incarcerated hernias are more common in men and in our population men require more often intestinal resection. The risk of intestinal resection is higher in older patients, those with inguinal hernias and those with longer incarceration time. Overall complications, recurrence rate and mortality were higher in patients of Group A.
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Disclosure: No significant relationships.

P034

PRE-HOSPITAL FLUID RESUSCITATION IS ASSOCIATED WITH TRAUMATIC COAGULOPATHY IN PATIENTS WITH SEVERE TRAUMA

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Introduction: There have been various discussion on pre-hospital fluid resuscitation (PFR) for severe trauma patients. We conducted multi-center observational study on traumatic coagulopathy, and aimed to clarify the relation between PFR and 3 end points (28-days survival rate; massive transfusion $\geq$ 10U/24hr; and trauma associated coagulopathy (TAC: PT-INR $\geq$ 1.2)) in this study.
Material and methods: Retrospectively collected 796 trauma patients of ISS $\geq$ 16 and age $\geq$ 18, in 15 Japanese trauma centers, were divided into two groups according to whether PFR was done or not. We evaluated the relationship between PFR and the 3 end points using logistic regression analysis, followed by subgroup analysis (age, gender, presence of traumatic brain injury(TBI), and hemostatic treatment including surgery and interventional radiology) was performed.

Results: No difference was observed between PFR (n = 85) and non-PFR group (n = 711) regarding age, gender, 28-days survival, rate of massive transfusion, and hemostatic intervention. In contrast, ISS and PT-INR were significantly higher in PFR group. Although PFR didn't affect 28 days survival and massive transfusion rate, PFR and ISS were independent risk factors for TAC. Subgroup analysis revealed that PFR was an independent risk factor for TAC in the patients under 65, associated with TBI, and requiring hemostatic intervention.
Conclusion: In trauma patients with ISS $\geq$ 16, PFR may not related to 28 days survival and massive transfusion rate. However, PFR may cause coagulopathy, especially those young, having TBI, requiring hemostatic intervention. Further study is needed to understand the role of PFR for severely traumatized patients.
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Disclosure: No significant relationships.

P449

DIAGNOSTIC VALUE OF NEUTROPHIL-LYMPHOCYTE RATIO IN COMPLICATED ACUTE APPENDICITIS

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Introduction: Emergency surgery is currently the first choice of treatment for patients diagnosed with acute appendicitis. Depending on the stage of the disease, however, it can be managed with antibiotic therapy. TMethods to accurately evaluate the severity of the disease and appropriately indicate prompt appendectomy have been studied to better conduct the initial approach. Objective: To evaluate the predictive capacity of neutrophil-lymphocyte ratio (NLR) to distinguish between complicated and non-complicated acute appendicitis in a Brazilian tertiary health center.
Material and methods: Retrospective study on patients who underwent appendectomy at a tertiary care center between 2003 and 2014. Medical records were analyzed in terms of age, sex, total leukocyte count, number of neutrophils and lymphocytes at the time of the first evaluation and histopathological diagnosis. Complicated appendicitis were those who had abscess, peritonitis or gangrenous and perforated appendicitis.
Results: Among a total of 1063 patients, complete data was obtained from 498, with 24% were complicated appendicitis and 76% were non-complicated. Elevated values of NLR were associated with complicated acute appendicitis ($p < 0.01$). NLR of 7.5 had sensitivity of 63% and specificity of 60%; NLR of 4.5 had sensitivity of 86% and specificity of 35%.
Conclusion: Preoperative NLR > 7.5 value seems to be a useful parameter to diagnose complicated acute appendicitis and may be an alternative tool to help defining the best time to operate. However, clinical evaluation is fundamental and prospective studies are needed to confirm the best NLR value.

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Disclosure: No significant relationships.

PERITONITIS (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P035

EMERGENCY CHOLECYSTOSTOMY – A 1 YEAR EXPERIENCE IN A SINGLE UK CENTRE

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Introduction: Percutaneous cholecystostomy is image-guided placement of a drain into the gallbladder lumen. It is often used to definitively manage biliary sepsis in patients who are poor surgical candidates, or as a temporising measure to allow the patient to adequately recover from sepsis, and for medical comorbidities to be optimised prior to surgery.
Material and methods: We retrospectively analysed all patients undergoing cholecystostomy for biliary sepsis between September 2015 and August 2016, in one UK district hospital. Electronic patient notes and imaging systems were reviewed to retrieve required data.
Results: 14 patients were identified; 7 males, 7 females. Mean age 65 years (range 40-88 years). 12 patients (86%) had $\geq$1 comorbidity. 3 patients (21.4%) died during the admission. Of 11 patients alive at discharge, 2 were readmitted with recurrent biliary sepsis; 1 due to dislodged drain, and 1 following drain removal. Both were managed with antibiotics and successfully discharged. Of the 11 patients discharged; 1 was subsequently diagnosed with cholangiocarcinoma and died. 3 were deemed unfit for surgery following anaesthetic assessment. 7 (50%) underwent cholecystectomy; 6 were completed laparoscopically, and 1 was referred to the regional hepatobiliary unit (previous Roux-en-Y bypass) for a laparoscopic converted to open cholecystectomy. Average duration of cholecystostomy placement was 29 days.
Conclusion: This small, single centre study shows the important role that percutaneous cholecystostomy still has in the emergency management of biliary sepsis, particularly in high risk elderly, and/or comorbid patients. It suggests that cholecystostomy does not preclude future safe cholecystectomy. Further studies with larger numbers of patients are required to determine optimum duration of cholecystostomy and timing for interval surgery.
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Disclosure: No significant relationships.

P036

CHOLECYSTECTOMY IN THE ACUTE SETTING - A 5 MONTH EXPERIENCE IN A UK DISTRICT HOSPITAL

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Introduction: Cholecystectomy has been performed in the acute setting since the early 1990s, with unequivocal evidence that it is safe to perform within 72 hours of symptom onset. Following establishment of an emergency surgical department in our district hospital, acute cholecystectomies have been carried out by, or under supervision of 1 of 3 emergency surgical consultants since January 2016.
Material and methods: We retrospectively analysed all patients undergoing cholecystectomy in the acute setting between January and May 2016 in one UK district hospital. Electronic patient notes and imaging systems, and theatre logbooks were reviewed to retrieve required data. 2013 Tokyo guidelines were used to grade severity.
Results: 37 patients were identified; 29 females, 8 males. Mean age 42years (range 20-81years). Average time from presentation to operation was 2days (range 0-6). Using Tokyo Guidelines, 16 were Grade 1; 21 were Grade 2 severity. 3 cases (8.1%) were converted to open – 2 having had previous abdominal surgery for gynaecological malignancy. Median post-operative stay was 1day (range 0-9). Using Clavien-Dindo classification; there were 4 complications (10.8%); 2 Grade I (Pain); 1 Grade II (Intraabdominal collection requiring antibiotics); 1 Grade IIIb (Duodenal leak requiring laparotomy).
Conclusion: This single centre study consolidates existing evidence that cholecystectomy can be safely performed in the acute setting. Furthermore it suggests that it can be safely undertaken in a district general hospital by emergency surgeons who are non-hepatobiliary specialists, with similar complication and conversion rates to the literature. Ongoing audit of operative outcomes, and comparison with conservatively managed cases is required to draw meaningful conclusions.
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Disclosure: No significant relationships.

P037

THERAPEUTIC CHALLENGES IN PATIENTS WITH PERITONEAL SCLEROSIS

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Introduction: Peritoneal sclerosis is a rare complication of peritoneal dialysis with insufficient explained etiology. Main causing factor is peritoneal dialysis duration associated with episodes of bacterial peritonitis. Incidence is between 0.5% - 4.4%, even 15% with increasing duration of peritoneal dialysis (15 years). Even after stopping peritoneal dialysis and hemodialysis transition the process may continue
Material and methods: We analyzed al lot of 30 patients hospitalized in General Surgery Clinic of Nephrology Hospital Dr. Carol Davila between January 2012 - May 2016. The patients were referred to our clinic for peritoneal dialysis catheter removal or for emergency surgery. All patients were under continuous ambulatory peritoneal dialysis (intraoperative peritoneal biopsy - rule). Emergency surgery is a therapeutic challenge - eg occlusions, haemoperitoneum, seclusion, knowing that intestinal resections are proscribed.
Results: Peritoneal sclerosis is a fibrous thickening of visceral and parietal peritoneum which will eventually encompass viscera resulting in a decrease of motility and functionality, reaching the final in so described abdominal "cocoon". The surgery consists of lysis of adhesions and removing encapsulated membrane - thereby freeing the intestines.
Conclusion: Correct identification of affected organs anatomy, dissection realization is achieved with great difficulty that leads to an increased duration of surgery and the surgical act subject to an increased level of intraoperative incidents or accidents.
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Disclosure: No significant relationships.

P038

DIAGNOSIS OF HOLLOW VISCUS INJURY IN BLUNT ABDOMINAL TRAUMA: A SYSTEMATIC REVIEW

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Introduction: The majority of injuries following blunt abdominal trauma are now managed nonoperatively. Bowel is the third most commonly injured organ following blunt abdominal trauma and represents a diagnostic challenge outside of the operating room. Timely and accurate diagnosis is important as delays in diagnosis of a blunt hollow viscus injury by as little as 5 hours result in significant increase in morbidity and mortality. The objective of this systematic review is to determine the most accurate diagnostic indicators in the diagnosis of hollow viscus or mesenteric injury in adults ($\geq$ 16 years old) presenting with blunt abdominal trauma.

Material and methods: Medline and EMBASE databases were searched for any primary research study related to blunt hollow viscus injury. Only studies with ≥ 10 adults presenting with blunt abdominal trauma were included. Clinical, laboratory and radiologic indicators were identified for each study. The sensitivity and specificity were recorded for each indicator. Methodological quality of the studies will be assessed using QUADAS-2. A best-evidence synthesis will be performed.
Results: Two independent reviewers have screened 1026 titles and abstracts. A full-text review is ongoing for 313 articles to determine eligibility for inclusion. Results will be available by January 2017.
Conclusion: A summary of the most accurate indicators in the diagnosis of hollow viscus or mesenteric injury in blunt abdominal trauma will be presented, along with a best-evidence synthesis of the methodologic quality of the studies. These results can be used to improve the accurate diagnosis of blunt hollow viscus injuries and inform the development of future scoring systems.
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Disclosure: No significant relationships.

P038A

IS ABDOMEN CT IS EFFECTIVE IN PATIENTS WITH THE PREDIAGNOSIS OF APPENDICITIS IN SURGERY DECISION

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Introduction: The cases which had an uncertain predagnosis of appendicitis were evaluated by taking abdomen CT scan and analyzed retrospectively.
Material and methods: We included the cases within the last six months. Gender, CT findings and pathology reports were analyzed
Results: Abdomen CT scan was taken in 42 patients and appendicitis was diagnosed on CT in 10. Remaining 32 patients were follown-up for 3 days and clinical symptoms were seen to vanish spontaneously. appendectomy was not performed in 13 male and 19 female patients. 5 male and 5 female patients underwent appendectomy in whom pathology revealed the appendicitis.
Conclusion: The use of CT prevented unnecessary surgery in 76% of the cases. Among these patients, female dominance was evident, female patients have more similar symptoms to those of appendicitis. Verification of appendicitis on pathological analysis in all the cases diagnosed on CT as appendicitis supports positive opinion about reliability of CT in appendicitis diagnosis. We want to say that if available, CT is helpful in diagnosis of appendicitis in uncertain cases. But, we also emphasize to avoid its use in pregnant patients.
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Disclosure: No significant relationships.

P039

MESENTERIC INFARCTION- LIVE OR DIE?

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Introduction: Acute mesenteric ischemia is a serious acute abdominal condition requiring early diagnosis and intervention to improve the outcome. Although acute bowel infarction represents about 1% of all cases of acute abdomen, it has a high mortality rate.
Material and methods: The authors did a retrospective study over a period of 5 years, between january 2012 and july 2016. There were included 74 cases with a medium age of 74,7.The data tracked was: demographics, cause of mesenteric infarction, morbidity and mortality.
Results: 8(10,81%) patients were with nonoperative management, 41(55,40%) with laparotomies, 14(18,91%) with small intestine resection, 11(14,86%) with colectomies. The mortality rate was 62,16%.
Conclusion: Patients survival is dependent on prompt diagnosis and treatment before ischemia progresses to intestinal gangrene, is that why, every time we have an acute abdomen think at an acute mesenteric ischemia. It is a challenge for the one who survive with short bowel syndrome.
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Disclosure: No significant relationships.

P040

NEGATIVE PRESSURE THERAPY WITH INTERMITTENT INSTILLATION IN DEEP WOUND INFECTION AFTER EMERGENCY SURGERY

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Introduction: Negative Pressure Wound Therapy (NPWT) with intermittent instillation (VAC Veraflo®) can be a useful and effective alternative to surgery in the treatment of complex abdominal wound

dehiscence with deep infection and mesh exposure. This complication entails long lasting hospitalizations and prolonged treatments with broad-spectrum antibiotics, frequent wound cures and even emergency surgery.
Material and methods: This is a retrospective and descriptive study. We present the case of three patients, two men and one woman, with deep wound infection and mesh exposure after urgent abdominal surgery. They were first treated with antibiotics and traditional wound care, but given their torpid evolution, the VAC Veraflo® therapy was initiated.
Results: We present three patients with dehiscence of abdominal surgical wounds because of a deep wound infection with in situ infected prosthetic material -two synthetic meshes and an acelular matrix-, as well as a colostomy in two of the patients, where the VAC Veraflo® therapy was used succesfully.
Conclusion: In our experience, despite the complexity of the cases, the VAC Veraflo® therapy has proved to be successful in allowing us to maintain both synthetic and biological meshes, avoiding surgery in high-risk patients and reducing morbidity and hospital stay.
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Disclosure: No significant relationships.

P041

TIME TO THEATRE IS CRITICAL IN ABDOMINAL SEPSIS; A PROSPECTIVE STUDY OF EMERGENCY LAPAROTOMIES

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Introduction: Abdominal sepsis requiring an emergency laparotomy has a high rate of mortality. It has been postulated that decreasing the time to arrival in an operating theatre may improve survival in certain circumstances.
Material and methods: Prospective data were collected on all patients undergoing an emergency laparotomy at a UK teaching hospital between November 2014 and July 2016. Perioperative factors including serum lactate, P-POSSUM predicted mortality, peritoneal soiling, systolic blood pressure, GCS and serum white cell count were analysed and mortality in these groups calculated and stratified by time intervals to the operating theatre. Statistical analysis of categorical data was conducted using the Chi squared test.
Results: 354 patients underwent an emergency laparotomy in the study period, and 229 had complete data. Overall crude mortality was 14.4%. Patients with a raised lactate had a higher mortality (36%) than those with a normal lactate level (12%), but in the raised lactate group there was no increase in mortality between patients operated within 2 hours and those greater than 6 hours. In patients with peritoneal soiling, patients operated on within 2 hours had a mortality of 12% compared to 25% in patients operated on after 6 hours ($p < 0.05$). There was no association between time to operation and mortality in patients with a P-POSSUM risk >5%, or with evidence of organ dysfunction.
Conclusion: Decreasing time to an operating theatre for source control for abdominal sepsis decreases mortality in patients with peritoneal soiling undergoing emergency laparotomy.
References:
Disclosure: No significant relationships.

P042

INTERNATIONAL NORMALIZED RATIO AND SERUM C-REACTIVE PROTEIN ARE FEASIBLE MARKERS TO PREDICT COMPLICATED APPENDICITIS

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Introduction: Diagnostic approach for complicated appendicitis is still controversial. We planned this study to analyze preoperative laboratory markers that may predict complications of appendicitis. Diagnostic approach for complicated appendicitis is still controversial. We planned this study to analyze preoperative laboratory markers that may predict complications of appendicitis.
Material and methods: Patients who underwent appendectomy were retrospectively recruited. They were divided into complicated appendicitis and non-complicated appendicitis groups and their preoperative laboratory results were reviewed.
Results: A total of 234 patients were included. Elevated international normalized ratio (INR) and serum C-reactive protein (CRP) were associated with complicated appendicitis ($p = 0.001$). On ROC curve analysis, area under the curve (AUC) of CRP and INR were 0.796 and 0.723, respectively.
Conclusion: INR and CRP increased significantly in patients with complicated appendicitis. Further studies evaluating INR and CRP in patients undergoing conservative management for appendicitis are required.
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Disclosure: No significant relationships.

P043

BLUNT TRAUMA BOWEL AND MESENTERIC INJURY: PITFALLS AND LIMITS RELATED TO SURGICAL FINDINGS

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Introduction: Although in the blunt abdominal trauma, the injuries of the bowel and the mesentery account only 4-5% of the lesions, their morbi-mortality remains high because of a frequent delay of diagnosis.
Material and methods: A retrospective series of 32 patients, allowed in our service (2006-2015) for lesions related to the bowel and the mesentery, is analyzed to evaluate the contribution of the abdominal scanner, the lesionally agreement with the surgical data, the limits and the pitfalls of a paucisymptomatic evolution of the "ignored" lesions on their initial presentation.
Results: The surgical data showed mesentery and intestinal associated lesions in 22 cases, the remainder of 10 cases having only intestinal lesions. The presence of the pneumoperitoneum to the scanner was weak (20%); on the other hand, the extravasation of oral contrast material was present among 22 patients (69%). Concerning the modifications of the intestinal wall, localized thickening was present in 12 cases (38%). For the mesenteric injuries, the signs selected are not specific: infiltration of the mesentery in 10 cases (31%) and an intraperitoneale collection in 8 cases. The correlation of the tomographic imagery with the clinical signs justified the surgery for 20 patients (63%) in the first 24h; for 5 patients, the absence of the evocative signs to the scanner delayed the surgery with 4-6 days with a heavy mortality (80%) vs. 20% for the cases operated between 24-72h after admission.
Conclusion: The early diagnosis of the bowel and mesenteric blunt abdominal trauma remains often difficult and late.
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Disclosure: No significant relationships.

P044

EVALUATION OF PATIENTS WHO WERE OPERATED ON BECAUSE OF ADHESIVE SMALL BOWEL OBSTRUCTION

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Introduction: It seems that, the timing and to decide whether to operate or not to operate are most important issue in the treatment of the patients who have adhesive small bowel obstruction (ASBO). In this study, we aimed to evaluate our clinic's experience in the patients who underwent resection or adhesiolysis for ASBO during a six years period.
Material and methods: ifty patients who underwent operation for ASBO in Samsun Training and Research Hospital between December 2008 and December 2014 were retrospectively analyzed. Comparisons of the statistical analysis of the patients who underwent resection and/or ostomy and only adhesiolysis were evaluated.
Results: Twelwe patients underwent resection+ anastomosis, four patients underwent ostomy+resection and three patients underwent ostomy. Remaining 31 patients underwent only adhesiolysis. The mean preoperative follow-up time was 2.1 days in the patients who have not resection, while 2.8 days in the patients who have a resection ($p = 0.324$). The mean postoperative hospital stay was found to be significantly longer in the patients who have a resection than the patients who have not resection (11 vs. 7 days, $p = 0.019$). No difference was detected in major morbidity and in-hospital mortality between the two groups ($p = 0.275$, and $p = 0.620$ respectively).
Conclusion: In the patients who have ASBO, preoperative follow-up time was found to be similar between the patients who have resection and/or ostomy and only adhesiolysis, but, the postoperative hospital stay was found to be significantly longer in the patients who have a resection. However, resection did not showed an increased morbidity in this group of patients.
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Disclosure: No significant relationships.

P045

HARAKIRI-TYPE ABDOMINAL STAB WOUDS IN JAPAN

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Introduction: Sucide is the 1st leading cause of death among the youth in Japan.Traditionally, Harakiri is one of the famous suicide method for samurai using Japanese sword in Japan. Therefore, self-inflicted abdominal stab wounds are more common in Japan than

other countries. The purpose of our study is to characterize the clinical profile of Harakiri-type abdominal trauma patients at our hospital.
Material and methods: A retrospective review of 7 patients with Harikiri-type abdominal trauma patients during 4 years at our hospital.
Results: The present study reviewed 7 cases of self-induced abdominal injuries. 4 of the patients were male. Ages was ranging from 23 to 67 (mean 44.2 years). 28 percent of patients had a previous psychiatric history. 1 patient was brought to the Emenrgency Department presenting with cardiac arrest. All used instrument was a knife. All patients underwent local wond expolation in the Emergency Department. Local wound exploration was positive in 4 patients (57%), who all underwent laparotomy. No major complications were noted.
Conclusion: Appropriate local wound exploration is important to manage Harakiri-type abdominal stab injuries.
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Disclosure: No significant relationships.

P046

UTILITY OF SCORING SYSTEMS IN PATIENTS WITH COLON PERITONITIS

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Introduction: The goal of this study is to analyze and to validate the scoring systems in colorectal peritonitis.
Material and methods: In Bucharest Emergency Clinical Hospital, between 2012 and 2016, 70 patients were admitted with colorectal peritonitis.
Results: The mean value for the MPI score was 24.13±7.56 (22.46±7.8 for male patients and 26.48±0.44 for female patients). The mean value of the physiological CR-POSSUM score was 11.49±3.02 (11.02±2.97 for male patients and 12.14±3.02 for female patients). The significance of the prognostic MPI and CR-POSSUM scores was evaluated using the study of the Receiver Operator Characteristics (ROC) curves for each of them. The area under the curve for prognostic score MPI was 0.87±0.05 (significance value 95%: 0.78 – 0.96; $p < 0.001$). The area under the curve for prognostic score CR-POSSUM, calculated considering the p value, was 0.94±0.03 (significance level 95%: 0.88 – 1; $p < 0.001$). The mortality rate prognosticated by the CR-POSSUM for the entire population of the study was 20.43%, compared to the one registered for these cases, 24.29%. Both scoring systems were considered as being significant, but the scoring system CR-POSSUM is considered better calibrated than the MPI score (the area under the ROC curve of the MPI scoring system was 0.87±0.05, $p<0.001$, indicating a good calibration).
Conclusion: The MPI score is well calibrated (AROC = 0.87) and the CR-POSSUM score was excellent calibrated (AROC = 0.94). The MPI score is easier to calculate, requiring a low number of items used in one single step.
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Disclosure: No significant relationships.

P047

THE ROLE OF NON-CONTRAST COMPUTED TOMOGRAPHIC SCAN IN THE EVALUATION OF THE PATIENTS WITH SURGICAL ABDOMEN

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Introduction: Since acute surgical abdomen is common in the emergency department (ED),the computed tomography (CT) scan had been widely utilized as an informative diagnostic tool to evaluate the surgical indications.However,the adverse effect of contrast material of CT scan had been documented.We tried to delineate the role of non-contrast CT scan in the evaluation of the patients with acute surgical abdomen.
Material and methods: From August 2015 to December 2015,the patients with non-traumatic surgical abdomen who received pre-operative CT scan were enrolled in current study.The patients whose decision of surgery could be made based on the results of CT scan were the focus of current study.The results of contrast-enhanced and non-contrast CT scan were compared and analyzed.The surgical problem which could be identified by non-contrast CT scan was recorded.
Results: There were 227 patients enrolled in current study.Same finding which indicated the surgical treatment could be seen on both non-contrast and contrast-enhanced images in 90.7% patients (Acute appendicitis: 89.3%, acute cholecystitis: 89.7%, hollow organ perforation: 97.4%, bowel obstruction: 100%, intraabdominal abscess: 100%, ischemia bowel disease: 55.6%). In the patients with acute appendicitis whose surgical decision could be made with non-contrast images, they had significant higher body mass index (BMI) (24.5 vs. 21.1, p = 0.002) than the patients whose surgical abdomen required contrast images. All the patients of ischemia bowel disease with portal venous gas or pneumatosis intestinalis could be diagnosed with non-contrast CT scan.
Conclusion: The non-contrast CT scan provides benefit for the critical decision making.BMI may affect the accuracy of non-contrast images in the evaluation of the patients with surgical abdomen.In some specific situation,the contrast enhancement is still necessary.
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Disclosure: No significant relationships.

P048

THERAPEUTICAL OPTIONS IN PERFORATED ULCER

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Introduction: Between 1.01.2011 and 30.09.2016 in General Surgery Department of St. John Hospital have been treated 121 patients diagnosed with perforated ulcer with conservative treatment (naso-gastric tube, antibiotics, antisecretory), suture of the perforation (classic or laparoscopic) and gastric resection as therapeutical options.
Material and methods: From 121 patients 18 received conservatory treatment, from which 6 necessitated surgical intervention. Operation was made as first intention treatment in 103 cases, with suture of perforation in 87 cases (47 laparoscopies and 40 classic interventions) and gastric resection in 16 cases (penetrating, stenosing and callous ulcer).
Results: Under conservatory treatment evolution was favorable in 12 cases with 6 patients necessitating surgical intervention. In the group of patients with suture of perforation the evolution was favorable in all cases (classic and laparoscopic). In the group of patients with gastric resection have occurred 2 deaths (anastomotic fistula complicated with sepsis).
Conclusion: Conservative treatment may be an alternative in very well selected cases. Minimal invasive and classic treatment have comparative results in perforated ulcer. Gastric resection is dedicated to complicated cases with higher morbidity and mortality.
References:
Disclosure: No significant relationships.

P049

COLONIC EMERGENCY IN A LARGE TERTIARY HOSPITAL IN ROMANIA

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Introduction: . Large bowel obstruction is a common problem with many different causes. The nature of the obstruction can influence the best management. We present the cases from the largest wetern Romania tertiary hospital and their management.
Material and methods: A retrospective review of all the cases with colonic obstruction or perforation admitted at 2nd Surgical clinic of County Emergency Hospital between 2012 and 2014 was made. The demographics data of the patients, the surgical procedure were extracted from the patients files. Complications were noted including: wound dehiscence, wound infection, reoperation, cardiac, pulmonary and renal adverse events, hospital stay.
Results: There were 66 patients with bowel obstruction during this period. Most of the obstructions were on the left side 42 patients. Peritonitis was present in 24 patients duet o perforated colonic wall, either bacterial translocation. Segmental resection with colostomy was most often used in 48 patients, while anastomosis was used in right and transverse colonic obstruction. In 6 cases only lateral colostomy was performed. Complications were: wound dehiscence in 11 cases, wound infection in 31 cases, acute renal failure in 14 patients, pulmonary complications in 14, cardiac complications in 18. Re-operation was needed in 14 cases – 11 wound dehiscence, one anatomotic lwakage of a ileo-colic antastomosis and two retraction of the colostomy. There were 9 detahs. Median hospital stay was 17 days.
Conclusion: Colonic obstruction in an emergency setup pose a great risk of mortality and morbidity, especially if colonic perforation is associated.
References:
Disclosure: No significant relationships.

P050

SURGICAL TREATMENT OF ACUTE COMPLICATED DIVERTICULITIS

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Introduction: Acute diverticulitis has a lifelong prevalence of approximately 25% in patients with diverticulosis. It may further complicate with perforation in up to 1/3 of cases, some of them requiring emergency surgery. Complicated diverticulitis requires a tailored attitude adapted some cases benefiting of conservative treatment, while other patients requiring surgery, sometimes with stoma formation.
Material and methods: Retrospective study of patients admitted in a tertiary emergency center, between January 2013 and december 2015.
Results: From the 34209 total admissions, 221 (0.64%) patients were diagnosed with diverticulitis Hinchey I-IV classes. Half of them (51.1%) presented with a complication at admittance. 53 patients received surgical treatment, either as first choice (41 cases) or after failure of conservative treatment (12 cases), attitude that delayed surgery, with an average of 4.8 days. Patients who had minimally invasive surgery (20 cases) had a mean age of 54,21 years, while patients who required a interven¸ieclasica (33 cases) had a significantly higher age (68,56 years). Conversion was necessary in 5 cases. The most used minimally invasive procedure was lavage and drainage (11 cases), while resection with primary anastomosis procedure was most common in open surgery (10 cases). Postoperative complications that required reintervention were intrabdominal remanent collections anastomotic leakage.
Conclusion: Surgical indication for acute diverticulitis remains a questionable decision. It is necessary to have a good selection of patients for conservative treatment because failure of this attitude extends the hospitalization period by 30%
References:
Disclosure: No significant relationships.

P051

EMERGENCY SURGERY ON GIST PATIENTS

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Introduction: Stromal tumors presents clinical and histopathological diversity. Some cases may require emergency surgery.
Material and methods: Retrospective analysis on a continue series of 25 patients with stromal tumors during 1998-2016 found 7 cases that compelled emergency surgery.
Results: Sex distribution: two men and five women, age between 35 to 85. Tumor location was: one-gastric tumor, five- small bowel tumors, one-colonic tumor. Four patients was diagnosed preoperatively as acute abdomen, one presented haematemesis, in two cases haematochezia was the revealing sign. We performed enterectomy in five patients, polar gastrectomy in one patient and Hartmann opperation in one patient. Precise diagnosis was set on immunohistochemistry, CD117 +. Imatinib theraphy was applied for three patients. Postoperative evolution was simple.
Conclusion: Emergency surgery occurs in some GIST patients as a result of aggressive compression on viscera or massive gastrointestinal bleeding due to ulcerated tumor. Surgical resection in oncological margins is required. Imatinib therapy may be associated.
Disclosure: No significant relationships.

MANAGEMENT OF PANCREATIC INJURY (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P052

THE SURGICAL MANAGEMENT AND OUTCOMES OF PANCREATIC INJURY IN A LEVEL ONE UK MAJOR TRAUMA CENTRE

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Introduction: The anatomical position of the pancreas means that traumatic injury is uncommon but associated with considerable mortality and morbidity[1,2]. The aim of this study was to evaluate the incidence, management and outcomes in patients presenting with pancreatic trauma in our institution.
Material and methods: Clinical data from patients with pancreatic injuries presenting from May 2010-August 2016 was obtained from the East Midlands Major Trauma Centre's retrospectively maintained database and the United Kingdom National Trauma Audit and Research Network (TARN).
Results: 23 of 7524 (0.3%) patients presenting over the study period had pancreatic injury. The average ISS score was 21. Average age was 33.6 years old. 7 patients were under 18. Average length of stay = 16 days. 12 of 23 patients (52.1%) managed conservatively, with 11 (47.9%) managed surgically: Injury to head (9 patients) - Non-Operative Management = 7; Mortality = 0 Morbidity = 2 (8.7%) - Drainage = 1; Mortality = 0 Morbidity = 0 - Resection = 1; Mortality = 1 (4.3%) Morbidity = 0 Neck/Body/Tail Injury (14 patients) - Non-Operative Management = 5; Mortality = 0 Morbidity = 0 - Drainage= 1; Mortality = 0 Morbidity = 0 - Investigative laparotomy = 2; Mortality = 0 Morbidity = 0 - Distal Pancreatectomy = 3; Mortality = 0 Morbidity = 0 - Distal Pancreatectomy & Splenectomy = 3; Mortality = 0 Morbidity = 0
Conclusion: The incidence of pancreatic trauma remains low but is associated with a high ISS. Surgical management was necessary in 47.9% of our patients. Head of pancreas injuries were drained unless complex disruption and devascularisation required pancreatico-duodenectomy. In left-sided injury distal pancreatectomy was associated with excellent outcomes and zero mortality.
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Disclosure: No significant relationships.

P053

POSTOPERATIVE COMPLICATIONS AFTER PANCREATICODUODENECTOMY: PROGNOSTIC FACTORS FOR IN-HOSPITAL MORTALITY

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Introduction: Pancreatic cancer has a poor prognosis, with only 10% survival one year following diagnosis. Despite significant advances in conventional therapies (chemotherapy and radiotherapy), little improvement in patient survival has occurred in the last decade. Pancreaticoduodenectomy continues to be very challenging surgical procedure, with a significant morbidity and mortality. Aim: To identify prognostic factors for 30-day mortality in pancreaticoduodenenctomy.
Material and methods: Retrospective analysis of pancreaticoduodenectomies performed in a high volume pancreatic center, between January 2014 and September 2015.
Results: 48 patients with pancreaticoduodenectomy were selceted. The mean age of patients was 64+/-13.21 years,70.8% being male. The mean in-hospital stay was 23.96 +/- 11.13 days, without differences for surgeons with less than five procedures per year (P = 0.653). The inhospital mortality was 6.25%, with a 8.3% reintervention rate.The postoperative complications were bleeding (8.3%), grade B & C pancreatic fistula (8.2%), biliary leakage (2.1%), others (25%). On multivariate analysis, predictive factors for morbidity were age $>$ 75 years, TNM stage and serum bilirubin $>$ 20 mg/dl. Predictive factors for mortality were ge $>$ 75 years, serum albumin $<$ 2.5 g/dl, and serum bilirubin $>$ 20 mg/dl.

Conclusion: Pancreaticoduodenectomy is associated with a significant rate of postoperative complications. A multidisciplinary team with appropriate expertise may lower the mortality.
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Disclosure: No significant relationships.

P054

TO EVALUATE THE EFFICACY OF URINARY TRYPSINOGEN 2 DIPSTICK IN DIAGNOSING ACUTE PANCREATITIS

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Introduction: Acute pancreatitis remains a common cause of abdominal pain the emergency room. While serum amylase and lipase remain as screening investigation,confirmation often requires a CT scan. A urinary dipstick that has has a high positive predictive value will be of use,especially in rural India.
Material and methods: The study was done (after obtaining IEC approval)on 98 patients who were screened in the primary health centre and subsequently referred to us for further treatment.We excluded patients with recurrent pancreatitis.
Results: There were40 patients (40.8%) who were diagnosed as acute pancreatitis after the laboratory investigations. The sensitivity of amylase was 90% and its specificity was 89.7%.The sensitivity of lipase was 92.5% and its specificity was 79.3%. Both amylase and lipase were statistically higher in patients with acute pancreatitis(p value 0.0001 and P value <0.0001 respectively. Hyperbilirubinaemia was higher in the acute pancreatitis group (P value <0.0001) Urinary trypsinogen 2 was evaluated with aimmunochromatographic dipstick and was positive atconcentrations greater than 50ng/ml.This was found to have a sensitivity of 90% and a specificity of 84.5%, a positive predictive value of 80 and a negative predictive value of 92.5.
Conclusion: The results of urinary trypsinogen are available within 5 minutes and is as sensitive as a ultrasound in screening patients in the ER of a primary health centre for acute pancreatitis
References:
Disclosure: No significant relationships.

P055

THERAPEUTIC WINDOW AND PROFILAXY OF COMPLICATIONS IN ACUTE PANCREATITIS

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Introduction: Usually, surgical treatment in acute pancreatitis is indicated to treat complications after 40-50% of patients in severe forms died. We propose an intervention in the first week to blockade the evolution in mild pancreatitis. The key in treatment is decompression of pancreatic and biliary tree at the presentation of patient.
Material and methods: In this paper we analyzed 235 cases of acute pancreatitis from 2008-2015, admitted in Surgical, clinical and emergency Hospital of Sibiu, patients who have received the treatment protocol presented above.
Results: Compared with the previous period of establishing protocol, there is a significant disappearance of severe forms and reduction in mortality and morbidity in acute pancreatitis. The introduction of laparoscopy as a prophylaxis against complications and therapy of complicated forms gives an extra point in control and safety management in acute pancreatitis and some of its late complications (false pancreatic cyst).
Conclusion: We recommend early laparoscopy, in the first week, in assessing and treating of acute pancreatitis and in preventing serious complications and progression to severe form of AP. The report of mild AP/severe AP, following therapy enshrined in the Protocol has changed in favor of mild AP. Annual number of AP maintaining relatively constant.
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Disclosure: No significant relationships.

P056

GRADING-THERAPEUTIC STRATEGY FOR ISOLATED PANCREATIC INJURIES

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Introduction: Comparing with other organs, isolated pancreatic trauma is extremely uncommon. From severe blunt abdominal trauma, pancreatic injuries represent 3 to 5%. Pancreatic trauma alone represents usually a consequence of a penetrating trauma and is a result of crushing the pancreas between vertebra and another solid surface.
Material and methods: A total of 2700 abdominal trauma were admitted in our hospital in a 10 year period, 125 of them having isolated pancreatic trauma. Grading for pancreas injury was performed according to AAST. Diagnosis and severity was based on CT studies.
Results: 75% from the patients undertook a surgery and 25% were treated conservatively. Performed surgeries varied from drainage to pancreas resection according to pancreas injury. We counted 34% postoperative complications related to pancreas injury and we had an overall mortality of 15%, all of these cases form the operated group
Conclusion: The diagnosis and also the therapy for pancreatic injury still remain challenging for surgeons. An adequate diagnosis and

therapy related to injury grading increase the chances to survival. The therapy varied from complete non operative to major surgery according to the location and injury severity. Mortality is related to grading and complications.
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Disclosure: No significant relationships.

P057

ACUTE PANCREATITIS PARTICULARITIES IN PATIENTS WITH RENAL CRONIC FAILURE – OUR EXPERIENCE

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Introduction: It has been suggested that the incidence of acute pancreatitis in patients with end stage renal failure is quite high. We tried to determine if patients with end-stage renal disease on peritoneal dialysis have a higher risk of developing acute pancreatitis than patients on hemodialysis. We used retrospective study.
Material and methods: Possible risk factors were identified. In 300 patients on haemodialysis, 6 patient developed an attack of acute pancreatitis. Patients on haemodialysis did not show an increased risk for acute pancreatitis compared with the general population.
Results: In 187 patients on peritoneal dialysis, 9 patients had attacks of acute pancreatitis. Patients on peritoneal dialysis had a significantly and highly increased risk for acute pancreatitis. There was no observed difference in length of hospital stay and ICU stay. All cases of acute pancreatitis were mild. There were no complications or deaths related to acute pancreatitis.
Conclusion: Peritoneal dialysis is a risk factor for acute pancreatitis. There is no statistical difference in acute pancreatitis-related mortality and morbidity between haemodialysis and peritoneal dialysis. The risk of acute pancreatitis in patients on long term peritoneal dialysis is significantly and highly increased compared with the general population. Causal mechanisms is not very clear established yet.
References:
Disclosure: No significant relationships.

P058

FLUID ADMINISTRATION IMPACT ON THE EVOLUTION OF ACUTE PANCREATITIS WITH SEVERITY CRITERIA - PRELIMINARY RESULTS

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Introduction: Acute pancreatitis is a common inflammatory disease with significant morbidity and mortality up to 5%. Its treatment remains controversial and challenging. Most studies suggest that aggressive fluid resuscitation and early enteral nutrition can reduce the rate of complications and the need for surgery.
Material and methods: The objective of this study is to establish the relationship between the volume of fluid administered in the first 48 hours and the evolution of patients with acute pancreatitis. The authors report a retrospective study including 111 patients with APACHE II greater than 8, admitted to the Surgical Intermediate Care Unit, between 2008-2012. Data collection and statistical analysis were performed using IBM SPSS® program.
Results: It was found that for a volume $\geq$7528ml during the first 48h of admission, 78.6% of patients had local complications, 69.2% late complications local and systemic complications 41.1%. The ROC curves confirm the correlation, with a cutoff established in 7181mL/48h for local complications, 7741mL/48h for late local complications and 6408mL/48h for systemic complications, regardless of the type of pancreatitis
Conclusion: In this study, the fluid administered during the first 48h has a strong correlation with the development of complications, mainly when it is greater than 150 ml/hr.
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Disclosure: No significant relationships.

LAPAROSCOPY IN EMERGENCY SURGERY (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P059

TECHNICAL ASPECTS OF LAPAROSCOPIC DUODENOPLASTY

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Introduction: Laparoscopic surgery becoming more common in surgical treatment of perforated duodenal ulcer.
Material and methods: Treatment results of 18 patients with perforated duodenal ulcer, which underwent laparoscopic duodenoplasty with a suggested method of ulcer crater fixation and duodenoplasty have been analyzed. The patients' age ranged from 20 to 62 years (average age-43.9 $\pm$ 9.7), 15 (83.3%) were men and 3 (16.7%) were woman. All patients were diagnosed a perforation of duodenal ulcer during laparoscopy. 12 (66,7%) patients had the ulcer crater on the front wall of the duodenum, 4 (22.2%) had it on the front-top and 2

(11.1%) patients – on the front-bottom wall. Size of the ulcer crater ranged from 5 to 16 mm (average diameter- 8.2 ± 2.0 mm).
Results: The results of operations according to Visik I criteria for 14 (77.8%) patients and Visik II for 4 (22.2%) patients after 6 months of observation correspond to an excellent and good results.
Conclusion: 1. The results of laparoscopic duodenoplasty in case of perforated duodenal ulcer prove the efficacy of this treatment method for this pathology. Implementation of methods of ulcer crater treatment using Fogarty catheter with ulcer excision significantly improves the quality of its execution. 2. Application of modern proton inhibitor pomp and antihelicobacter therapy proves its effectiveness and decrease probability of ulcer recurrence in the postoperative period. 3. Treatment results according to the Visik scale were as follows: excellent results - 77.8% and good - 23.2%, and this indicates effectiveness of complex treatment of perforated duodenal ulcer using laparoscopic technology.
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Disclosure: No significant relationships.

P060

SINGLE PORT GLOVE TECHNIQUE FOR APPENDICECTOMY

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Introduction: Laparoscopy appendectomy is used as the standard technique for acute appendicitis, in many centers. In recent years, though, in the attempt to reduce the surgical and aesthetic impact of surgery, single port appendicectomy (SPLA) has been adopted by many surgeons with comparable clinical results but with a higher cost. This study presents our experience in the SPLA using an alternative to the single port technique: "Glove Techinique" (GT).
Material and methods: From October 2014 to February 2016, at the University Hospital of Torrevieja, 28 patients have been operated of appendicectomy with the GT. In these cases, a mini laparotomy of 2 cm is made trough the umbilicus; a wound protector (retractor ALEXIS) with a surgical glove fixed to its outer ring, is inserted in the minilaparotomy and the pneumoperitoneum is created. Three fingers of the glove are then used to accommodate three standard trocars, allowing the use of standard laparoscopic instruments.
Results: Average operative time has been 38 min and the average length of hospital stay has been 20h. One patient, who was then diagnosed of Crohn's disease, needed a reoperation due to a leak from the appendicular stump. There have been no infections or complications related to the incision in the short or long-term. Average follow-up has been 14 months.
Conclusion: SPLA is safe as demonstrated by its low rate of complications. The GT alternative offers the advantages of lower costs because the intervention is performed with standard surgical equipment. Also, the acceptance by the patients is higher than for standard laparoscopic appendicectomy.
References: Disclosure: No significant relationships.

P061

DIAGNOSTIC AND THERAPEUTIC ROLE OF LAPAROSCOPY IN PERFORATED ULCER PEPTIC

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Introduction: Perforated peptic ulcer (PPU) is a common abdominal disease that is treated by surgery. The potential advantages of laparoscopy, both in terms of diagnosis and therapy, are clear and the major advantages may be observed in cases with peritonitis secondary as PPU where laparoscopy allows the confirmation of the diagnosis, the identification of the position of the ulcer and repair with effective peritoneal washout. This is complemented by the common advantage of laparoscopy versus open treatment as the faster recovery, less postoperative pain, early mobilization and earlier return to work.
Material and methods: From 2013 to 2016 our emergency general surgery division had performed 11 laparoscopic repair of PPU. 6 cases of perforated gastric ulcer and 5 of perforated duodenal ulcer (mean age was 54 years). They were evaluated by CTscan but in 4 cases showed no signs of bowel perforation. In all these cases the perforated ulcer suture, omentoplasty with the aid of fibrin glue and peritoneal lavage were performed.
Results: We didn't observe any post-operative complications or mortality. The median hospital stay was 5 days. The follow through X-ray with Gastrografin made in the fourth postoperative day showed no alteration, so the patient had started to eat. The next endoscopic control didn't show any alteration of the gastric or duodenal mucosa.
Conclusion: Laparoscopy is a possible alternative to open surgery in the treatment of PPU because in some cases has diagnostic value as well as therapeutic, is associated to the reduction of pain and post-operative hospital stay and overall to reduction of complications.
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Disclosure: No significant relationships.

P062

55 YEARS SINCE THE FIRST DIAGNOSTIC EMERGENCY LAPAROSCOPIES PERFORMED AT THE EMERGENCY HOSPITAL BUCHAREST

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Introduction: Diagnostic laparoscopy (DL) started to be used as a diagnostic tool in the 60's but only in a few surgical departments.
Material and methods: The first DLs in Romania were performed in our clinic in November 1961 for acute surgical cases. DLs were carried out during 1961-1967. 2 doctoral theses were published with the aim to evaluate DLs.
Results: "The usefulness of laparoscopy in acute abdominal syndromes" (1964) by Dr. Gh. Popovici, presented the results of 136 DL for abdominal emergencies. "Laparoscopic cholecysto-cholangiography" (1965), by Dr. C Petrescu, presented 31 pneumocholangiographies laparoscopic assisted for biliary emergencies.We present images of DL for gynecologic emergencies from 1965 In December 1993 the author performed the first laparoscopic cholecystectomy at our clinic, thus leading the way for mini invasive surgery. In 2015, 1852 laparoscopies were performed in our clinic, out of which 721 (38.3%) were emergencies.
Conclusion: The development of emergency laparoscopy remains a primary objective at our clinic, honouring the tradition and work of our predecessors.
References:
Disclosure: No significant relationships.

P063

SEVERITY ASSESSMENT FOR ACUTE CHOLECYSTITIS

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Introduction: The aim of this study was to assess the severity grading in patients which were diagnosed with acute cholecystitis who underwent laparoscopic cholecystectomy using the Tokyo guidelines 2013 as a severity measurement tool alongside the Clavien-Dindo classification of surgical complications.
Material and methods: This is a retrospective study conducted from January 2013 till January 2016 and includes a total of 79 patients diagnosed with acute cholecystitis. Univariate and multivariate analysis were performed.
Results: Seventy-nine patients (45 with severity grade I, 24 with grade II and 10 with grade III) were included for analyzed. The incidence of uncomplicated gallbladder inflammation (acute edematous cholecystitis) decreased with the increase of the severity grade 38/51 (84%), 20/24 (83%) and 7/10 (70%) in grades 1, 2 and 3 respectively. The incidence of complicated gallbladder inflammation (gangrenous cholecystitis or necrotizing cholecystitis) increased with increasing the severity grade 7/51 (16%), 4/24 (17%) and 3/10 (30%) in grades 1, 2 and 3 respectively. There was statistical significance association in the white blood cells count complicated cholecystitis had a mean of 14.5 of WBC whereas uncomplicated cases had a mean of 10.8.
Conclusion: Severity assessment of the Tokio guidelines is an effective tool for risk classification. Furthermore, there is a positive correlation between the severity grade and pathology results.
References:
Disclosure: No significant relationships.

P064

WHY ALVARADO SCORE IN ACUTE APPENDICITIS

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Introduction: Acute appendicitis has an important morbidity and even mortality when the diagnostic is delayed. The aim of this study was to evaluate the Alvarado score effect on diagnostic accuracy.
Material and methods: This is a retrospective analysis of 100 cases of consecutive patients with acute appendicitis. Demographic, clinical, lab and imaging data were analyzed and the Alvarado score was established. Correlation analysis between the score values and pathology data was performed.
Results: A total of 100 patients (68 males and 32 females, mean age = 32.5 ± 11 years) were operated for appendicitis. Alvarado score was calculated for each patient. The threshold of 5 for the Alvarado score was validated (p =0.04). Using ultrasound imaging in the patients with a lower score enhanced the diagnostic accuracy.
Conclusion: Alvarado score is increasing the diagnostic accuracy in acute appendicitis. There was a clear correlation between a higher score and the pathology of the appendix
References:
Disclosure: No significant relationships.

P065

APPLICATION OF MULTIMODAL ENHANCED RECOVERY AFTER SURGERY PROTOCOLS FOR PATIENTS WITH PERFORATED DUODENAL ULCER

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Introduction: Peptic ulcer disease in 2 - 10% of patients is complicated with ulcer perforation, perforation in 15 patients - 20% occurs on a background of asymptomatic ulcerous disease.
Material and methods: Over the period from 2006 to 2016 at the Department of Surgery and Vascular Surgery of Shupyk National Medical Academy of Postgraduate Education and Kyiv City Clinical Emergency Care Hospital 160 patients with perforated duodenal ulcer were operated, among them for 12 patients some protocols of Enhanced Recovery After Surgery (ERAS) were applied.Among them men – 10 (83,3%), women – 2 (16,7%). Mean age - 32±13,2. Time from the moment of disease case to surgery ranged from 2 to7 hours. The sizes of the perforation hole of the ulcer of front duodenal wall ranged from 2 to 5 mm. Mean time of the surgery was 71 ± 16,3 min.

Results: Laparoscopic technologies in the treatment of patients with perforated duodenal ulcer reduces the average stay of patient in hospital for 3-4 days. Application of ERAS Protocol and absence of laparotomy wound provides a possibility of effective treatment and achievement of quick rehabilitation of patients with perforated duodenal ulcer.
Conclusion: The main criterion for using the ERAS principles is the possibility to use minimally invasive videoendoscopic technologies for the treatment of patients with perforated duodenal ulcer.
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Disclosure: No significant relationships.

P066

ABDOMINAL TRAUMA SURGERY- PLACE AND ROLE OF LAPAROSCOPY

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Introduction: Laparoscopy, which has been well known as a diagnostic procedure can be also consider an important therapeutic procedure in abdominal trauma.
Material and methods: We performed a 10 years retrospective study and reviewed the records of 48 patients operated by laparoscopic approach in emergency for abdominal trauma. Inclusion criteria were: hemodynamically stable patient; absence of clinical and laboratory signs of sepsis; haemoperitoneum; peritoneal fluid in small/medium quantity; absence of major injuries; absence a history of abdominal surgery; no penetrating wounds with severe visceral injuries.
Results: There was blunt trauma (haemoperitoneum) - 40 patients and wounds - 8 patients. 15 patients were operated for liver damage: 10 conversions and 5 cases with conservative treatment: exploration and hemostasis with Argon and application of TachoSil ® (superficial injuries). For splenic lesions were performed: laparoscopic splenectomy - 5 cases (Moore II), 6 diagnostic laparoscopy - conservation of spleen and 10 conversions. Diagnose laparoscopy (DL) was practiced in 4 cases with bowel and mesenteric injuries (belt injuries in road accidents): 3 conversions and a laparoscopic suture in one case. For wounds (8 cases) we performed: one gunshot wound to the retention of projectile - DL+ extracting projectile by imaging; 4 penetrating wounds without visceral injuries – D, 2 non-penetrative wounds without visceral lesions - DL, one penetrating wound - conversion. Postoperative morbidity was 8.08% and we recorded no deaths.
Conclusion: Laparoscopy offers the possibility to associate diagnosis with surgical treatment, having an important role in abdominal trauma surgery. Laparoscopy can avoid unnecessary laparotomy, but demands a well-coached team.
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Disclosure: No significant relationships.

P067

THE ADVANTAGES OF THE LAPAROSCOPIC APPROACH IN OPERATIVE MANAGEMENT OF THE DESTRUCTIVE ACUTE APPENDICITIS

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Introduction: Over the last 10 years the use of videoendoscopic approach has been revolutionary expanded into surgical practice. Mounting evidence supports the use of laparoscopic techniques for the diagnosis and treatment of the destructive forms of appendicitis (DA). This paper reveals the results of laparoscopic appendectomies (LA) in DA on a group of 118 patients over the period of 5 years (2011-2016).
Material and methods: From January 2011 until May 2016, 118 LA were performed. The gender distribution revealed a predominance of women pathology with a ratio M/F-1: 1.7. The age of patients varied from 18 to 60 years, averaging 32.3 ± 11.5 years. Intraoperative were found: phlegmonous appendiix (n = 87), gangrenous appendix (n = 12), perforated appendicitis with localized abscess (n = 9), perforated appendicitis with generalized peritonitis (n = 6) and appendicular infiltrate (n= 4). The LA operative technique includes trocars application, CO_2 peritoneum achievement, transabdominal exploration, skeletization of the appendix, appendix base ligation with a preknotted Roeder-loop, and appendix removal. The appendix stump was inverted in the ceacum according to Semm in 93 patients; the ligature technique was applied in 25 patients.
Results: The mean operating time was 47.2±18,1 min (range, 35-78). The postoperative algometry revealed a decreased presence of postoperative pain syndrome. The mean length of hospital stay was 3 days. Pooled mean surgical wound infection (SWI) rate within the LA group was 3.38%.
Conclusion: The LA provides obvious advantages including: optimal intervention in ectopic appendix, adequate peritoneal lavage "on demand" following removal of the appendix,reduced SWI rate and rapid recovery.
References:
Disclosure: No significant relationships.

P068

GYNECOLOGIC SURGICAL EMERGENCIES-LAPAROSCOPIC APPROACH

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Introduction: Although gynecological emergencies can be the privilege of gynecologists, there are situation when this conditionsare first addressing to a general surgeon. Laparoscopy is an ideal tool for the diagnosis and treatment of this cases. The aim of this study is to evaluate the feasibility and outcomes of laparoscopic management for patients with gynecologic emergencies treated in a General Surgery Department.
Material and methods: A retrospective descriptive study was carried out for all acute gynecologic patients(76) admitted in 1st Surgical Clinic Craiova between 2009-2015 for clinically established surgical emergencies that underwent laparoscopic treatment.
Results: For the 76 patients included, laparoscopy identified the following pathology: ectopic pregnancies (31 patients), pelvic peritonitis (20 patients), tuboovarian abcess (6 patients), ruptured ovarian cysts and haemoperitoneum (10 cases), adnexal/ovarian torsion (9 cases). Surgical procedures performed consisted of salpingectomy (46 cases), adnexectomy (13 cases), oophorectomy (6 cases), salpingotomy and trophoblast extraction (3 cases), ovarian cysts resection (8 cases). We converted laparoscopic procedures in 6 cases. All patients had an excellent postoperative course, with a mean hospital stay of 3,5 days.
Conclusion: laparoscopic treatment in gynecologic surgical emergencies is an effective diagnostic and therapeutic tool, resulting in reduced postoperative pain, shorter hospital stay and faster recovery.
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Disclosure: No significant relationships.

P069

SURGICAL INDICATIONS IN ACUTE PANCREATITIS – THE ROLE OF LAPAROSCOPY

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Introduction: Necrotic acute pancreatitis is still a severe disease, in spite of new therapies developed in the late years. Surgical treatment, considered initially only for late complications, begins to cover those situations when surgical indications is established earlier, and the role of laparoscopy is increased.
Material and methods: We present a review of the literature and our experience with laparoscopic surgical treatment of this disease based on 12 patients who underwent this procedure.
Results: In 7 patients the procedure consisted in clearing of pancreatic ascites and acute pseudocysts with external drainage. The remaining 5 patients were treated by necrosectomy. The procedure was performed in all cases by a single submesocolic approach in order to avoid a persistent multilocular pancreatic fistula. In one case iterative laparotomy was imposed by bleeding in the 10^{th} postoperative day while the other patients had a simple postoperative course. The presentation is illustrated by 3 operative videos.
Conclusion: Laparoscopy and even open technique are applicable in the evolution of severe acute pancreatitis. Laparoscopic approach with its minim invasive caracter, in necrotic acute pancreatitis, especially with voluminous ascites, avoids extensive dissections and complications due to laparotomy and contributes in establishing the cause of acute surgical abdomen, especially posttraumatic.
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Disclosure: No significant relationships.

P070

THE ROLE OF LAPAROSCOPY FOR MANAGEMENT OF NONTRAUMATIC ACUTE ABDOMEN

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Introduction: Laparoscopy for acute abdomen is important either for diagnostic, when there is uncertainty in establishing the etiology, and also has a therapeutic role with the well known advantages of mini-invasive surgery.
Material and methods: Our study evaluates 873 patients of non-traumatic acute abdomen (excepting acute cholecystitis), approached laparoscopically in between 2011-2015. The following factors were pursued: the concordance between pre and postoperative diagnostic, the establishment of a certain intraoperative diagnostic, incidence of laparoscopic interventions and their complications.
Results: There were 653 (75%) cases of acute appendicitis, 146 patients with gynecological (ruptured ovarian cyst, extrauterine pregnancy, inflammatory pelvic disease), 52 (6%) patients with perforated ulcer, 22 cases with other pathologies (acute pancreatitis, enteral perforations, perforations of Meckel diverticulum, enteromesenteric infarction, tuberculous peritonitis), confirmed laparoscopically. Incidents and accidents were encountered in 56 (6,5%) cases, there were 33 (3,7%) conversions to open technique and for 37 (4,2%) patients were recorded postoperative complications.
Conclusion: Diagnostic laparoscopy is an optimal method of diagnostic confirmation for cases of non-traumatic acute abdomen especially for acute appendicitis, gynecological emergencies and peritonitis of unknown etiology with the possibility of laparoscopic treatment of these pathologies.
References:
Disclosure: No significant relationships.

P071

DIAGNOSIS AND TREATMENT OF SPLEEN INJURY IN CHILDREN

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Introduction: Modern possibilities of diagnostic require clarification of the Protocol management of the spleen injury in children.
Material and methods: The study included 67 children with splenic injury (boys - 68,7%, girls- 31.3 %; the average age was 8.2 ± 5,5). Most of the children have suffered as a result of catatrauma (34,3%) and accidents (31,3%), as a result of falling from a small height is 13.4%, hit in the stomach -11.9%, hitting the wheel of the bike is 9.1%. Injury severity was 24.5+2,08 (ISS). Abdominal trauma was the leading in 61% of polytrauma cases.
Results: Surgical tactic for spleen injury determined by three main factors: hemodynamic stability, the volume of hemoperitoneum (US), the severity of organ injury (CT). Laparotomy is indicated for patients with unstable hemodynamic and a large hemoperitoneum on US. CT with intravenous contrast is indicated for patients with stable hemodynamic and low-or middle-hemoperitoneum (US) to clarify the severity of the splenic injury and associated injuries. Conservative treatment is indicated for patients with stable hemodynamics and low-or middle-hemoperitoneum (US, CT) on the background of clinical and US monitoring. Laparoscopy may be indicated in the presence of CT signs of continued intra-abdominal bleeding. The inefficiency of laparoscopic hemostasis is an indication for conversion to laparotomy. 10,4% of children were operated (laparoscopy-5,2%; laparotomy, spleenectomy-5,2%).
Conclusion: Step by step through the diagnostic and treatment Protocol based on modern imaging techniques allows to reduce the surgical aggression.
References: The proposed step-by-step Protocol for the diagnosis and treatment of spleen injury with the modern capabilities of visualization allows to reduce the surgical aggression. Conservative treatment was effective in 89.6% of cases.
Disclosure: No significant relationships.

P072

LAPAROSCOPY IN EMERGENCY ABDOMINAL SURGERY

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Introduction: More often and increasingly more efficient, acute surgical abdomen benefits from laparoscopic approach, for evalaution or therapeutic measures, bringing increased safety for the patient and psychological comfort for the surgeon
Material and methods: Laparoscopic approach addresses to acute abdominal trauma (car accident, work accident, stab and gunshot wounds) and to nontraumatic abdomen with internal injury. In the non-traumatic pathology for intestinal obstruction we didn't.perform a laparoscopic approach, exception high digestive localization, esophagus, stomach, duodenum, but also in very low localization(sigmoid and rectum). We have included laparoscopic approach or perforated ulcer, iatrogenic injuries, cholecystitis, foreign bodies, SDH (laparogastroscopy), hepatic abscess and cyst, acute pancreatitis, recto-sigmoid and rectal obstruction, acute appendicitis, acute adnexitis, pneumo and hemo thorax (thoracoscopy).
Results: In a 10 years comparative evaluation of efficiency and results of laparoscopic vs open surgery approach we found a significant reduction in postoperative morbidity, disappearance of parietal postoperative complications, a reduced rate of convalescence and hospitalization, a significant increased safety of the patient and also mentally comfort for the surgeon even in "white" laparoscopy. The laparoscopic approach was imposed by clinical exam, imaging examination and in the absence of serious phenomena, especially vascular which imposed open surgery as maximum emergency. By comparison, open surgery, due to frequent parietal complications is placed as secondary solution in or as a next step after laparoscopic evaluation.
Conclusion: Our recommandation for traumatic and non-traumatic acute surgical abdomen, depending of team skill, is laparoscopic approach, eventually laparoscopic/endoscopic rendezvous and use of open surgery for selected cases.
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Disclosure: No significant relationships.

P073

MANAGEMENT OF ACUTE CHOLECYSTITIS: INTERCULTURAL TALE OF TWO CENTRES

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Introduction: Published data suggests that demographics, socioeconomic factors, healthcare structure and training models contribute to variable approaches in acute cholecystitis.
Material and methods: Databases with all laparoscopic cholecystectomies from 1998 to mid 2016 performed by one team in Connolly Hospital Dublin, were analysed. In parallell the records of Sf. Ioan University Emergency Hospital, Bucharest, Romania between 2004 and 2013 in were inspected. The primary outcomes were common bile duct injury (CBDI), conversion rate and morbidity and mortality rates. Secondary outcomes were haemorrhagic complications, bile leakage and length of stay related to hospital setting and patient demographics.
Results: In the Irish service there was a total of 712 attempted laparoscopic cholecystectomies of which 679(95.4%) patients underwent uneventfully while a strategy of aspirating the gallbladder was implemented for difficult and/or physiologically unfit patients (N = 30). No CBDI were noted. The conversion rate was 0.4% and an interval laparoscopic cholecystectomy has been performed in 17/30 (56.6%) patients. The remaining 13/30(43.3%) were treated expectantly. In the Romanian service there were 9535 attempted

laparoscopic cholecystectomies, 4,956 (51%) of which were performed for acute cholecystitis and 182(1.9%) were converted to open. A standard approach was successful in 7339 (76.9%) patients, while 2,014 (21.12%) were terminated as fundus-first procedures. Fourteen (0.19%) patients of the standard approach group suffered CBDI of which 9 (64.2%) during surgery for acute cholecystitis. No CBDI were noted with the fundus-first strategy.
Conclusion: In the era of laparoscopic surgery, with limited experience in open cholecystectomy, gallbladder aspiration or fundus-first laparoscopic cholecystectomy are viable strategies for acute cholecystitis regardless of the healthcare system or medicolegal environment.
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Disclosure: No significant relationships.

P074

QOL IN ACUTE DIVERTICULITIS - SURGICAL VS CONSERVATIVE TREATMENT

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Introduction: In western countries prevalence of diverticular disease is steadily increasing, leading to substantial burden on health care systems. While historically operation was earliest advised after the second episode for means of complication prevention, new data led to abolishment of this policy: conservative treatment became standard of care. However, so far treatment options have only poorly been evaluated from a quality of life (QoL) perspective. The aim of this study was to survey QoL in acute diverticulitis, putting a focus on possible differences between surgery and non-operative management.
Material and methods: QoL evaluation is performed with a standardized questionnaire in 215 Hinchey 0 and Ia patients treated between 2008 and 2015. We analyzed number of episodes, treatment methods, diet and physical activity as well as an adapted GIQLI-Score for gastrointestinal QOL. Postoperative outcome and patient satisfaction were measured using the Freiburg Index for Patient Satisfaction, ranging from 1 (very satisfied) to 6 (not satisfied). The main outcome variable was patient reported QoL. Predictor variables were treatment options and number of episodes. Statistical analysis compared mean and median values.
Results: QoL Index showed higher, statistically non-significant results after operation (+1.3% p .81) as compared to conservative treatment. Patients treated by laparoscopic resection (23 pt., 63%) had substantially higher QOL scores (+4.6% p .13) than medically managed individuals. Overall postoperative satisfaction rate was high (FIPS 1.8 +-0.8) with slightly better results in laparoscopically treated individuals (FIPS 1.7 vs. 2.2).
Conclusion: Patients with recurrent episodes of acute uncomplicated diverticulitis may profit from interval laparoscopic resection in terms of QoL.
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Disclosure: No significant relationships.

P075

LAPAROSCOPIC GROIN HERNIA REPAIR

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Introduction: Self-fixating Parietene progrip© mesh modified by us (Declarational patent of Ukraine for useful model №102998, published 25.11.2015, bul. №22) was tested in total extraperitoneal groin hernia repair clinical study. Postoperative pain and the use of analgesics were evaluated.
Material and methods: 27 patients were operated in the department of surgery and vascular surgery of our clinic from 2014 to 2016 concerning unilateral primary non-complicated groin hernias,. 9 of them had hernia type II by Nyhus, 11 – type IIIa, and 7 cases – type IIIb. All patients were men. The median age of the patient - 39,3 years.
Results: Average: duration of surgery was 35,9 minutes, pain score by visual analogue scale - 1,8 points, pain which needed ketorolac analgesics lasted 2,2 days, hospital stay time was 25,7 hours. 18 patients were reinvestigated after 6 months regarding the pain score, none of them were in need of analgesics during this time interval.
Conclusion: Our method associated with low pain score as well as low analgesics requirement.
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Disclosure: No significant relationships.

P076

LAPAROSCOPIC APPROACH FOR PERFORATED GASTRODUODENAL ULCER

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Introduction: De la apariţia antagoniştilor H2, inhibitorilor pompei de protoni şi stabilirea rolului Helicobacter pylori, utilitatea suturii simple a unui ulcer gastroduodenal perforat este în creştere.

Repararea laparoscopica a ulcerului perforat permite efectuarea aceleaşi tehnici ca si in interventiile chirurgicale deschise, dar cu beneficiile chirurgiei minim invazive.
Material and methods: Evaluarea aplicabilitatii de reparare laparoscopica a ulcerului gastroduodenal perforat, riscurile şi beneficiile acestei proceduri. Studiu retrospectiv pe 98 de pacienti cu abord laparoscopic pentru ulcerul gastroduodenal perforat între martie 1997 şi martie 2016.
Results: Grupul nostru de studiu reprezintă 0,57% din 17193 proceduri laparoscopice efectuate în perioada menşionată în Clinica Chirurgie I-II Iaşi, România. Cinci pacienşi au necesitat conversie. După interventia laparoscopica am avut două cazuri cu complicaşii: o fistula soluşionata prin excizie si sutura şi o stenoză târzie (după cinci luni) gestionata prin rezecşie gastrică cu anastomoza Billroth I.
Conclusion: Repararea laparoscopica a ulcerului gastroduodenal perforat este eficient, simplu şi cu un real beneficiu pentru pacienti, datorită absenşei unei incizii mediene cu o reinserşie socială foarte buna.
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Disclosure: No significant relationships.

P077

PERFORATED PEPTIC ULCER: LAPAROSCOPIC TREATMENT

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Introduction: In the last years, the treatment of peptic ulcer has suffered some changes due to the advances in endoscopic techniques and the introduction of proton pump inhibitor therapy. Therefore, surgical treatment has become less frequent. Nonetheless, perforated peptic ulcer is a formal indication for surgery and laparoscopy is a possible approach. Objective: retrospective review of all patients undergoing perforated peptic ulcer surgery in a five-year period. Data collected included demographic, clinical and surgical parameters.
Material and methods: Clinical file consultation of all admitted patients to our Surgery Department form 1st January 2009 until 31st December 2014. The data collection was analyzed using SPSS version 20.
Results: During the over-mentioned period, a total of 31 patients where operated, nine of which using the laparoscopic approach. Gastric ulcers were most common (21 Cases). In all laparoscopic surgeries, the procedure was ulceroraphy with omentoplasty. Generalized peritonitis (p = ,004) and advanced age (p = ,043) were identified as poor-prognosis factors regardless of the chosen surgical approach. The length of hospital stay was signifcantly inferior in the laparoscopy group.
Conclusion: As nearly one third of the patients in this study were submitted to laparoscopy, it is safe to state that its role has been steadily and surely increasing in our institution. We found no statistical differences when comparing both approaches. Therefore, concluding that laparoscopy is a viable option in the treatment of perforated peptic ulcer.
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Disclosure: No significant relationships.

P078

LAPAROSCOPIC VERSUS OPEN REPAIR OF PERFORATED DUODENAL ULCERS

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Introduction: Perforated duodenal ulcer (PDU) remains a frequent surgical emergency. A better understanding of the pathophysiology and treatment of duodenal ulcers, together with the increasing expertise in the use of laparoscopy in acute abdominal conditions, has encouraged the laparoscopic management of PDU in the last decade.
Material and methods: Retrospective analysis of two cohorts of patients. Thirty-five patients with PDU treated by laparoscopy (LP group) between 2014-2015 were compared with thirty-five patients treated by open surgery (OS group) between 2002-2003. The groups were comparable in terms of age, ASA score and previous abdominal surgery. Chi- square test and Fisher test were performed when adequate. Only prepyloric and duodenal perforations were included.
Results: LP group showed lower rates of postop respiratory morbidity (p = 0,45), cardiologic complications (p = 0,016) and septic shock of abdominal origin (p = 0,023). LOS was longer in OS group (15,3 vs 8,5 days) although not statistically significant (p = 0,094). The conversion rate was of 5,7%, and the operative time was significantly longer (p = 0,01) in the LP group (109 vs 80 minutes). No significant differences were found in wound infections rate (p = 0,052), although there was a tendency towards superiority of laparoscopy. No differences were found in terms of postop intraabdominal abscess, reintervention, or 30- day mortality.
Conclusion: In our recent experience the laparoscopic approach has proved as a safe and feasible option in the treatment of PDU. It compares favorably to OS in terms of postop respiratory and cardiac complications, septic shock rates, and LOS, without an increase in postop intraabdominal abscess.
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Disclosure: No significant relationships.

ENDOSCOPY IN THE CRITICALLY ILL PATIENT (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P079

IMPACT OF DABIGATRAN VERSUS WARFARIN ON SEVERITY OF GASTROINTESTINAL BLEEDING

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Introduction: Non-variceal upper gastro-intestinal bleeding (NVUGIB) is associated with significant mortality. A number of these patients suffer comorbidities necessitating the use of anticoagulants, which may further aggravate risks. Recent development has prompted a change from anticoagulation in these patients from Warfarin to New Oral Anticoagulants (NOACs). Prior Studies have concluded dose-dependent benefits from the use of NOACs compared with warfarin in terms of the risk of gastrointestinal bleeding (1) (2). We hypothesized that failure of hemostasis would be more frequent in Dabigatran as opposed to Warfarin treated patients in the setting of NVUGIB.
Material and methods: Admissions in Denmark from 2011-2013 with endoscopic hemostatic procedures in the stomach or duodenum. Forrest Classification and American Society of Anesthesiology (ASA) score was extracted from the National Indicator Database. Blood product utilization was extracted from the Danish Transfusion Database. Use of anticoagulants and platelet inhibitors was extracted from the Danish prescription registry along with use of Non-steroidal anti-inflammatory drugs as well as Proton Pump Inihibitors.
Results: 3537 admissions was available. 49 had active Dabigatran prescriptions, 376 had active Warfarin prescriptions. Thirty-day mortality in the cohort was 8.14%. Dabigatran was not associated with increased mortality compared with Warfarin ($p = 0.86$). No increased incidence in failure hemostasis events could be demonstrated in terms of packed red blood cells transfused ($p = 0.65$), re-endoscopy ($p = 0.67$) or conversion to surgery ($p = 0.23$). Dabigatran treated patients received less Fresh Frozen Plasma ($p = 0.03$), but comparable amounts of platelet transfusions ($p = 0.24$).
Conclusion: pre-hemorrhage treatment with Dabigatran was not associated with increased incidence in failure of hemostasis events or mortality.
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Disclosure: No significant relationships.

P080

COLONOSCOPY.ARE THERE ANY BENEFITS WHEN THE SURGEON PERFORMS IT?

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Introduction: The first colonoscopy was performed by a surgeon.Nowadays Colonoscopy as a method of investigation and treatment of colorectal diseases is routinely performed by surgeons and gastroenterologists worldwide.Even though it is a routine maneuver it bares it's risks, among which bleeding and perforation.In case of diagnostic colonoscopy perforation rate is between 0.03-0,3%,being a powerful and potentially fatal complication that requires immediate therapeutic approach.
Material and methods: Our team of two surgeons, from the General Surgery Clinique of the Bucharest Dr Carol Davila Nephrology Clinic Hospital performed 798 colonoscopies during 2012-12016.All of which were performed under sedation, achieving a 98% complete investigation ratio.All of these were performed for diagnostic purposes, and 187 biopsies were taken. 2 perforations ocured (0.25%)
Results: The complications were: local bleeding that required no treatment and 2 colonic perforations (0.25%). The two perforations were located in the sigmoid in a case being barotrauma with diverticular perforation and one case of mechanical perforation. Diagnosis was quickly established in both cases, within 6 hours, by clinical, laboratory and imagistic means (abdominal ultrasound, ultrasound and X-Ray). We practiced surgical treatment which consisted in suturing the perforation with subsequent favorable development.
Conclusion: The benefits of a surgeon performing the colonoscopy mainly consist of being able to apply the appropriate treatment as soon as possible in case of any complication, and also the surgeon has the ability to perform it intraoperative. Postoperative monitoring can be better performed if the same surgeon that operated on the patient assesses the patient's evolution postoperative.
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Disclosure: No significant relationships.

P081

HYBRID LAPAROENDOSCOPIC ABORD OF SEVERE LOWER GI BLEEDING

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Introduction: The treatment of lower gastrointestinal (GI) bleeding depends on the source of the bleeding. Rarely, patients with severe lower GI bleeding will need immediate surgery. The morbidity and mortality associated with colectomy in the absence of preoperative localization of a bleeding site are higher than in patients who have a bleeding site identified prior to surgery. Thus, all efforts should be made to identify the bleeding source prior to surgery. In some patients with a negative endoscopic and radiographic evaluation, the bleeding will be significant enough to require further evaluation. One approach is intraoperative enteroscopy. Intraoperative enteroscopy involves the insertion of an endoscope through an enterotomy site or per orally and per rectally during surgery

Material and methods: We analyzed 5 cases with severe lower GI bleeding, with inconclusive preoperative evaluation (could not identify the source of bleeding) and unresponsive to conservative treatment, the patient requiring surgical exploration.

Results: Intraoperative enteroscopy through an enterotomy site enables a rapid and efficient bowel preparation that facilitates endoscopic evaluation and identifies the bleeding site. There is thus possible to achieve hemostasis with a minimum surgical act, allowing a rapid recovery and a favorable evolution of the patients.

Conclusion: We believe that intraoperative enteroscopy through an enterotomy site is a feasible option for etiological diagnosis of severe lower GI bleeding that allows a correct therapeutic decision and an appropriate hemostasis, which results in a favorable evolution of patients, reducing morbidity and mortality.

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Disclosure: No significant relationships.

DAMAGE CONTROL PRINCIPLES IN ABDOMINAL TRAUMA & PERITONITIS (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P082

EFFECTIVENESS OF CT SCANNING TO DETECT BLUNT BOWEL AND MESENTERIC INJURIES

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Introduction: Traumatic blunt bowel and mesenteric injuries (BBMI) occur in 1-5% of abdominal injuries. Delayed diagnosis by as few as 8 hours may result in severe complications and death. CT accuracy for detection of BBMI is controversial. This investigation aimed to determine the effectiveness of CT scanning to detect BBMI.

Material and methods: A comprehensive literature review (1990-2015) was performed to compute meta-analytic CT sensitivity, specificity, and positive predictive value (PPV) for BBMI patients requiring surgical intervention. True-positive, false-negative, false-positive, and true-negative data was extracted. CT performance in detecting BBMI was computed for individual CT signs and overall CT performance.

Results: Twenty-four publications were included with 12,598 patients and 763 BBMI requiring surgical treatment. The overall CT performance for BBMI had an 85.9% sensitivity, specificity 96.1%, and PPV 51.4%. For the individual CT signs, sensitivity, specificity, and PPV were: abnormal wall enhancement 30.0%, 95.7%, 64.0%; bowel wall discontinuity 26.3%, 99.0%, 87.9%; bowel wall hematoma 25.0%, 100%, 100%; bowel wall thickening 40.0%, 98.1%, 39.4%; free air 33.9%, 99.9%, 91.1%; free fluid 70.7%, 92.5%, 30.1%; mesenteric air 27.6%, 99.1%, 85.3%; mesenteric extravasation 24.5%, 99.6%, 73.9%; mesenteric hematoma/fluid 39.1%, 98.7%, 52.8%; mesenteric stranding/streaking 63.9%, 87.0%, 51.9%; mesenteric vessel beading 30.8%, 97.2%, 60.4%; mesenteric vessel termination 31.6%, 97.2%, 63.5%; oral contrast extravasation 10.0%, 100%, 100%; retroperitoneal air 9.3%, 94.9%, 55.6%; and retroperitoneal fluid 44.2%, 49.4%, 38.5%.

Conclusion: BBMI sensitivity, specificity, and PPV vary substantially among the 15 known CT signs. Although abdominal CT scan is valuable, its sensitivity suggests that other clinical factors are necessary for comprehensive identification.

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Disclosure: No significant relationships.

P083

EVOLUTION OF THE MANAGEMENT OF SPLENIC INJURIES AT A LEVEL 1 UK TRAUMA CENTRE

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Introduction: Non-operative management of blunt splenic trauma has become the favoured approach, particularly with the advent of splenic artery embolisation (SAE), due to increase in salvage rate, avoiding post-operative sepsis and faster recovery. Our aim was to identify if SAE was a safe alternative to operative management with low subsequent morbidity.

Material and methods: A cross-sectional study was performed using prospectively maintained databases to identify patients presenting to a UK trauma centre with splenic injury over a 22-month period (December 2013–September 2015). Electronic records were used to

identify the following: CT grading of splenic injury; management (conservative/SAE/operative); complications and length of stay.
Results: Thirty-three patients presented with traumatic splenic injuries over this time period. Seven patients were managed conservatively, ten underwent SAE and 16 required a laparotomy. Haemodynamic stability on admission and lower grade of splenic injury (I & II) were significant factors in conservative management ($p < 0.001$ and $p = 0.02$ respectively). Three patients that were temporary responders were successfully managed with SAE. All patients managed conservatively had uneventful recoveries, however complications were identified in five of the ten patients managed with SAE and 5 of the 16 that required operative intervention. Of the SAE patients, one required further SAE, one required drainage of a perisplenic collection and one required subsequent splenectomy. Length of stay, readmission rate and 30-day mortality were not found to be significantly different between management groups.
Conclusion: Within an appropriate setting, SAE can be considered as a technically feasible and safe alternative to splenectomy even in haemodynamically unstable patients.
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Disclosure: No significant relationships.

P083A

INTRAVENOUS AND INTRALESIONAL CONTRAST MEDIUM INJECTION IN STAB WOUND PATIENTS

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Introduction: Abdominal CT scan with IV contrast can't show the depth of stab wound in stabbed patients.Local wound exploration or diagnostic laparoscopy can be performed to understand, if it is penetrating abdomen or not. Another alternative way is imaging wound trace by giving contrast into it. We take CT images with iv oral and intralesional contrast
Material and methods: Abdominal CT images with IV and intralesional contrast were analyzed retrospectively. The cases with suspicious abdominal penetration but found not to have on CT were involved.
Results: The number of patients with abdominal stab wound in whom ıv and intralesional contrast CT revealed no penetration was 11. All patients were discharged without any complication after follow up.
Conclusion: Abdominal CT with IV contrast shows intra abdominal free fluid and solid organ injury but can't give an opinion on peritoneal injury in doubtful cases. Whereas, if contrast is injected through wound trace during CT is taken, trace and if peritoneum is intact or not can be seen.Our findings were hopeful and further studies may give more valuable results.
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Disclosure: No significant relationships.

P084

MANAGEMENT OF BLUNT HEPATIC INJURY INVOLVING INFERIOR VENA CAVA ORIENTED TO DAMAGE CONTROL SURGERY

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Introduction: Blunt hepatic injuries involving inferior vena cava are subject to high mortality, and their optimal management remains controversial. The objective of the study is to investigate the management from analysis of their clinical courses and outcomes.
Material and methods: Review of 21 consequent cases with blunt hepatic injuries involving inferior vena cava, treated in Saitama Medical Center between 2005 and 2015.
Results: 14 males and 7 females. Median[max-min] age and ISS were 31[1-79] and 35[16-57]. 16/21 were hemodynamically unstable. Indication of operative management (OM) was unstable hemodynamics or IVC injury by CE-CT. In-hospital mortalities with OM was 8/19, and non-operative management (NOM) 1/2. Since 2010, pledgeted-suture was employed to control parenchymal bleeding, and incidence of perihepatic packing decreased from 5/10 to 2/9, and that of IVC repair increased from 3/10 to 7/9. The mortality among hemodynamically unstable cases was improved from 8/10 to 0/5. Among hemodynamically stable cases, 4/5 underwent OM and 1/5 NOM, with no in-hospital death.
Conclusion: The results demonstrated evolution of surgical procedures and improved outcomes since 2010. There were also evolutions in pre-hospital and pre-operative management, including introduction of helicopter transfers, permissive hypotension, massive transfusion protocols, and high-speed MD-CT. Together, they allowed temporary stabilization of hemodynamics precise pre-operative evaluation of injuries, contributing to outcomes. This may seem to contradict concept of Damage Control Surgery (DCS) [1]. However, every procedure is oriented to efficient control of bleeding, which is the principle of DCS. In this context, we consider DCS as a sequential scheme launched in pre-hospital and conclude in operating room.
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Disclosure: No significant relationships.

P085

DAMAGE CONTROL SURGERY – TREATMENT OF FOLLOWING ABDOMINAL WALL DEFECTS

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Introduction: The concept of "damage control surgery" also known as "staged laparotomy" is very useful in treatment of trauma or other emergency cases. Common consequence of this procedure is abdominal wall defect. In clinical practice we often need to select the most appropriate method for the treatment of these defects. There are recommended and tried methods of treatment of these serious and often life-threatening defects and these days treatment may also involve NPWT (Negative Pressure Wound Therapy).
Material and methods: We observed 44 patients with an abdominal wall defect following damage control surgery who were treated using NPWT. We evaluated the length of treatment, wound size, onset of infection, level of pain and the price of treatment.
Results: The patients' average age was 52.7 years, ranging between 19 and 73. The wound sizes varied from 8cmx5cm to 38cmx35cm. Treatment with NPWT averaged 17,68 days and dressings were changed every 4.5 days. All wounds were infected, no mortalities occurred and all the wounds healed. A split-thickness skin graft or secondary suture were used. No significant complications occurred. The wounds detracted by 21 to 90.4% during the NPWT treatment.
Conclusion: The NPWT is very good method of treatment for abdominal wall defects following damage control surgery.
References:
Disclosure: No significant relationships.

P086

MANAGEMENT OF SPLENIC INJURIES IN A FIRST LEVEL TRAUMA CENTER

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Introduction: Management of splenic injuries(SI) changed during the last decades. Non-operative-management(NOM) is possible for a large number of patients with SI and interventional angiography(IA) helps to increase the rate of saved spleens(1,2). The NOM rate changes among Trauma Centers(TC);they differ in terms of centralization level (TC level I, level II, level III)(table-1) and on available technologies/services(3,4).
Material and methods: We analyzed all cases of traumatic SI from 2013 to Sept-2016. Numbers were not enough to perform a significant statistical analysis. In 2014 a service of IA started in our hospital, although it became fully operative at the beginning of 2016 (24/h 7/7). In 2016 were introduced dedicated surgeons for trauma/emergency surgery.
Results: Since 2013, 41pts with SI (12 in 2016 [until 30Sept. 2016]; 12 in 2015; 10 in 2014; 7 in 2013); 27/41 (65,5%) cases of splenectomy and 14/41(34,5%) cases of NOM. 0/14(0%) NOM converted to open splenectomy. In 2013: 7 SI: 5/7(71%) splenectomies vs 2/7(29%) NOM; in 2014: 10 SI: 7/10(70%) splenectomies vs 3/10 (30%) NOMS (1 treated with TE); in 2015: 12 SI: 8/12(66,6%) splenectomies vs 4/12(34,4%) NOMS (1 treated with TE); in 2016(30-Sept): 12 SI: 7/12(58,3%) splenectomies (1 partial splenectomy) vs 5/12(41,7%) NOMS (3 treated with TE).
Conclusion: Although not statistically significant, a light but progressive increasing rate of NOM was noticed. IA and dedicated surgeons for trauma/emergencies improved outcomes in splenic injuries. IA helps to improve the NOM rates improving also the NOM performed without any IA. NOM management requires collaboration and goals condivision between the ED staff, surgeon, anesthetist-reanimator and radiologist.
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Disclosure: No significant relationships.

P087

THE NONSURGICAL MANAGEMENT IN THE HEPATIC TRAUMA-A 5 YEARS EXPERIENCE

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Introduction: A retrospective study with a cohort of 45 polytrauma and 2 isolated trauma patients with hepatic lesions from Floreasca Emergency Hospital. This study has two different types of management, selective non-operative and operative management for the hepatic lesions in order to systematize the evaluation and the therapeutic strategy of the polytrauma and isolated trauma patients and to show that the conservative treatment is a successful type of management in selective cases.
Material and methods: The patients' data was taken from the Register of Surgery and the Administration Department of the Bucharest Emergency Clinical Hospital by manual search and electronic records. Each patient was profiled by an algorithm of particular requirements for the identification data and the data needed to complete this study. The algorithm consists of specific requirements which were presented via excel program and were analyzed statistically via the SPSS program
Results: Non-operative management was a successful choice of management except from two cases. The patients hospitalized less period of time and could return to their daily life quicker than those who were operated. Hemodyanmic instability patients were factors indicating exploratory laparotomy. Paraclinical investigations have important role for diagnosis and grading of the lesion, in the mean time also important for choice of treatment. In conclusion, selective non-operative management is an efficient and successful method of management in selective polytrauma and isolated trauma patients by an experienced surgeon and a very well qualified medical team.
Conclusion: The prevalence of heIn trauma centers the nonoperative managementpatic injuries were highest in males with 64. Early diagnosis

of hepatic injury, especially in patients with blunt injury remains a challenge. Polytrauma is a condition seen often in hepatic trauma, which is a challenge for surgical and conservative treatment. CT scan of the abdomen provides the simplest and least invasive method to diagnose liver injury and allows to grade of injury. In hemodynamically unstable patients exploratory laparotomy is recommended. FAST and laboratory findings are the first choice of investigations.

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Disclosure: No significant relationships.

P088

DOES NEGATIVE PRESSURE WOUND THERAPY (NPWT) FOR TEMPORARY ABDOMINAL CLOSURE REALLY GIVE BETTER RESULTS?

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Introduction: The success of primary fascial closure following TAC is lower in septic patients compared to non-septic patients[1]. Aim of the study is to analyze whether the outcome of laparostomy could be influenced by the type of TAC adopted

Material and methods: We reviewed 271 patients undergone TAC during 2001-2015. Two groups were identified: Group A, 143 patients (52,7%) who had NPWT device and Group B, 128 patients (47,3%) who did not receive NPWT. Both of these groups were divided into two subgroups based on Septic/Non-septic causes. Main outocomes were mean age, mean length of open abdomen (LOA), definitive closure rate (DCR), and mortality.

Results: Overall, between group A and B, age (p = 0,668), mean LOA (p = 0,080), DCR (p = 0,147) and mortality (p = 0,824) resulted not significant. In Group A 103 patients (72%) were treated for septic causes and 40 (28%) for non septic conditions; for each subgroup no significant differences were found in terms of mean age (p = 0,319), mean LOA (p = 0,697), DCR (p = 0,227) and mortality (p = 0,357). In Group B, 93 patients (72,6%) had septic diseases and 35 (27,4%) non septic conditions: there was no significant difference about mean age (p = 0,552), mean LOA (p = 0,680), DCR (p = 0,827) and mortality (p = 0,677).

Conclusion: This study did not show any impact of NPWT on the outcome of patients undergone open abdomen either for septic and non-septic conditions. However, the length of open abdomen in these patients was relatively short and this may have limited the potential benefits of NPWT.

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Disclosure: No significant relationships.

P089

NONOPERATIVE MANAGEMENT OF SPLENIC INJURY – FROM EXCEPTION TO RULE

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Introduction: In trauma centers the nonoperative management (NOM) of blunt splenic injuries (SI) represents a mandatory management of trauma patients with stable hemodynamics. Since 2012 it's a supported desideratum implemented in our clinic.

Material and methods: Prospective study: I)2007-2011 – demonstration and implementation of NOM opportunity in SI (n = 70), both isolated (n = 20) and polytrauma (n = 50), ISS>25 in over 62%; II) 2012-2016 – compulsory surgical tactics in trauma patients with hemoperitoneum and confirmed SI (n = 98), ISS>25 in over 60%.

Results: In I period – 106 patients with SI. 70 (66.03%) patients were selected for NOM, success rate - 90%. 9 (12,9%) laparotomies were performed: 2 (2,9%) – nonspecific failure, undiagnosed visceral injury and 7 (10%) splenectomies – NOM failure. Mortality – 1 (1.4%) patient with MODS and II grade AAST SI. Morbidity specific only for splenectomised patients – subphrenic collection (n = 1). II period – 101patients with SI. Splenectomy in hemodynamically instable patients – 8(7.92%), no NOM attempt. NOM for 93 (92.03%), SI gr.III-V – 55 (59.13%). Failure of NOM – 13 (13.97%): splenectomy – 10 (10.75%), organ preserving procedures – 3 (3.22%) for patients in whom the spleen didn't bleed surgery being mandated by anemia and massive blood transfusion necessity. Mortality rate 12.87% (n = 13), the cause was MODS due to irreversible shock in polytrauma patients. In the NOM failure group – 2 deaths (one without splenectomy).

Conclusion: Up to date nonoperative treatment of splenic injuries is a compulsory component of current management of trauma patient with both isolated and polytrauma. Comparative analysis proved that following strictly the NOM criteria shows similar failure rate in strictly selected patients and in case of standard approach.

References: .

Disclosure: No significant relationships.

P090

NONOPERATIVE APPROACH IN PENETRATING ABDOMINAL STAB WOUNDS

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Introduction: "Selective conservatism" is the best choice of care in management of asymptomatic patients with penetrating abdominal trauma. Undoubtedly, apprehension of delays in diagnosis of the

missed injuries limits its spread. Only 8 years ago nonoperative approach had been introduced in our hospital as standard instead of exploratory laparotomy for abdominal wounds.
Material and methods: We reviewed records of patients with abdominal stab wounds admitted in our trauma center. Hemodynamically stable patients without any sign of peritoneal irritation who didn't undergo either laparoscopy or immediate laparotomy where enrolled. In all cases peritoneal violation was proved by local wound exploration or by presence of evisceration or pneumoperitoneum. All of them were monitored by serial physical examination.
Results: Over the 8-year period, 70 asymptomatic patients with penetrating abdominal wounds were admitted for serial examination. Including patients with: evisceration(6); pneumoperitoneum(2); implanted foreign body(2). In 64(91.4%) cases we had successful approach and uneventful outcome. But 6(8.6%) patients subsequently required laparotomy: peritonitis(5), hemodynamic instability(1). In all cases the need in laparotomy has been found within 12hours after hospital admission. All procedures were therapeutic and there were no complications due to delays. Hospital stay was 2.86±0.2 days in successfully managed group; and 6.75±4.8 days in failure of approach group.
Conclusion: Nonoperative approach by serial physical examination is a safe method for managing patients with penetrating abdominal wounds. Although there is a risk of delayed laparotomy doesn't cause additional morbidity.
References: .
Disclosure: No significant relationships.

P091

SURGICAL OUTCOME OF UNSTABLE FRACTURES OF THE PELVIC RING

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Introduction: The aim of this study was to evaluate the epidemiological aspects of unstable pelvic ring fractures and the functional outcome if surgical treatment.
Material and methods: All patients underwent surgical treatment of pelvic ring fractures from January 2010 to December 2015 in our institution were retrospectively analyzed. Fracture type according to Tile's classification, surgical procedure, length of hospital stay, early and late complications, reoperations and mortality were recorded.
Results: 27 patients (22 men, 5 women) with a mean age of 43,1 years (range 16-68 years), met the inclusion criteria. The average follow-up was 31 moth (range 12-60 moths). Road accident was the most prevalent mechanism of injury (18 cases). Nine fractures (33,3%) were classified as type B and 18 (66,7%) as type C. The mortality rate was 7,4%. The average physical component score of the SF-36 was 81,3 (range 22,5-100), and the average mental component score of the SF-36 was 80,8 (range, 33,3 – 100). 93% of the working patients returned to their full-time jobs after treatment. In this study most unstable pelvic ring fractures occurred in men, in their mid-40's, suffering road accidents, which in accordance with literature. Probably because only operated patients were included, the most prevalent type was vertical unstable Tile C, unlike other studies. All patients had associated injuries and extra-pelvic injuries were highly associated with mortality.
Conclusion: Although demanding surgical treatment of unstable pelvic ring fractures allows good or excellent results in the majority of patients, and a high rate of return to work in this young and active population.
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Disclosure: No significant relationships.

P092

DAMAGE CONTROL SURGERY AS TREATMENT OPTION FOR ACUTE MESENTERIC ISCHEMIA

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Introduction: Regardless the progress achieved in diagnosis and surgical treatment of acute mesenteric ischemia (AMI) mortality rate is still elevated in these patients. AMI is still a catastrophe with the most complex and controversial issues in abdominal surgery.
Material and methods: Authors present herein the results of surgical management of 53 consecutive cases of AMI. Median age was 68.4±1.8 years (95% CI:64.77-72.06). AMI was confirmed by thrombogenesis and thrombolysis markers, serum lactate, ischemia modified albumin, 3D-CT angiography and laparoscopy. The patients were treated according to Damage Control Surgery (DCS) principles: compromised bowel resection without anastomosis, laparostomy, including VAC-system, ICU patients' stabilization and consequent surgery for GI tract reconstruction. The average length of resected bowel at primary surgery was 220.1±20.75 cm (95% CI:178.2-262.1). Segments of ischemic bowel were: jejunum (n = 4), ileum (n = 11), jejunum + ileum (n = 14), ileum + right hemicolon (n = 2), jejunum + ileum + right hemicolon (n = 14), total bowel necrosis - n = 8. The median time from primary surgery till gastrointestinal tract reconstruction was 44.7±2.8 hours (95% CI:39.15-50.33).
Results: Postoperative mortality rate was 60.37%.
Conclusion: Damage Control Surgery in case of acute mesenteric ischemia significantly reduces postoperative mortality rate compared with the conventional approach.
References: .
Disclosure: No significant relationships.

P093

DELAYED MESH REMOVAL IN SEVERE LIVER TRAUMA

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Introduction: The concept of intrahepatic packing for liver injuries is introduced by W.S. Halsted in 1913. There are opposing views about the timing of the planned relaparotomy with removal of the liver

packs, because sepsis following packing represents a major source of morbidity. On the otherside the timing of mash removal is not critical as long as thehemodynamic stability is asured.
Material and methods: Through the clinical case presented, we illustrate that in severe liver injuries, delayind mesh removal beyond 48 hours is benefic, because it provides hemodynamic stability, reduces the risk of re-bleeding or bile leak. The evolution post mesh removal is advantageous with no significant complications. We report the case of 51 years old male, victim of an work accident, who was admitted in our surgical unit by transfer from another clinic. Exploratory laparotomy and liver packing was perfomed. The patient was addmited in our service two days later, hemodynamic and respiratory stabil and a CT scan was performed. Liver packing was removed 8 days since the first laparotomy, an easy procedure without incident. The postoperative evolutive was favourably.
Results: The concern about the planned relaparotomy in order to remove liver packs must be adapted at every case, depending on certain parameters such as hemodynamic and respiratory condition, general evolution, comorbidities and liver function, liver lesion severity.
Conclusion: An early removal of liver packs is associated with hemorrage complications. Course of treatment must be adapted to each case and not routinely addressed.
References:
Disclosure: No significant relationships.

P094

APACHE 2 AND MANHEIM PERITONITIS SCORE AS PROGNOSTIC PARAMETERS IN TREATMENT OF OPEN ABDOMEN

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Introduction: We investigated the factors related to short term survival in patients who underwent open abdomen.
Material and methods: Between the date of 2008-2016, there were 31 patients who underwent open abdomen due to several etiologies. APACHE II scores and Mannheim Peritonitis Index (MPI) were used to calculate the disease severity. Intensive care unit, mechanic ventilator time, hospital stay were enrolled. The outcomes and effectiveness of APACHE II and MPI values were analyzed retrospectively.
Results: Median age was 60.9 (21-82). There were 13 males (% 42) and 18 females (% 58). Mortality rate was % 61,3. Eleven patients underwent open abdomen due to complication of elective surgical procedures, 17 patients due to emergency surgery and 3 patients due to trauma. Abdominal closure was achived by skin only closure in 12 patients (% 38), primary closure in 2 patients (% 6.5) and with dual mesh in 2 patients (% 6.5). Abdominal closure could not be achived in 15 patients (% 49) due to exitus. In five patients (% 16), Vacuum Assisted Closure (VAC) was used. VAC usage didn't shorten abdominal closure time ($p = 0.085$), ICU stay ($p = 0.808$) or hospital stay ($p = 0.63$) significantly. There was no significant difference in ICU time, hospital stay, mechanic ventilation time and Mannheim Peritonitis Index (MPI) between survivors and nonsurvivors. APACHE II score was significantly lower in survivors ($p = 0.013$).
Conclusion: APACHE II score is significanly related with survival. VAC usage does'nt improve survival or abdominal closure time. Large studies are needed to confirm our results.
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Disclosure: No significant relationships.

P095

SURGICAL EMERGENCIES IN CANCER PATIENTS WHICH RECEIVED RADIO AND/OR CHEMOTHERAPY

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Introduction: The definition of an oncologic emergency is: a life threatening condition in a cancer patient that appeared as the result of the neoplasm, or, during its treatment. Obstruction of the digestive tract is the most frequently encountered condition seen in surgical oncology practice.
Material and methods:
We performed a retrospective study between 01.01.2010 and 01.01.2016 in which we included a number of 200 transfer procedures from the wards of radiotherapy and chemotherapy directly on the Ist Clinic of Surgery Of The Bucharest Oncology Institute, in the context of a sudden diagnosis of a surgical emergency.
Results: Out of the total of 200, 86 were transferred from the radiotherapy ward and 114 from the chemotherapy department. Surgical emergencies encountered were: intestinal obstruction (14% in patients with chemotherapy for stage Iv colorectal cancer), fistula formation in around 3% of chemotherapy patients and the same per cent for those with bleeding and perforation. In the case of radiotherapy the incidence of the complications which required active treatment is around 5%. The perioperative mortality rate was 9%.
Conclusion: Life threatening surgical complication events in cancer patients are of a severe outcome in comparison with the same surgical emergency in a patient with a good general condition and without any immune depression. Therefore, even if the surgical act becomes more risky and technically difficult due to local and general particularities, it is worth the effort and assuming the risk, as the survival is better in the case of surgical treatment, in comparison with conservative treatment.
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Disclosure: No significant relationships.

P096

LIVER TRAUMA - OUR EXPERIENCE

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Introduction: The liver is one of the organs, most frequently involved in abdominal trauma.
Material and methods: The trial includes 53 cases of liver injury treated during 2006-2015. Associated lesions were significantly increased severity of cases. Preoperative diagnosis was established by the FAST ultrasound examination, performed in emergency, by peritoneal lavage or by associated CT scan. Lesions usually received conservative surgical solutions (37 cases), but it has been also practiced nonoperative methods for minor injuries, in hemodynamically stable patients (11 cases) and liver resections (5 cases). Direct ligation of parenchymal bleeding vessels, total vascular isolation with venous injuries repair and the emergence of damage control surgery have yielded positive results in hemodynamically unstable patients. Anatomic liver resection and use of atriocaval shunt are rarely indicated.
Results: The most serious complications seem to be necrosis of liver parenchyma and high flow biliary fistula, each time treated conservatively. Mortality recorded 5 deaths, but not any direct consequence of liver injury, but due to the severe associated injuries.
Conclusion: Recent advances in imaging, surgery and critical care monitoring have positive changed the protocols established for the management of liver damage.
References:
Disclosure: No significant relationships.

P097

SPLEEN INJURY

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Introduction: Trauma is the first cause of mortality in the age group 1-46 years. It is the third cause of death in all age groups (after cardiovascular diseases and cancers). In civilized countries, road accidents are the main cause of morbidity and mortality in traumatic pathology. Spleen is the most frequently injured organ in trauma (45%).
Material and methods: Our retrospective study presents the evolution of 103 patients with traumatic spleen injuries, hospitalized between 2010-2015 in our Sugery Department.
Results: In our lot the the majority were male patients (67,9%), with the mean age of 50 years old. The most frequent causes of trauma were falls (33%), assaults (17.5%), traffic accidents (16.5%). CT was performed in 38.9% of cases. 10.7% of patients were hemodynamically unstable emergency surgery was performed. Splenic lesions were graded using imagistic as:grade I-II (32%), grade III-IV (60%), and grade V (8%). In our lot 14.5% associated costal fractures, pneumothorax 4.8%, required pleural drainage, fractured limbs were found in 8.7%; associated liver damage and brain contusion were found in 5.8% and 9.7% of cases. Splenectomy was performed in 67,9% of patients. In polytrauma cases we registered 3 deceases in patients with multiple lesions (liver, lung, brain). Post-operative complications were registered in 5 patients: 1 patient associated pancreatic fistula, and 4 patients had parietal suppuration.
Conclusion: We can conclude that in our experience preserving spleen in grade I-II injuries significantly reduces mortality and morbidity in these patients. The analysis shows efficient management of trauma patients in this group with emergency protocols implementation

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Disclosure: No significant relationships.

P098

EMERGENCY SURGICAL APPROACH OF SUPRAMESOCOLIC ZONE 1 VASCULAR INJURY-ANATOMICAL BASIS FOR OPTIMIZATION

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Introduction: Although rare, abdominal vascular injuries are considered as being the most difficult injuries in trauma patient and the most lethal by causing massive acute blood loss. The need for having a fast control of the bleeding and the lack of experience with this kind of lesions demands good understanding of regional anatomy.
Material and methods: We performed an anatomical descriptive study of the major vessels located in the supramesocolic zone 1 by dissecting 5 formalized cadavers in the Human Anatomy Department of University of Medicine and Pharmacy of Bucharest. Subdiaphragmatic aorta and its major branches were photographed and described and also the optimum way to approach them.
Results: Suprarenal aorta, celiac trunk, inferior phrenic artery, superior mesenteric artery and renal arteries were highlighted as major branches of zone 1. The relations with close viscera or other vessels were described and also the structures that need to be dissected for their discovery and their variations.
Conclusion: For a fast and safe surgical management of these rare and lethal vascular injuries the trauma surgeon must have a good understanding and frequently recap the anatomy of this region which is the base for optimization.
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Disclosure: No significant relationships.

P099

USING THE VIVANOTEC NEGATIVE PRESSURE KIT IN ACUTE PANCREATITIS WITH ABDOMINAL COMPARTMENT SYNDROME

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Introduction: Acute severe pancreatitis raise multiple and challenging therapeutically problems. In some cases a high abdominal pressure develops with hemodynamic and renal dysfunctions which can be easily alleviated by decompression laparotomy. The aim of this review on patients with early severe acute pancreatitis (AP) is to establish a correspondence between intra-abdominal hypertension (IAH) and abdominal compartment syndrome (ACS) and physiological functions, and the association of IAH/ACS and outcome.

Material and methods: Patients with AP recruited in this study were selected according to intra-abdominal pressure (IAP) determined by indirect measurement using the transvesical route via Foley bladder catheter, a IAP $\geq$ 12 mmHg was used as reference for urgent decompression. For analysis of the influence of IAH/ACS on organ function and outcome, the physiological parameters and the occurrence of organ dysfunction during intensive care unit (ICU) stay were recorded. As a decompressing method we used the Vivano Tec negative pressure kit, which we consider optimal in obtaining a low intra abdominal pressure offering simultaneously an excellent management of the decompresive laparatomy.

Results: Although ACS patients had obvious amelioration in physiological variables within 24 h after decompression, the incidences of pancreatitic infection, septic shock, multiple organ dysfunction syndrome (MODS) and death. Mortality remains disappointingly high (85%), even though immediately after decompression of the abdomen the hemodynamic parameters and respiratory and renal functions temporarily recognize marked improvement.

Conclusion: recognising ACS and early decompresive laparotomy using the Vivano Tec kit are, in our opinion, esential in the management of the patients with severe acute pancreatitis who develop IAH.

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Disclosure: No significant relationships.

P100

ABDOMINAL COMPARTMENT SYNDROME ACTUAL THERAPEUTIC APPROACH

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Introduction: The abdominal vacuum-assisted closure (VAC) system has been introduced, providing a new possibility to treat an open abdomen. Abdominal compartment syndrome has a great relevance in surgical practice and patient care in critical condition due to the effects of increased pressure in the enclosed space of the abdomen can lead to multiple organ failure. The problem goes beyond compartment syndrome in surgical patient care, including several disease states and various clinical scenarios. Recent evidence suggests that some of the adverse effects of elevated IAP levels appear lower than previously thought and occurs prior to the development of fulminant compartment syndrome.

Material and methods: Our retrospective study presents the evolution of 4 Patients with abdominal compartment syndrome, hospitalized between 2015-2016 in our sugery department. This paper proposes a review of compartment syndrome surgery in taking that option using negative pressure devices.

Results: Abdomens were left open for 14 days (range 5 to 27 days) with 4.25 dressing changes (range 1 to 7) per patient. Abdominal closure was achieved in all cases with no marked relation to duration of open abdomen treatment.

Conclusion: Treatment of laparostomy with VAC for abdominal compartment syndrome results in a high rate of successful abdominal closure. In addition, patients recover more rapidly. We recommend vacuum therapy in such cases, the technique proving its usefulness.

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Disclosure: No significant relationships.

MANAGEMENT OF SEVERE HEMORRHAGE FROM PELVIC INJURY (CLINICAL RESEARCH/ BASIC SCIENTIFIC RESEARCH)

P101

A HIGH ABBREVIATED INJURY SCALE SCORE DOES NOT ALWAYS INDICATE HIGH MORTALITY IN PATIENTS WITH PELVIC INJURIES

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Introduction: The abbreviated injury scale (AIS) is an anatomically based global severity scoring system that classifies injuries by body region. The occurrence of retroperitoneal hemorrhage (RH) was classified as a severe pelvic injury in the AIS 1998© (AIS=4 and 5). However, angioembolization is commonly used to treat fracture-associated arterial RH and improves the survival rate of patients with pelvic fractures. In the current study, we attempted to delineate the efficacy and accuracy of the AIS 1998© for evaluating pelvic injuries in the era of interventional radiology.

Material and methods: We retrospectively reviewed patients with pelvic fractures occurring between January 2010 and December 2014 who underwent angioembolization for RH. The AIS 1998© was used to evaluate the regional severity of pelvic injuries, and comparisons were performed between patients with mild and severe injuries. In addition, the characteristics of mortality were compared between the surviving patients, whereas the causes of death in the patients with pelvic fracture were discussed and analyzed.

Results: A total of 1033 patients were enrolled in this study during the 60-month study period, and the overall mortality rate of pelvic fracture was only 4.4% (45/1033). Among the patients with severe pelvic injuries (AIS = 4 and 5, N = 171), there was no significant

difference in the mortality rate between the patients who received angioembolization and those who did not (13.3% vs. 21.4%, p = 0.255). In addition, there was no significant difference in the AIS of pelvis injury between the surviving (N = 988) and non-surviving patients (N = 45; 2.7±1.8 vs. 2.6±2.2, p = 1.000). Furthermore, the patients with severe pelvic injuries (N = 171) had a significantly higher mean injury severity score (ISS) (46.7±14.0 vs. 23.7±8.5, $p<$ 0.001) and a larger number of injuries than the patients with mild pelvic injuries (N = 862).

Conclusion: RH related to pelvic fracture could be effectively controlled with angioembolization. The severity of RH based on the AIS system should be reconsidered. In addition to RH, injuries to other organs that are associated with pelvic fractures may play a key role in patient mortality.

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Disclosure: No significant relationships.

P102

ANATOMICAL BASIS OF BLEEDING IN TRAUMATIC PELVIC FRACTURES

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Introduction: Pelvic fractures occur due to major external forces and high-energy injuries. Hemorrhage may occur from fractured cancellous bone surface, branches of internal iliac artery and pelvic venous plexuses. The fractures can be grouped into six anatomical areas sacroiliac fracture, ilium wing fracture, ilium body fracture, acetabular fracture, ischium fracture, pelvic floor fracture. The aim is to highlight the anatomical basis of hemorrhage in pelvic fractures for a better understanding of angiographic treatment and pelvic packing.

Material and methods: We performed pelvic dissections in 5 formalized cadavers from the Anatomy Department of University of Medicine and Pharmacy of Bucharest and after grouping the most prevalent traumatic pelvic fractures we matched arteries and veins that are close to the fractured bony parts and could be injured. We also correlated with the mechanism of trauma.

Results: We highlighted branches of internal iliac artery that are frequently involved in pelvis fractures because of the close contact with bony parts: iliolumbar artery, lateral sacral artery, superior gluteal artery, obturator artery, inferior gluteal artery, internal pudendal artery. Also presacral venous plexus and retropubic one were highlighted. The vessel was described and also the optimum way to approach that vessel in trauma was suggested.

Conclusion: In trauma setting it is mandatory to manage the bleeding as fast as possible due to the increase mortality associated. In order to do that, whether it is angiography, packing or surgical stabilization, one who does that must know precisely the vessels that have close contact with the fracture line and how to stop the bleeding.

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Disclosure: No significant relationships.

P103

ATLS: THE IMPORTANCE OF PELVIC RING STABILIZATION AS A LIFE-SAVING MEASURE IN PRE-HOSPITAL CARE-A CASE REPORT COMMENTED BY AUTOPSY

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Introduction: Hip fractures with unstable pelvic ring have a great morbidity and mortality.These fractures result from high energy trauma (high heights falls/road accidents/collapsing structures).Fractures are often associated with abdominal, pelvic or chest injuries.Bleeding and vascular lesions are the main complications.Hemodynamic instability and hypovolemic shock due to the difficulty in containing these hemorrhages into the pelvic cavity can rapidly progress to death.This is the main reason why these lesions should be early diagnosed and stabilized in the prehospital.

Material and methods: A 63 years-old man,stood inside a ditch,-trapped by structure collapse; promptly removed,however it resulted in a direct trauma of the right thigh and pelvis.He found himself lucid and oriented only complaining about pain.Over an hour he underwent into hemodynamic instability with cardiac arrest not reversed by cardiac resuscitation maneuvers and he died.

Results: The autopsy revealed right diaphyseal femur fracture with open book pelvic fractur;severe hemorrhagic infiltration and hematoma of the pelvic muscles without arterial injury,but with major venous bleeding and bone unbundling of sacroiliac joints(200ml haemoperitoneum).No visceral lesions were found.He had perineal ecchymosis(Desdot signal)as a translation of hemorrhage/associated pelvic fractures.

Conclusion: During necropsy,it was demonstrated and proved how a simple sheet contention can promote a pelvic ring stabilization

by closing the sacroiliac joints in open book lesions,which was impressive!The close relationship between the great iliac vessels and sacroiliac joints can promote injuries of iliac arteries branches.Bladder,urethra and rectal lesions can also be present (high energy dissipation).The pubis symphysis is the weakest link of the pelvic ring ($\sim$15% of the stability);sacroiliac ligaments are the strongest(vertical/anteroposterior stability).

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Disclosure: No significant relationships.

CEREBROSPINAL TRAUMA (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P104

NEW BIOMARKER FOR TRAUMATIC BRAIN INJURY

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Introduction: Mild Traumatic Brain Injury (mTBI) is a common problem. mTBI is difficult to diagnose with imaging techniques immediately after the event, and there is not a definite laboratory test to support the diagnosis. An undiagnosed mTBI can result in a too early "return to play" with severe consequences, or in an early onset of a chronic neurodegenerative condition later in life. An ideal laboratory test, detecting a brain injury-specific biomarker in one of the body fluids, would confirm or rule-out the brain injury, predict the outcome, and indicate when the recovery is complete. We have discovered a biomarker of brain injury in our pre-clinical studies and we have conducted a clinical trial to confirm and validate the detection of this biomarker in human subjects.

Material and methods: 12 patients were recruited being hospitalized due to an acute head trauma. Samples of body fluids were drawn from each subject using regular clinical sampling methods. The samples were analyzed for the level of the biomarker and its structure using biochemical state-of-the-art methods. The levels and profiles of the biomarker were analyzed between the patients and healthy controls.

Results: Pre-clinical studies showed an elevated level of the biomarker in the body fluids after a brain-injury. The result of the clinical study is a proof-of-concept to verify the presence of the biomarker in human subjects. More data will be presented in the meeting.

Conclusion: The new biomarker that has been discovered in our studies can be used to detect brain injury and to distinguish between brain-injured and healthy individuals.

References: https://clinicaltrials.gov/ct2/show/NCT02836951?term=medicortex&rank=1

Disclosure: All three authors are employed by Medicortex Finland Oy.

P105

EFFECT OF HEAD POSTURE ON ICP AND CPP IN PATIENTS WITH SEVERE TRAUMATIC BRAIN INJURY: A SYSTEMATIC LITERATURE REVIEW

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Introduction: The secondary injury after TBI will increase ICP magnifying brain injury and worsening the prognosis. The elevation of the head of the bead has been one of the strategies that have been shown to be effective to control ICP and CPP. Aim: To identify and evaluate the best scientific evidence for the effects of head elevation in patients with severe intracranial injury in ICP and PPC values, and the relationship between them.

Material and methods: Systematic review of the literature (RSL). Electronic search in databases with time limiter (2003-2013), and analysis of the level of evidence and quality 3 studies met the inclusion criteria.

Results: ICP: In the supine position with HOB 30° with elevation of the knees there was a statistically significant decrease (p = 0 .035). In the supine position with HOB 45° with elevation of the knees there was a statistically significant decrease (p = 0.015). CPP: In the supine position with HOB 0° the value was lower but not significantly different (p = 0.412). In the supine position with HOB 30° there was a decrease in value in 47.4% of patients.

Conclusion: Although the supine position with HOB 30° was the best one for the optimization of ICP, when analyzed in conjunction with the values of the CPP, results are more controversial. It is widely accepted that elevation of the head is an important aspect in the management of ICP and CPP. The results suggest the existence of a non-standard position, and the need of individualized management of the position to adopt.

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Disclosure: No significant relationships.

P106

DYNAMIC ILEUS CAUSING DIASTATIC PERFORATION OF THE CECUM IN PATIENTS SUFFERING FROM VERTEBRAL-MEDULLARY TRAUMA

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Introduction: The clinical presentation of bowel dysfunction in patients suffering from vertebral-medullary trauma can be divided

into two distinct patterns: the upper motor neuron bowel syndrome and the lower motor neuron syndrome. Neurogenic bowel is a frequent complication after vertebral-medullary trauma. It produces a significant effect on the quality of life, also affecting mortality. Careful evaluation, establishing an individualized treatment is crucial in preventing complications. Conservatory treatment in not always effective, patients sometimes requiring surgery. Failure in applying conservative measures and delay in indicating surgical treatment may result in diastatic perforation of the cecum.

Material and methods: We conducted a study on patients suffering from vertebral-medullary trauma admitted in "Bagdasar Arseni" Emergency Hospital over a period of 5 years, patients developing posttraumatic bowl dysfunction that required surgical treatment

Results: 72% of patients suffering from vertebral-medullary trauma developed posttraumatic bowl dysfunction. The majority of patients had a favorable outcome after administrating conservative treatment. 1.5% required surgery due to the presence of dynamic ileus, non-responsive to conservative measures. Of these patients, in 0.35% one of the intraoperative findings was diastatic perforation of the cecum for witch right hemicolectomy or other surgical maneuvers were conducted. Consequently, an increased length of stay in the hospital was observed, without influencing survival rate.
Conclusion: Management of dynamic ileus in patients with vertebral-medullary trauma should include a multi-faced approach, including conservative treatment with diet, pharmacological treatment and electrical stimulation. The difficulty in managing these cases consists in establishing the right moment for applying surgical measures, preventing the appearance of diastatic perforation.
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Disclosure: No significant relationships.

P107

DYNAMIC ILEUS – A SURGICAL TRAP IN PATIENTS WITH SPINE TRAUMA

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Introduction: Dynamic ileus is dependent on the time elapsed since the trauma and the level of the spinal lesion. Thus, there are three distinct phases: acute phase characterized by the spinal shock, subacute phase and chronic phase characterized by neurogenic bowel. Installation of the dynamic ileus leads to abdominal distension and worsening of the respiratory disorders, increases the risk of aspiration, prevents venous return and decreases bone marrow perfusion.

Material and methods: We analysed 111 patients admitted to the "Bagdasar-Arseni" Clinical Emergency Hospital during 2015-2016, presenting cervical and thoracic spine trauma, of various types and with different degrees of severity. Regardless of the neurosurgical lesion type, its topography and gravity, all patients underwent a protocol of standard clinical, biological and imaging surveillance.
Results: After monitoring the 111 patients, we observed dynamic ileus occurrence in 87 patients. Over 60% of the patients were presenting high cervical lesions (predominantly neurological lesions type Frankel A). The time elapsed from the accident to the installation of the bowel obstruction manifestations was 4-7 days in 56% of the patients. Of the 87 patients, only 13 patients required surgery to solve the ileus, due to the previous administered drug resistance and to the risk of diastatic perforation. Mortality was represented by 10 patients, encumbered by the neurosurgical disease, the severity of the abdominal damage association, and the diversity of other complications that can lead to a fatal outcome.
Conclusion: Spinal injury and dynamic ileus can represent a morbid and severe association, which can lead to secondary complications with significant vital risks.
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Disclosure: No significant relationships.

P108

THE OUTCOME OF VAGUS NERVE STIMULATION THERAPY IN POSTTRAUMATIC REFRACTORY EPILEPSY

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Introduction: Refractory epilepsy represents a severe clinic entity which involves a significant number of patients and has important economic and social implications. Many patients with refractory epilepsy have seizures related to traumatic lesions. Vagus nerve stimulation (VNS) represents one of the main surgical options for the treatment of the refractory epilepsy in pediatric and adult patients. The authors present their experience with VNS therapy for patients with posttraumatic refractory epilepsy
Material and methods: 200 patients diagnosed with refractory epilepsy, were implanted with vagal neurostimulators between October 2012 and May 2016 in Neurosurgery Clinic, "Bagdasar-Arseni" Emergency Hospital. We selected and included in our study only the patients diagnosed with posttraumatic refractory epilepsy implanted with vagal neurostimulators.
Results: In our series 27 patients had posttraumatic refractory epilepsy. There were 4 children and 23 adults. The gender distribution was: 14 females and 13 males. The medium age was 31,5 years. The average period of hospitalization was 5 days. The medium follow-up period was 8,5 months and the minimum follow-up period was one month postoperatively for all patients. There was no death in this series and no intraoperative incidence. One patients presented dysphagia postoperatively which completely remitted after two months of follow-up. At six months after implantation procedure, the

frequency of seizures reduced up to 50% compared with preoperative baseline.
Conclusion: VNS represents now a safe, quick and efficient surgical procedure with a minimum period of hospitalization and a short recovery period. The outcome of the patients with posttraumatic epilepsy is better, in term of the frequency and severity of the seizures. The good results on long term improve the quality of life of the patients and facilitate the social and professional reinsertion.
References:
Disclosure: No significant relationships.

P109

THORACIC SPINE TYPE C INJURIES ACCORDING TO THE AO CLASSIFICATION. INJURY PROFILE, MANAGEMENT AND OUTCOME

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Introduction: Thoracic spine type C injuries according to the AO classification. Injury profile, management and outcome Cristian Filip MD, Daniel Serban MD, Niki Adrian Calina MD, Marius Podea MD, Checiu Gheorghe MD, Florin Exergian MD "Bagdasar-Arseni" Clinical Emergency Hospital, Spine Surgery, Bucharest Keywords: thoracic fracture, type C, AO classification In the last years we observed an increased number of patients with multiple lesions after high energy accidents. Type C injuries of the thoracic spine are the most severe lesions, with the worse prognosis.
Material and methods: The study analyzes the injury profile, management and outcome of all patients with thoracic spine, from T1- to T10, type C injuries treated in the Spinal Surgery Department of " Bagdasar- Arseni" Emergency Hospital, in the last 5 years. There were 26 patients admitted in the study, mostly male, 77%, with a mean age of 33.8 years. All of them were victims of high energy accidents, and all had spine injury associated with multiple lesions (head, thoracic, abdominal and limbs).
Results: We have chosen a posterior approach in all cases, with laminectomy or hemilaminectomy, permitting us to achieve all the major objectives of surgery, with the advantage of a lower blood loss and a reduced operating time. The purpose of surgery was to achieve decompression of the spinal cord and stability of the thoracic spine. We treated 19 patient surgically and 4 patient conservative.
Conclusion: Thoracic spine type C fractures remain a challenge for the spinal surgeon. These lesions require a multidisciplinary team approach for the treatment of associated lesions.
References:
Disclosure: No significant relationships.

P110

META-ANALYSIS CONCERNING EARLY VERSUS DELAYED DECOMPRESSION AND SURGICAL TIMING FOR TRAUMATIC SPINAL CORD INJURY

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Introduction: There is convincing evidence that early decompression in the setting of spinal cord injury (SCI) improves neurologic outcomes. However, the effect of early surgical decompression in patients with acute SCI remains uncertain. Our objective was to evaluate the relative effectiveness of early (<24 hours after injury) versus late (>24 hours after injury) decompressive surgery after traumatic spinal cord injury. Our presentation is a meta-analysis on damage control, decompression and timing in SCI and if dural incision and duroplasty should be perform or not.
Material and methods: A Medline and PubMed search covering the period 1966-2016 suplimented with manual search, was used to locate studies containing indication, rationale, timing and methods of surgical decompression after spinal cord injuries. Related to spine lesions we analysed the differences between "early total care" and "damage control" both applied < 24 hours compared to delayed treatement > 24 hours.
Results: Statistically, early decompression resulted in better outcome compared with both conservative and late management, supporting the theory that decompressive surgery of the spinal cord after SCI attenuates secondary injury mechanism and improves neurological outcomes. Nevertheless, analysis of homogeneity showed that only data regarding patients with incomplete neurologic deficits who had early surgery were reliable. Dural incision and duraplasty necessitates further studies.
Conclusion: 1.The study does not offer a sharp distinction between early total care and damage control surgeries. 2 Early decompression can be consider practice option for all groups of patients. 3 Dural decompression and duraplasty is understudied.
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Disclosure: No significant relationships.

P111

MORTALITY AMONGST PATIENTS ADMITTED TO THE ICU WITH TRAUMATIC BRAIN INJURY

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Introduction: Traumatic brain injury (TBI) contributes to 30% of trauma deaths and is the main cause of death in trauma patients who were admitted to the Intensive Care Unit (ICU) in the UMC Utrecht (UMCU, the Netherlands), Harborview medical center (Australia) and the John Hopkins Hospital (USA). Mortality rates amongst ICU patients at the UMCU are higher when compared to the other hospitals, in spite of correction for the ISS. Our objective was to evaluate the high mortality rate at the UMCU by investigating causes of death following TBI.

Material and methods: Patients aged 18 and above, admitted to the ICU of the UMCU between 2011 and 2015 with severe or moderate isolated TBI, who had not been referred from or to another hospital were included. Records were screened for cause of death, Glasgow Outcome Scale score after three-four months and several possible prognostic factors, including the ISS.
Results: In 81% of cases, cause of death was withdrawal of life-sustaining treatment. For 12% of patients mortality was a result of complications from TBI or treatment thereof. 7% of patients were brain dead and one third had not regained independence after three-four months. No patient left the hospital in persistent vegetative state. The strongest prognostic factors were compression of the basal cisterns, APTT, age, motorscore and the AIShead.
Conclusion: The withdrawal of life-sustaining treatment rate in the UMCU is on the higher end of the spectrum, when compared to other hospitals. APTT may be considered a useful prognostic indicator in addition to the established prognostic tools.
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Disclosure: No significant relationships.

BONE INFECTIONS (CLINICAL RESEARCH/ BASIC SCIENTIFIC RESEARCH)

P112

FACTORS ASSOCIATED WITH WOUND COMPLICATIONS AND IMPLANT FAILURE FOLLOWING OPERATIVE TREATMENT OF ANKLE FRACTURES

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Introduction: The aim of this study is 1)to describe epidemiology of post-operative complications and clinical characteristics of patients with surgically treated ankle fractures, and 2)to assess which factors are associated with the most frequent occurring complications.
Material and methods: A retrospective cohort study was conducted in two level 2 and one level 1 trauma center in the Netherlands. Study variables were collected from electronic patient records, all ankle fractures were classified according to the Lauge Hansen classification and complications were recorded.
Results: A total of 989 patients were included. 173 complications were observed in 156 patients (15.8%). The most frequent complication were post-operative wound problems, which occurred in 101 (10.2%) patients. Implant related problems occurred in 44 (4.4%) patients. Other complications such as cast pressure spots, post-traumatic dystrophy, nonunion, impingement and pneumonia occurred in 28 patients (2.8%). Multivariate analysis showed that increased risk for wound complications were an advanced age, increased ASA classification, smoking, right as symptomatic side, open fracture and initial external fixation. Most implant related problems were caused by malreduction of the medial or lateral malleolus (n = 22) or had a missed or untreated syndesmotic injury (n = 19). Malreduction was often seen in supination eversion fractures (p = 0.059). Missed or untreated syndesmotic injury occurred more often after a pronation external rotation fracture ($p < 0.001$).
Conclusion: The most frequent complications after ankle fracture surgery are wound related or implant failure. Postoperative wound complications are multifactorial and depend on a combination of trauma related, patient related and treatment related factors, while implant related problems occur mostly due to the interaction between the type of fracture and subsequent treatment.
References:
Disclosure: No significant relationships.

P113

POSTOPERATIVE INFECTIONS AND TREATMENT OPTIONS FOLLOWING PELVIC RING AND ACETABULAR SURGERY. A RETROSPECTIVE ANALYSIS

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Introduction: Knowledge of predictors and pathogen spectrum leading to postoperative infections are of legitimate interest. Although a high age and body-mass index are known increasing the risk for postoperative infections following pelvic ring and acetabular surgery further predictors and data on the pathogen spectrum are still scarce.
Material and methods: All surgically treated pelvic ring and acetabular fractures were retrospectivally investigated between 2009-2013. Data on age, surgical approach, mortality, positive smear test and their results as well as the management of these infections were analyzed.
Results: Of 541 patients, 46 patients suffered from postoperative infection (infection rate: 8.5%). Twenty-eight patients were older than 65 years (60.9%). There was no predominant surgical approach associated with a postoperative infection. Spinopelvic fixation was infected in 19 patients (41.3% of all infections). Twenty-five smear tests yielded a positive result. Staph. aureus (n = 4) and E.coli (n = 4) were the leading pathogens. Nevertheless, 7 patients displayed smear tests with multiple pathogens. Thirty-five patients (76%) were successfully treated by serial debridement. Three patients (6.5%) died following multi organ failure in the aftermath of postoperative infection.
Conclusion: Elderly patients have a higher risk suffering from postoperative infection following pelvic ring or acetabular surgery, especially using open approaches. Based on the increased determination of multiple bacteria an adaptation of the perioperative antibiotic therapy should be considered. The majority of these infections are successfully treated by serial debridement.
References:
Disclosure: No significant relationships.

P114

FREE FLAPS. SAFE PROBLEMSOLVING FOR SEPTIC-TRAUMATIC DEFECTS – INCLUDING THE ELDERLY PATIENTS

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Introduction: The elderly patient with traumatic and septic defects is especially at risk due to comorbidities and local blood supply.The goal of the study is to retrospectively evaluate the surgical safety and the results of the reconstructive procedures using free flaps in elderly patients.
Material and methods: We retrospectively examined in the time frame between 01/2012 until 01/2016 27 patients aged over 70, on which a free flap procedure was performed. The mean age was 78. The distribution by age was 12 (44%) male and 15 (56%) female. The operative indication were soft tissue defects caused by trauma, tumor and infected endoprosthesis.
Results: Four patients (14,81%) were treated with a Latissimus dorsi flap, 11 Patients (40,74%) with a antero-lateral thigh (ALT) flap and three (11,11%) received a toracodorsalis perforator (TDAP) flap. Seven patients (25,9%) received another type of flap. On two patients after necrosis of a local a free flap as a salvage procedure a free flap was performed (Latissimus and ALT-flap). During the treatment with a local flap one patient (3,7%) deceased. Six flaps were lost due to complete necrosis. One patient had received additionally split thickness skin grafts due to a wound healing deficit.
Conclusion: The evaluation of the 27 patients confirms, that the free flaps can be a sustainable treatment of soft tissue and bone defects even on elderly patients. In this respect the free flap should be considered as a therapeutic option within the soft tissue coverage of patients over 70 years old, especially in the extremities.
References:
Disclosure: No significant relationships.

P115

INFECTION AFTER OPEN FRACTURES- THE KEY FACTOR IS TIME FROM TRAUMA TO SURGICAL DEBRIDEMENT

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Introduction: Septic risk after Open Fractures (OF) is unanimously recognised but the factors influencing its onset have not been yet clearly quantified. The authors intend to check in this paper the hypothesis that time form trauma to initial complete surgical debridement influences the onset of infection after OF
Material and methods: A retrospective study was performed in a Level 1 Trauma Center including 421 patients with OFoperated between 01.06.2010-01.06.2016, 18 months follow up. The criteria were: type -Gustillo classification, bone stabilization, time from trauma to the first antibiotic dose and to surgical complete debridement; the outcome was the incidence of superficial and deep infections.
Results: There were 172 type I, 101 type II and 90 type III open fractures. The mean time from trauma to first antibiotic dose was 2.8 hrs (30 min-6 hours). Mean time from trauma to initial debridement was 3 hrs (42 min-48 hrs). The incidence of infection was 6.9 %; stabilization type did not significantly influence the incidence of infections. Time between trauma and antibiotic treatment significantly increased the incidence of sepsis from 4.8% to 7.8% (antibiotics before/after 3 hrs), while time from trauma to debridement increased the risk from 3.8% (debridement before/after 6 hrs) to 7.6%
Conclusion: The current study suggests that, more than the time from trauma to antibiotics, time from trauma to proper surgical debridement is essential for the incidence of infection. Despite its limitations, this study suggests that surgical treatment is unfairly underestimated, being at least as important as the antibiotics, due to the characteristics of open fractures.
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Disclosure: No significant relationships.

P116

SEGMENTAL BONE INFECTIONS- PROBLEMS, OUTCOME

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Introduction: Bone infections require complex treatment, starting with debridement and sequestrectomy; consequently, a bone defect results, thus necessitating complex procedures in order to graft it. This paper analyses the type of surgery required to completely heal a bone infection in order to establish a potential algorithm for treating these complications
Material and methods: Authors retrospectively analyze 16 patients with segmental bone infections operated between 01.01.2012-01.06.2015, regarding: age, gender, type of fracture - closed or open, initial treatment, microbiology, type of injuries time from trauma to surgical treatment, number and type of surgical procedures, mean time of hospitalization, local and systemic complications
Results: Mean age was 35 yrs. (18- 64 yrs.); high energy trauma were responsible for the fractures in 12 cases.; there were 14 open fractures,2 cases type I, 2 type II, 10 type III, The medium value of the number of surgical procedures was 8, and bone defects were 6-20 cm long. External fixation was used in all the cases; Local procedures (peroneum pro tibia) was used in 3 cases, vascularised peroneal graft for 8 cases. In all the cases, the alternative in case of failure would have been amputation
Conclusion: Treatment of segmental bone infections requires procedures adressed to soft tissues, as well as to bone. Pre-operative evaluation and planning of surgery must be adapted to the biology of the patient. Thorough debridememnt is mandatory and represents the key of succes, followed by specific procedures performed by multidisciplinary teams.

Disclosure: No significant relationships.

P117

ACUTE INFECTION AFTER OSTEOSYNTHESIS: A COMPARISON OF TWO DIFFERENT STANDARDIZED TREATMENT REGIMENS

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Introduction: Infection near orthopedic implants is an important problem with significant morbidity for patients and challenging treatment dilemmas for physicians. The aim of this study is to analyze the efficacy of two different standardized treatment regimens for acute infection after osteosynthesis.
Material and methods: We identified patients through operation and microbiological registers in two level 1 trauma center in the Netherlands. Both hospitals implemented a standardized regime for acute infection after osteosynthesis with direct thorough surgical debridement, but differed in there antibiotic approach; empirical combination antibiotic therapy with rifampicin (A) or specific antibiotic therapy after culture and susceptibility data was available (B). Primary outcome was success, defined as consolidation of the fracture and resolved symptoms of infection. Logistic regression was conducted on patient related factors in association with primary success.
Results: Sixty-nine patients were included (39 center A, 31 center B). Success was reached in 72% in center A and in 47% in center B (*p*-value 0.033). Logistic regression showed an association with success and treated in center A (p-value 0.035), flap transplantation after debridement (p-value 0.010), longer duration of rifampicin therapy (p-value 0.028), primary closure after debridement (p-value 0.004), VAC-infection (p-value 0.007). Multiple logistic regression yielded no additional information. There was no significant difference in antibiotic resistance between the two centers.
Conclusion: Both centers had good overall success rates. Primary closure or direct flap transplantation is preferred in soft-tissue management. Empirical antibiotics can be used safely, and may contribute to the higher success rate in center A.
References:
Disclosure: No significant relationships.

GERIATRIC PATIENTS: IMPROVING CARE OUTCOMES (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P118

FACTORS AFFECTING PERI-IMPLANT FRACTURE FOLLOWING LOCKING PLATE FOR OSTEOPOROTIC DISTAL FEMUR FRACTURES

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Introduction: The purpose of this study is to evaluate the outcomes and to analyze the risk factors for the occurrence of peri-implant fracture after treatment of osteoporotic distal femoral fractures using locking plate.
Material and methods: Eighty nine osteoporotic distal femoral fractures were treated between January 2006 and January 2014. The cohort comprised 13 men and 76 women with a mean age of 70.4 (50-91).We analyzed the risk factors including sex, age, rheumatoid arthritis, taking of bisphosphonate, primary or periprosthetic fracture after TKR, open or closed fracture, type of the most proximal screw (locking/cortical), and number of proximal screws.
Results: All patients had osteoporosis with the mean BMD of -3.16 (-2.5 ~ -5.4). 84 cases showed union, the mean time to union was 14 weeks (10-42). Four patients had occurred peri-implant fractures after bony union at mean 37.5 months (14-62) postoperatively. Eight patients showed angular deformities greater than 5 degrees. Nonunion was shown in 5 cases and superficial wound infection shown in 2 cases. There were eight patients with RA. Among these RA patients, two patients had suffered peri-implant fracture. In statistical analysis, rheumatoid arthritis or periprosthetic fracture in TKR patient is a risk factor for peri-implant fracture (p = 0.039, 0.019, respectively), and other factors have no statistical differences.
Conclusion: The treatment using locking plate showed favorable outcomes in osteoporotic distal femoral fracture. However, peri-implant fracture could occur in patients with rheumatoid arthritis or periprosthetic fracture after TKR. Therefore, cautious consideration is necessary for management of osteoporotic distal femur fracture in patients with RA or periprosthetic fracture after TKR.
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Disclosure: No significant relationships.

P119

OUTCOMES IN ELDERLY PATIENTS WITH RIB FRACTURES, THE IMPACT OF DELIRIUM

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Introduction: Delirium in elderly hospitalized patients is common and often results in adverse events. The influence of delirium in elderly with rib fractures is unknown. The main goal of this study was to describe the incidence and outcome of delirium in patients of 65 years or older with one or more rib fractures and acute hospitalization.
Material and methods: Retrospectively we analysed all patients of 65 years and older with rib fractures, who were admitted between 1 January 2013 and 1 September 2015. Baseline patient characteristics were identified: comorbidities, the traumatic event, injuries and

interventions. The main outcome was delirium incidence. Secondary outcomes were complications, length of hospital stay, institutionalization and mortality within six months.
Results: A total of 52 patients were included in the study with a mean age of 81.5 years (SD:6.7). ASA 3-4 was documented in 31 patients. An ISS≥ 16 was described in nine patients. Delirium as a single complication occurred in three patients and delirium with other complications in ten patients, independently of the ISS score. Patients with a delirium had a longer hospital stay, were often institutionalized and had a higher mortality rate.
Conclusion: Delirium in rib fractured patients is common. Especially in combination with other complications it is associated with adverse outcomes.
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P120

OVERVIEW OF GERIATRIC EMERGENCY SURGERY – A NATIONAL COHORT STUDY

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Introduction: Geriatric emergency surgery (GES), with its volume of patients, breadth of surgical pathology and complex, high risk surgical cases, represents a key focal area in modern surgery.
Material and methods: A nationwide retrospective observational cohort analysis of general surgery department data, over a one-year period across Spain, was performed. Criteria were Emergency/Non Emergency, in four age groups (>64, 65-74, 75-84, 85+). Parameters were: - Number of admissions - Average length of hospitalization(LOS) - Number of deaths - Type of surgical emergency pathology.
Results: - Emergency admissions/1000 inhabitants rose from 3.5‰ (<65) to 15.1‰ (85+). - Average emergency case LOS increased from 6.57 days (<65) to 10+ (>65), compared to non-emergency (3.9 and 6.4 days respectively); - Emergency patient mortality (%) rose from 0.36 (<65) to 12.87 (85+), compared to non-emergency (0.09 and 2.8 respectively). More than 68% of all GS department registered deaths were in 75+ emergency patients (these representing only 13.4% of total number of admissions). Prevalence of acute cholecystitis increased from 15.81% (<65) to 39.2 (85+) and bowel obstruction from 7.13% (<65) to 27.31% (85+); acute appendicitis decreased from 30.46% (<65) to 2.71% (85+).
Conclusion: Based on this current snapshot and the demographic tendency, these parameters can only increase, making a proactive approach to this challenge necessary. GES patients should receive more specific treatment to improve outcomes. ESTES has responded to this need for change by promoting the GES project and Study Group to investigate further current evidence and to develop a more specialized approach to meet this challenge.
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Disclosure: No significant relationships.

P121

SAFETY AND EFFICACY OF A NEW REHABILITATION PROGRAM IN THE SURGICAL INTENSIVE CARE UNIT (SICU)

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Introduction: Due to the long term complications like intensive care unit (ICU)-acquired weakness and neuropsychiatric disease of critical illness, many organizations focus on rehabilitation in ICU patient's management. Despite of good outcomes from some papers, there are debatable issues of method, safety and efficacy of rehabilitation. We brought an early rehabilitation program (ERP) to our surgical ICU management and assessed safety and impact of it.
Material and methods: The ERP started in November 2014 in our 14-bed surgical ICU in ASAN medical center. We have focused on early and 5 staged rehabilitation program for patients. We have chosen 69 patients (pre-ERP group) for 6 months before November 2014 and 62 patients (post-ERP group) for 6 months after 1 year the ERP started. The main measures were safety issues, delirium days, ventilator days, hospital length of stay (LOS), ICU LOS, and in-hospital mortality.
Results: The introduction of new ERP brought earlier rehabilitation on SICU patients (7.6 vs 4.9 days, $p < 0.001$) and it was associated with a significant reductions in ICU-free days (8.8 vs 16.5 days, p'= 0.005), ventilator-free days (9.7 vs 13.7 days, $p = 0.035$), and in-hospital mortality (26.1% vs 12.9%, $p = 0.046$). We had total 19 cases of safety issues however no issues withheld the rehabilitation sessions.
Conclusion: A new ERP improves efficacy in SICU management and delivers safely.
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Disclosure: No significant relationships.

P122

THE IMPORTANCE OF ORTHOPEDIC-GERIATRIC CO-MANAGEMENT IN THE IMPROVEMENT OF THE OUTCOME OF SENIOR PATIENTS WITH FRAGILITY FRACTURES

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Introduction: Fragility fractures are typically associated with osteoporosis, and are a major health care problem in senior population, due to concomitant diseases, poly-pharmacy and different degrees of incapacity, which would severely increase general mortality (1).
Material and methods: We present a retrospective study of 20 elderly patients diagnosed with fragility fractures in the last 12 months and transferred from the Orthopedic Department to Geriatric Department for acute medical problems. We applied the Charlson Comorbidity Index (2) for concomitant diseases and geriatric assessment in order to monitor nutritional and cognitive status.
Results: From the 20 cases, 15 cases had hip fracture, and 5 cases had pelvic ring fractures. All the patients were over 70 years old, had multiple concomitant diseases and poly-pharmacy. Most of the patients were females (85%) and over 75 years old (95%). The patients were transferred from the Orthopedic Department for uncontrolled hypertension (60%) and recently installed atrial fibrillation (50%). The most frequent comorbidities were diabetes mellitus (65% cases), myocardial ischemia (55% cases), and congestive heart failure (40% cases). The geriatric evaluation showed that 80% of the patients had malnutrition or were at risk for malnutrition, while 90% of the patients were mildly depressed, with a normal cognitive level. In the Geriatric Department, each patient was evaluated by a multidisciplinary team that elaborated a tailored therapeutic plan.
Conclusion: Ortho-geriatric collaboration has proven beneficial in several models across Europe (3). Our study is the first to evaluate the beneficial effects of such a co-management in Romania.
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Disclosure: No significant relationships.

P123

MORTALITY PREDICTION MODELS IN THE GENERAL TRAUMA POPULATION: A SYSTEMATIC REVIEW

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Introduction: Trauma is a leading cause of death in individuals younger than 40 years. There are many different models for predicting patient outcome following trauma. To our knowledge, no comprehensive review has been performed about prognostic models for the general trauma population. Therefore, this review aimed to describe (1) existing mortality prediction models for the general trauma population, (2) the methodological quality and (3) which kind of predictors are most relevant for mortality prediction models in the general trauma population.
Material and methods: An online search was conducted in June 2015 using Embase, Medline, Web of Science, Cinahl, Cochrane, Google scholar and PubMed publisher. English peer-reviewed relevant articles that developed, validated or updated mortality prediction models in a general trauma population in high-income countries were included.
Results: We identified 87 articles. Cohort sizes ranged from 100 to 1,115,389 patients and mortality rates ranged from 2.5% to 35%. Trauma and Injury Severity Score (TRISS) was the most commonly used model. Cases with missing values were often excluded and discrimination of the different prediction models ranged widely (AUROC between 0.59 and 0.98). The predictors were often included as dichotomized or categorical variables, while continuous showed better performances. From the 254 models described in the articles, only 99 models (39%) were externally validated.
Conclusion: The search for the better mortality prediction model in the general trauma population is not over. Models should incorporate different categories of predictors for better performances. Future research should focus on qualitative accurate models, and performance on subsets of patient groups.
References:
Disclosure: No significant relationships.

P124

PERIPHERAL LINES, PATIENT SAFETY AND INFECTION CONTROL. ARE PERIPHERAL VENOUS LINES BEING LEFT IN SITU LONGER THAN GUIDELINES RECOMMEND? AN AUDIT OF THE SURGICAL WARDS IN A TERTIARY CENTRE

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Introduction: Peripheral venous cannulation (PVC) is a procedure frequently performed in hospital, but it is not without complications such as phlebitis and bloodstream infection. To reduce the incidence guidelines in a tertiary centre state; cannulas should be removed/changed after 72 hours in situ, unless there is a clear clinical indication documented. The audit aim was to assess the adherence to these guidelines.
Material and methods: Data was collected from general, vascular and trauma surgery inpatients located on 3 wards in the hospital (first audit cycle n = 38, second n = 44). Data included; duration of

cannulation, explanation for exceeding 72 hours, cannula care plan initiated and complete documentation. Data was re-audited following a poster campaign and verbal discussions reminding clinical staff of Trust guidelines and importance of compliance.
Results: In the second audit cycle a greater number of cannulas exceeded the recommended 72 hour limit (second cycle: 44% vs. first cycle: 30%). However, when re-auditing it was significantly more likely for a clinical reason to be documented (23% vs. 7%, p =< 0.005). A higher number of cannula care plans were also initiated (82% vs. 65%) and of those started documentation was complete in a higher number (55% vs. 25%).
Conclusion: Adherence to guidelines regarding cannula care documentation can be improved via an informative poster, thus helping to improve the quality and safety of patient care. Further, more engaging interventions may have additional benefit, especially targeting the 72 hour cannula limit. The end result of these interventions and sustaining the improvements are better patient care and improved patient safety.
References: None
Disclosure: No significant relationships.

P125

LEARNING NEEDS AFTER AN ACUTE CORONARY SYNDROME BEFORE CORONARY CARE UNIT DISCHARGE

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Introduction: Acute-coronary-syndrome (ACS) is a serious problem associated with marked impairments in health-related quality-of-life (HRQL) (Yinko et al., 2014). Improving HRQL in people with ACS is one of the health professionals' outcomes. Effective interventions are needed that help to make complex readjustments in behaviour and lifestyle. Evidence shows that education is one of these interventions. Its effectiveness is higher if initiated before coronary unit discharge and continued thereafter (Perk et al. 2013).
Material and methods: Question. What are the learning needs of people with ACS before discharge from a coronary unit? In a prospective multimethod clinical study (Craig et al., 2008), an exploratory study was conducted. Data were collected using the Cardiac Patients Learning Needs Inventory (CPLNI), a type-Likert scale organized in 5 domains, and 37 items, with the possible answers ranging from 1 (not important) to 5 (very important), adapted and validated for Portugal (Galdeano et al, 2012) and a questionnaire on bio-psycho-sociodemographic variables.
Results: Participants were mostly men, Caucasian, married, >63 years old, overweight, without regular physical/professional activity. They ranked their learning needs as follows: Heart-Anatomy = 4.50, Risk Factors = 4.42, Medications = 4.26, Miscellaneous = 3.86, Psychological-Factors = 3.79, Diet-Information = 3.79, Physical-Activity = 3.79. Most valued domains were related to external control locus. Ranking did not vary when participants' data was crossed twith age, gender and professional activity.
Conclusion: This study shows that participants emphasize learning areas that require no direct intervention (e.g., anatomy, information on medications). External locus of control tends to be associated with a weak personal investment in disease control, which should be considered in the design of educational intervention.
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Disclosure: No significant relationships.

P126

RECOMMENDATIONS ABOUT URINARY CATHETERIZATION IN ELDERLY PATIENTS. INITIAL REVIEW

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Introduction: After the creation of geriatric emergency survey, a work group was created. The group was divided into 12 different sections. One of these sections is the preoperative management section. The first objective of our section is to compile the initial recommendations and the evidence levels. AIM The aim of this paper is to compile the initial recommendations about appropriate indwelling urinary catheterization in elderly at emergency room.
Material and methods: We performed a search from 1992 to 2016 in pubmed, ovid, cochrane, up-to-date and embase data bases. The search terms were urinary catheter /general surgery/perioperative management/elderly/age more than 65 years/ emergency surgery. We compiled 59 trials and 3 guidelines.
Results: Urinary tract infections (UTI) are among the most common postoperative complications, (32 % - 40% of all nosocomial infections). It is important to define criteria for appropriate indwelling urinary: obstruction of the urinary tract distal, alteration in the blood pressure or volume status requiring continuous, accurate urine volume measurement, uncooperative patient, continuous bladder irrigation, urinary incontinence posing a risk to the patient, neurogenic bladder dysfunction and urinary retention. The duration of catheterization is the most important risk factor (less than 7 days, the rate of infection is 10% to 40%, whereas in long-term catheterization is near 100%) We must use urinary catheters in operative patients only as necessary.
Conclusion: Urinary bladder catheterization is a useful procedure for specific indications. We must minimize urinary catheter use and duration in all patients, particularly in elderly patients and those with severe illness.
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CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA. Guideline for prevention of catheter-associated urinary tract infections 2009. Infect. Control Hosp. Epidemiol. Apr 2010;31(4):319-326.
Disclosure: No significant relationships.

P127

OUTCOMES OF EMERGENCY SURGERY IN ELDERLY PATIENTS (OVER 90 YEARS)

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Introduction: The continuous increase of average mean age and the expanding aging population presenting with advanced disease ensues that surgeons and anesthesiologists have to cope more often with acute surgical problems in this group of people
Material and methods: We have carried out a study concerning 65 patients above 90 years of age that presented to our surgical department the last two years. We operated 34 men (52,3 %) and 31 women (47,7%). All patients were operated within the first 24 hours. The cause was in 21(32,3%) patients strangulated hernia, in 23 (35,3%) ileus as a result of tumors of the small or/and large intestine and or adheions, 6 (9,2%) presented with perforated ulcer, 14 (21,5%) with acute cholocystitis, 1 (1.5%) with mesenteric artery thrombosis.The type of anaesthesia that was preferred was combined epidural and spinal anaesthesia. Our goal was to avoid general anesthesia due to the respiratory suppression.
Results: The operative mortality rate was 0%. Complications were observed in 10 patients (15.3%). 3 patients died postoperatively (4,6 %). Two patients died due to due to myocardial infarction and one patient died due to pulmonary embolism.
Conclusion: The choice of anesthesia that was preferred and the early surgical management of the emergency surgical cases played an important role in reducing the mortality rate in the elderly group of patients that were operated in our department. We believe that combined epidural and spinal anesthesia should be the anesthesia strongly recommended in surgery in elderly patients.
References:
Disclosure: No significant relationships.

P128

THE OUTCOMES OF MANAGEMENT ORTHOPAEDIC TRAUMA IN ELDERLY PATIENTS (OVER 85 Y.O.)

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Introduction: The continuous increase of average mean age and the expanding aging population presenting with advanced disease ensues that surgeons and anesthesiologists have to cope more often with acute surgical problems in this group of people.
Material and methods: Our study involves 248 patients over 85 y.o. that were referred to our hospital the last two years. 135 patients suffered of a fracture of the femoral neck and a Thomson or bipolar replacement of the femoral head was performed, 101 patients suffered of an intertrochanteric fracture and a Richards or Gamma nail procedure was performed, 9 patients were referred due to femoral shaft fracture and 4 patients due to fracture of the radius and the ankle joint and internal fixation was performed.
Results: The type of anaesthesia that was performed was epidural, subdural or regional blockage. The intraoperative mortality rate was 0%. The mean time of hospitalization were 13 days. Complications were observed in 15 cases (6.1%). One patient developed pulmonary embolism in the 4th post-operative day, 3 patients developed myocardial infarction in the 6th post-operative day, 4 patients developed Transient Ischaemic Attack and 7 patients has wound infection. 3 patient died due to pulmonary embolism and myocardial infraction (1.2 % post-operative mortality rate)
Conclusion: Managing orthopaedic trauma in elderly patients who usually suffer of multiple coexisisting pathological disorders is a decision that should be made as the intraoperative and post-operative mortality rates are low and the early mobilization of these patients is very important for their further outcome and their quality of life.
References:
Disclosure: No significant relationships.

P129

HYPOTHERMIA IN ELDERLY AT EMERGENCY ROOM. INITIAL REVIEW OF LITERATURE AND RECOMMENDATIONS

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Introduction: After the origin of the geriatrian emergency survey, a work group was created. The group was divided in 12 sections. One of these sections is the perioperative management section. The first objective of our sections is to know the initial recommendations and the evidence levels of these recommendations. The aim of this paper is to know the initial recommendations about hypothermia in elderly at emergency room.
Material and methods: We did a search from 1995 to 2016 in Pubmed, Ovid, Cochrane and Embase data bases. The term of the search were hypothermia/perioperative management/elderly/age more than 65 years/emergency surgery. We found 72 trials and 2 guidelines.
Results: The most important consequences of hypothermia are increased perioperative blood loss/coagulopathy, cardiac events incluiding myocardial ischaemia, arrthymias and increased rates of surgical wound infections None of the risk conditions of hypothermia are supported by strong evidence. Age 60-70 years has (Class IIa, level B), systolic blood pressure, 140mmhg(Class IIa, Level B), female gender(Class IIb, Level B) and higher level of spinal

block(Class IIb, level B). The most important intraoperative measurements are: Identification of patient risk factors for unplanned perioperative hypothermia(Class I, level C), consideration of frequent temperature monitoring(Class I, Level C), documentation and communications of all risk factor assesment findings to all members of the anesthesia/surgical team(Class I, Level A) and active warming in risk patients(Class I, Level C).
Conclusion: Unintended hypothermia is present in more than 50 % of the elderly at the emergency room. The most important measure to avoid it, is the prevention in risk factor conditions.
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Disclosure: No significant relationships.

P130

SUBCHONDRAL ANCHOR SUTURES FIXED TO A LOCKING PLATE FOR THE TREATMENT OF VARUS DISPLACED PROXIMAL HUMERAL FRACTURES IN THE ELDERLY REDUCES SIGNIFICANTLY SECONDARY VARUS DISPLACEMENT

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Introduction: Locking plate fixation of varus displaced fractures of the proximal humerus have been associated with an increased risk of secondary loss of reduction, especially in osteoporotic bone. The author presents the radiological results of a technique where an anglestable plate is combined with subchondral anchors to prevent this complication.
Material and methods: In this single surgeon retrospective review of prospectively collected case series, all patients with a minimum age of 70 y with a two- or three-part in varus +/- extension displaced fracture of the proximal humerus were included consecutively, during a one year period from mid 2014 till mid 2015. All patients were surgically treated using a locking plate inserted through a anterolateral deltoid split with additionally two subchondral anchors sutures fixed to the proximal plate-holes. Radiological outcome was assessed by anterior–posterior and outlet-view radiographs.
Results: There were 14 varus fractures of which 6 A2.2 (4 female/2 male) and 8 B1.3 (7 female/1 male) fracture types. Mean age 78.43 ± 5.14. The mean follow-up was 6.86 ± 3.09 months after surgery. Mean preop neck-shaft angle was 103° (80°-125°). Mean postop neck-shaft angle was 142° (125°-155°). There was one case of complete recurrence of varus-position. Three cases with screw penetration and 2 loosening of screws. No plate loosening.
Conclusion: The combination of a locking plate fixation with subchondral anchors reduces significantly the risk of secondary varus displacement in varus displaced proximal humeral fractures in the elderly. However it did not eliminate pure impaction of the humeral head.
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Disclosure: No significant relationships.

COMPLEX INJURIES OF THE LIMBS: AMPUTATION/LIMB SAVING (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P131

A TERTIARY CENTRE EXPERIENCE OF PATIENTS PRESENTING WITH CANINE BITE WOUNDS

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Introduction: Canine bite injuries frequently require inpatient surgical management. We aimed to identify those patients at high risk of complications.
Material and methods: Canine bite injuries presenting, over a 13 month period (1/11/2011 - 31/11/2012), to plastic surgery at Whiston Hospital were included in this study. Data was collected from the Electronic Document System, and subject to statistical analysis.
Results: The cohort included 155 patients, with a mean age of 38 years. 55.4% were injured by dogs known to them, with pit-bull terriers being the most common breed identified. Hands were the predominant site of injury (37.5%). Overall infection rate was 7.1%. 85% of patients received debridement and washout within 48 hours of injury. No significance was observed comparing infected & non-infected groups time to theatre [P-Value 0.088]. 73.5% received preoperative antibiotics. No Significance was observed comparing preoperative antibiotic administration between infected and non–infected groups [P-value 0.418]. Patients with multiple wound sites demonstrated a significant increase in infection risk (OR4.99 [P-value 0.033]).
Conclusion: Hand injuries were the most common dog bite injuries. Patients with multiple wounds demonstrated higher risk of infection. Appropriate management of dog bite injuries requires antibiotic cover & wound debridement.
References: Nil Listed at present
Disclosure: No significant relationships.

P132

EXTREMITIES AMPUTATION IN THE EMERGENCY SETTING: DESCRIPTIVE ANALYSIS FROM A SINGLE TERTIARY CENTER

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Introduction: Amputation is considered as a last resort often necessitates an emergency procedure, which may impact the hospital course and outcome. The purpose of this study was to outline the frequency, co-morbidities, etiological factors, patterns, indications and outcomes of limbs amputations in the emergency situations.
Material and methods: It is a descriptive analysis for all patients underwent emergency limb amputation between 2000 and 2014. Data included patienrs demographics, risk factors, types and level of amputations, postoperative complication and outcomes.
Results: Of the total 871 amputations during the study period, 581 (66.7%) required emergency amputations. Minor and major amputations were required in 68% and 32% of cases, respectively. The mean age of patient was 56.4±19.3 years and the majority was males (82.3%). Lower limbs were involved in 96.4% of cases. The most common indication for emergency amputation was diabetic foot complications in 66.3%, trauma in 26.9% and ischemia in 6.5%. Chronic foot ulceration (44.2%), osteomyelitis (24.1%), and smoking (31%) were the common risk factors. Higher level of occlusion was observed in popliteal-tibial (32.7%) followed by femoro-popliteal (21.8%) and aorto-iliac (20%) segments. The need for repeated amputation on the contralateral limb or higher level of the same limb was 18.3%. Ten percent cases required prosthesis. The median duration of follow-up was 9 (1-177) months. In-hospital mortality rate was 7.7% and the overall mortality on follow-up was 18%.
Conclusion: This study provides the first emergency amputations database in our institution that would help assessing staff readiness and efficiency in the emergency settings to deliver the optimal timely patient care.
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Disclosure: No significant relationships.

P133

LIMB SALVAGE VERSUS TRAUMATIC AMPUTATION-FIVE CASES FOR A MONTH

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Introduction: In recent years there has been an increase in the number of patients sustained traffic accidents as motorcyclists.
Material and methods: For a period of 6 weeks five patients were admitted after a traffic accident with a motorcycle. All of them were with tibia open fractures - III B (four men and a woman aged 21 to 37 years). Patients were treated according to the concept of DCO: Debridement, Lavage, Ex. Fix, VAC. In three patients the bone defect is filled with a primary spacer.
Results: Due to vascular complications and infection an amputation of tibia was made in one patient two weeks after admitting. A conversion was made five days after the accident in four patients. An osteoplasty with bone graft was made six weeks later.
Conclusion: Despite the severe injuries treated by primary amputation in the past, DCO approach and modern reconstructive techniques allow salvation of the limb.
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Disclosure: No significant relationships.

P134

BONE CEMENT METAL OSTEOSYNTHESIS IN CASES OF PATHOLOGICAL FRACTURES OF LIMBS WITH METASTATIC LESIONS

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Introduction: Metastatic bone lesion causes intense pain, limits the function of limbs and leads to pathological fractures. Surgical intervention in case of metastatic bone lesions is aimed at improving the quality of life, the ability to restore function of the affected limb and continue specific treatment.
Material and methods: Bone-cement metal osteosynthesis in pathological fractures of limbs with metastatic lesions was carried out to 32 patients. Localization of tumor: the femur – 23, shoulder - 7, tibial bone – 1, spoke-bone - 1. Functional outcome of the operated limb was determined by MSTS scale. Assessment of pain at the site of metastatic lesions was performed on a R.G. Watkins scale. Evaluation of the quality of life of patients was performed by EORTC QLQ - C30 system. The survival rate of patients was determined by Kaplan-Meier method.
Results: Postoperative complications were found in 2 (6,25%) patients, metastatic tumor recurrences - 4 (12,5%) patients. Functional outcome of the operated limb after metal osteosynthesis has averaged 78,2%. The degree of pain after the metal osteosynthesis decreased from 86% to 20%. Quality of life after metal osteosynthesis improved from 40 to 72 points. The three-year overall survival of patients amounted: 28,54±7,03%.
Conclusion: The use of bone cement metal osteosynthesis in pathological fractures of limbs with metastatic lesions improves functional outcome of the operated limb, decreases pain, improves quality of life and survival rate of patients.
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Disclosure: No significant relationships.

P135

ACUTE PERIPHERAL ISCHEMIA TREATED IN GENERAL SURGERY DEPARTMENT

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Introduction: Acute peripheral ischemia is a medical and surgical emergency with functional risk for the afected limb and also with vital risk by reperfusion syndrome or by the severity of the cause of peripheral arterial oclusion.
Material and methods: Retrospective study of lower and upper limb acute ischemia cases admitted in our General Surgery Clinic between 2011 and 2015. All cases were emergency room presentations. Being a general surgery clinic, we excluded all cases presenting with peripheral acute ischemia secondary to complicated aortic anevrisms or aortic disections.
Results: Main cause of acute limb ischemia was embolism. In case of cardiac caused embolism all patients underwent surgical intervention – thromb-embolectomy. The time interval from simptoms onset to surgery varied from 6 hours to over 72 hours. Most embolic ischemias of cardiac cause were due to arhrithmias. All thrombo-embolic material was sent to pathology. No cases of mixoma were found. Also, no cases of septic embolism were found. In atheroembolism cases, patients responded well to pharmacological treatment thus allowing programmed arteriography. For cases with arterial thrombosis, existing ischemic preconditioning allowed for doppler ultrasound and arteriography prior to revascularization decision. Traumatic limb ischemia cases were also found in the study. Overall, saved limb rate with/without fasciotomy was 100% for embolic ischemias with thrombo-embolectomy performed within 24 hours from symptoms onset.
Conclusion: Acute limb ischemia can be succesfully treated in the general surgery clinic with good functional and vital results.
References:
Disclosure: No significant relationships.

P136

MULTIDISCIPLINARY MANAGEMENT OF UPPER LIMB TRAUMA

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Introduction: Upper limb trauma can be minor or complex, associating injuries of the skin, muscles, arteries and veins, nerves, bones and joints. Theese traumas can be isolated or can occur in a politrauma patient.
Material and methods: Retrospective study of upper limb trauma patients admitted in the Plastic and Reconstructive Surgery Clinic between 2011 and 2015. Minor outpatient treated trauma and burn patients were excluded. Also, we excluded patients with upper limb trauma that had other, more severe injuries that required addmition to other departments.
Results: Good results were noted regarding limb integrity and also limb function. Minor finger amputation rate was very low. There were 61 reimplantations under optic magnification for hand injuries,with a success rate of 82%. For patients with complex arm and forearm lesions, multiple stage surgery was performed: reduction of osteoarticular lesion with osteosynthesis done by the orthopedic surgeon, followed by arteries and veins reconstruction performed by the vascular surgeon, neurorrhaphy and muscles and skin reconstruction realized by the plastic surgeon. After the first surgical intervention, staged procedures followed, with or without secondary neurorrhaphy, in order to resolve lesions with lack of skin and muscle tissue and to extract the osteosynthesis material. Pharmacological treatment and kinetotherapy followed. Arm and forearm amputation rate was very low. Long term results in function recovery were excelent.
Conclusion: Multidisciplinary aproach of complex upper limb trauma from patient presentation to discharge allowed good results in limb integrity and function avoiding the psichological drama of an uper limb amputation or social cost of function loss.
Disclosure: No significant relationships.

P137

VARIATION AND AGREEMENT IN THE TREATMENT OF OPEN LOWER LIMB FRACTURES IN THE NETHERLANDS

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Introduction: The British Orthopaedic Association (BOA) and British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS) updated the evidence-based guidelines for the treatment and care of open lower limb fractures (BOAST 4). Following this, the Dutch version has been developed. The main points are multidisciplinary care, planning, and treatment of these injuries. Early osteosynthesis (within 7 to 14 days) combined with soft tissue coverage result in more efficient care and less complications. Aim: To study the variation in treatment among trauma, orthopedic, and plastic surgeons.
Material and methods: In this cross-sectional study 94 surgeons (57 trauma, 23 plastic, and 14 orthopedic surgeons) working at 47 centers completed an online questionnaire, consisting of 5 demographic, 14 hospital-related, 8 BOAST 4-related, and 2 centralization-related questions.
Results: There was an agreement among surgeons about the best moment for multidisciplinary consultation, which was before initial debridement, while this often does not occur. All surgeons agree that the initial debridement should be performed immediately by a colleague. Plastic surgeons agree that the definitive stabilization and wound cover should not exceed 7 days, while half of the trauma and orthopedic surgeons agree that it should not exceed 14 days. Finally, most surgeons agreed that Gustilo 3 fractures should be centralized. However, there was a disagreement on the centralization of Gustilo 2 fractures.
Conclusion: The surgeons agree on better and earlier multidisciplinary treatment of open lower limb fractures and the centralization of Gustilo 3 fractures, while there is much to gain in treatment improvements when it comes to the timing of initial debridement.
References:
Disclosure: No significant relationships.

P138

DOES THE DESIGN OF THE PROXIMAL NAIL TIP INFLUENCE THE APPEARANCE OF ANTERIOR KNEE PAIN AFTER TIBIAL NAILING?

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Introduction: New implant designs widened the indication area of tibial nailing covering the most of open and a significant number of periarticular and intraarticular fractures. Over the last decade nail designs with reduced anterior prominence of proximal nail tip have emerged intending to reduce implant interference with patellar tendon. Clinical relevance of the improvement remained unclear.
Material and methods: The study included 60 patients with 62 tibial fractures. As anterior knee pain we recorded any chronic and newly developed pain or discomfort in the anterior region of the knee that appeared after the procedure. In 17 patients we used "S2 Stryker Tibial Nail" with simple cylindrical design proximally. Other 45 patients underwent the surgery using "Treu Instrumente Tibial Nail" with reduced anterior contour adapted to the anterior tibial cortex.
Results: Anterior nail prominence in S2 group was 0,25 mm (+/- 5,23mm) and in Treu Instr. group -1,71 mm (+/- 5,12mm). For evaluation of prominences Man-Whitney test was used, p =0,14. The incidence of anterior knee pain in the S2 group was 23,5% and in Treu Instrum. group 40%. According to Fisher exact test p-value was 0,37.
Conclusion: Despite the fact that mean anterior nail prominence in the group nailed using Treu Instrum. implant was lower, the incidence of anterior knee pain in this group was almost as double as in the S2 group. Statistical evaluation of both varible sets showed no significant difference. No evidence supporting clinical benefit of the nail design with reduced anterior nail prominence, regarding anterior knee pain, could be identified in our study results.
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Disclosure: No significant relationships.

P139

THE WAVE PLATE ACCORDING TO WEBER & BRUNNER. AN OBSOLETE THERAPEUTIC INSTRUMENT FROM THE PAST ?

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Introduction: Treatment of refractory pseudarthrosis of femur and tibia can be challengeable. The wave plate technique combines sound mechanical and biological principles in management of the bone healing problems
Material and methods: 8 cases of refractory pseudarthrosis with minimal three previous surgical interventions could be brought to healing by applications of a wave plate together with autologous bone grafting. In all the cases previous infection was seen. All the caes were atrophic non-unions. On average three years after the last surgery the wave plate was applied. on eight femurs. Minimum follow-up was eight years.
Results: In all cases sound bone healing was seen after six months. No complication was seen. Function was restored to 80 % of the contralateral limb. Forces were measured with the Cybex testing machine.
Conclusion: The authors conclude that the wave plate is a valuable alternative in treating difficult atrophic non-unions of the femur.
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Disclosure: No significant relationships.

P140

CALLUS STIMULATION IN TYPE III TIBIA OPEN FRACTURES WITH IMPORTANT BONE LOSS

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Introduction: The study want to evaluate a method of consolidation stimulation, indicated in the cases of fractures with important bone loss or when local posibilities of consolidation are finished.
Material and methods: The method used for solving the bone loss is to implantate an osteoconductive bone substitute, calcium sulphate based, together with cancellous graft and bone marrow aspirate from iliac crest.
Results: The patients group was formed by 14 cases of open fractures of the tibia with severe bone loss and difficult problems on soft tissue healing and 5 cases of pseudarthrosis after cominuted open tibia fracture, patients hospitalised in our Clinic, between 2013 and 2015. In all the cases, the bone loss was between 1.5 and 3 cm length. The casuistry was systematised using Gustilo classification: type IIIA 10 cases, type IIIB 8 cases and type IIIC 1 case. 89.47% of cases evoluted favourable to consolidation in a period of time between 2 and 4 months. After 2 months from surgery, in the fracture site was united callus, consolidation being apreciate using a clinical and a radiological score. 10.53% of cases evoluted to osteitis and the final decision was the amputation.
Conclusion: The calciumsulphat pellets are osteoconductive bone substitute, with maximum capacity in the presence of cells and growth factors delivered by the spongious graft doubled with cellular aspirate.
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Disclosure: No significant relationships.

P141

LATE RESULTS AFTER A TWO-STAGE PROTOCOL FOR SOFT TISSUE MANAGEMENT IN THE TREATMENT OF TIBIAL PILON FRACTURES

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Introduction: The prospective study targets the tibial pilon fractures admitted in our clinic, to which a new treatment protocol was applied, consisting of two surgical steps, assesing in the end the results achieved at the discharge of the patient and later follow up.
Material and methods: The study group consist of 196 patients (198 fractures), in the period 2012-2015. The average evaluation time was of 16 months. The average age of the patients was 46.5 years (19-83 years), this type of fracture especially affecting active people.
Results: The etiology was dominated by high falls (109 cases), most of them being work related accidents. The most frequently applied osteosynthesis principle was staged osteosynthesis which consisted of first stage fibula semitubular plate osteosynthesis and external fixator tibia pilon, followed by minimally invasive or limited approach locked plate tibia pilon fixation. (64.14%) Olerud and Molander clinical score at more than one year after the last surgical intervention highlights good results: excellent results in the amount of 37% to 15% in the first lot, good results 52% to 29%, moderate success 7% to 39% and poor 4% to 17%.
Conclusion: Two stage surgery protocol with external fixation in emergency and minimally invasive internal fixation with locked plate performed after the dissappearance of the local edema, as the second surgical step, allows anatomically correct articular reconstruction without skin complications, with decrease of arthitic late complications.
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Disclosure: No significant relationships.

P142

RESULTS OF BRACHIAL ARTERIAL REPAIR IN CHILDREN WITH SUPRACONDYLAR HUMERUS FRACTURES

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Introduction: Brachial artery injuries following reposition of supracondylar humerus fractures are rare, and reported infrequently. Arterial repair may be challenging due to vessel size, extent of injury, graft availability, and degree of ischemia. We report our experience at a tertiary academic teaching unit in this challenging patient cohort.
Material and methods: Retrospective analysis of a consecutive patient series.
Results: 12 patients presented with ischemia after bone repair (9 female, median age: 8.2 years (range: 5.5-10.8), 8 (75%) left, 4 (25%) at the dominant extremity). Median time from injury to bony repair was 4 hours (range: 2-8), and time from bony repair to revascularization 3 hours (0.5 – 120 hours). 10 Patients were referred from another hospital after bony repair for arterial exploration. Preoperative imaging was necessary in 3. Arterial repair consisted of interposition vein graft (6, 50% – greater saphenous vein: 5, arm vein: 1, vein patch plasty (4, 25%), primary anastomosis (1, 12.5%) and exploration and arterial dissection (1, 12.5%). There was no difference between boy and girls regarding side of injury, time to repair, frequency of injury at the dominant side or type of arterial repair. There was no early failure of arterial repair. During late follow up (median 16.9 months) one bypass graft occluded, but the patient remained asymptomatic.
Conclusion: We report a small series of vascular repairs after supracondylar humerus fractures. Awareness of arterial complications is essential to avoid late sequelae of arterial insufficiency in small children. Imaging is usually not necessary. Results are excellent, irrespective of the type of arterial repair.
References:
Disclosure: No significant relationships.

P143

RETROGRADE INTRAMEDULLARY NAILING IN TYPE A AND TYPE C FRACTURES OF THE DISTAL FEMUR

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Introduction: The purpose of the present study was to evaluate out results in type A and C distal femoral fractures (AO classification) with retrograde intramedullary nailing.
Material and methods: Fifty-five patients diagnosed with type A and C (AO/OTA classification) distal femoral fractures and managed with SCN or T2 (Stryker) retrograde intramedullary nailing, were retrospective reviewed. Within a period of 10 years (2005-2015) and with a mean age of 70,6 years (75,9% female), 37 patients had type A fractures and 18 patients had type C fractures.
Results: The fractures healed in a mean timp of 15 weeks (8-36). Partial weight bearing was initiated in an average of 6 weeks postoperative. The patients achieved 101,7° (130°-75°) of mean flexion and 3,5 of negative extension (0°-30°). The x-rays showed a mean angulation in AP view of 4,15° (0°-10°) and a mean angulation in lateral view of 4,95° (0°-15°). Ten patients had problems with the osteosynthesis and they needed partial or total removal of intramedullary nail. Nonunion was observed in four patients; two of them needed a new intervention and synthesis with a plate and the other two patients didn't need a new surgery. Two patients suffered a new trauma and a new fracture around the nail and we took out the nail and we operated them with a new longer retrograde nail.
Conclusion: Retrograde intramedullary is a good surgical option for osteoporotic distal femoral fractures providing a stable fixation and low surgical aggression in elderly patients.

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Disclosure: No significant relationships.

P144

HUMERAL FRACTURES WITH RADIAL NERVE PALSY TREATED BY OSTEOSYNTHESIS WITH PLATE AND SCREWS

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Introduction: The aim of the study was to assess radial nerve recovery in a series of 20 patients treated by ORIF with plate in emergency.
Material and methods: We conducted a retrospective study on 20 patients out of 225 humeral shaft fractures operated between 2005 and 2015. There were 11 females for 9 males with a mean age of 51+/-22 years (23-93). Fracture concerned mid third shaft in 15 cases (75%), distal third in 4 cases (20%) and proximal third in 1 case (5%). Mean delay for surgical treatment was 3 days (0-15). Plate was positionned at medial face in 16 cases (80%) and at the posterior face in 4 cases (20%). Radial nerve was seen in 14 cases (70%) and was entrapped in 6 cases (30%).
Results: 15 patients (75%) had a good nerve palsy recovery with a mean delay of 10 month (6-12). Statistically significant correlation was observed between delay of surgical treatment and delay of radial function recovery (p =0,0166; Rho=0,53). Early ostheosynthesis was correlated with better nerve recovery. One patient required complementary nerve surgery and another one a tendon transfer. Bone healing was obtained in all cases. Concerning functional outcomes mean quick DASH was 9+/-17 (0-59) and 85% of patients recovered their previous physical activities.
Conclusion: ORIF by plate an without nerve exploration of humeral shaft fracture with radial nerve palsy allows good palsy recovery with a shorter delay
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Disclosure: No significant relationships.

P145

OSTEOSYNTHESIS WITH LOCKING PLATE FOR PERIPROSTHETIC FEMORAL FRACTURES AFTER HIP ARTHROPLASTY

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Introduction: The purpose of this study was to ascertain the clinical results, the radiological results and potential complications arising from the use of locking plate fixation for periprosthetic femoral fractures.
Material and methods: We made a retrospective study between 2012-2015. Patients with periprosthetic femoral fractures around hip arthroplasties who were treated by osteosynthesis using locking plates and who underwent follow-up for at least six months postoperatively were enrolled in our study. Patients recovery of daily activities in terms of social and ambulatory recovery, and Parker mobility score were compaired before fracture and at the least follow-up for each patient. Postoperative complications were investigated.
Results: Twenty-one patients were enrolled in our study with a mean follow-up of 17.3 months. For 82.2%, 65.5% and 51.2% of the patients, social status, ambulation and Parker mobility score at the latest follow-up were determined to be equal to that before the fracture. Bony union was observed in 19 patients within the follow-up period. Three patients did not obtain bony union at 6 months postoperatively. There was no loss of reduction, malunion or implant failure, and no infection. In one patient each, partial pullout of the locking screws and a supracondyllar fracture at the plate end was observed and additional surgery was required.
Conclusion: The results of our study demonstrate that locking plate fixation provided sufficient stability for a satisfactory recovery of daily activities in the majority of elderly patients with periprosthetic femoral fractures around hip arthroplasties.
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Disclosure: No significant relationships.

P146

RESULTS AFTER OSTEOSYNTHESIS OF DISTAL DYAPHISEAL HUMERAL FRACTURES WITH PRECONTOURED PLATE THROUGH A POSTERIOR SURGICAL APPROACH

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Introduction: It is well established that surgery is the gold standard method of treatment for dyaphiseal humeral fractures. The problem is to establish which surgical approach and what implant is the best choice. The aim of the study was to evaluate the clinical and radiological outcomes of distal dyaphiseal humeral fractures treated with precontoured plate through a poterior surgical approach.
Material and methods: We made a retrospective study upon 36 patients surgically treated in our department between 2011 and 2014. The surgery was performed through a posterior transtricipital approach of the humerus and a precontoured plate was applied at the fracture site. Average follow up was 16 months. Ethiology and fracture characteristics were recorded using quick DASH score, Mayo elbow performance score and visual analogue scale score for pain.
Results: All of the fractures consolidated. The incidence of radial nerve palsy prior to surgery was 37%, whereas the incidence after surgery was 5.5% with no need of revision surgery. After one year, the average quickDASH score was 7.43, the average visual analog scale was 0.66, the average Mayo elbow score was 86.72. There were 24 excellent results (Mayo elbow performance score 90-100), 6 good (75-89), 6 fair (60-74) and 1 poor result.
Conclusion: Open osteosynthesis of distal dyaphiseal humeral fractures with precontoured anathomic plate through a posterior surgical approach have high union rates, overall high functional results with low incidence of complications and fast return to daily activities for this patients.
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Disclosure: No significant relationships.

P147

SEQUENTIAL TREATMENT IN CRUSHING TRAUMA OF THE LOWER LIMBS

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Introduction: Due to economical growth, complex crushing trauma is a more common problem in treating patients, being related to work accidents and motor vehicle accidents. Due to the high rate of complications, early diagnosis and correctly conducted treatment are needed.
Material and methods: This retrospective study analyses 60 patients admitted in our hospital between 01.06.2009-01.05.2016 with a diagnosis including " crushing". The main clinical aspects of these cases were: fracture, crushing without fracture, open fracture, compartment syndrome (with or without fracture), acute peripheral ischemia. The authors describe the algorithm for diagnosis (including laboratory findings and complementary examinations) and treatment (following MESS Score) for these cases
Results: In 50% of crushing's of the shank compartment syndrome appeared, in 80% of the cases with fracture and 35% of cases with crushing without fracture. Fractures appeared in 80% of the cases, and open injuries only in 75% of the cases. 40% of the crushing's produced complex trauma (vascular or nervous injury), acute peripheral ischemia appeared after 20% of the crushings.The most important therapeutic problems are discussed concerning this patients: surgical treatment, general treatment, multiple steps therapy.
Conclusion: Crushing is a severe trauma that has important consequences on the bones and on the soft tissue, that requires a prompt and correct treatment both in the initial treatment and the following stages of treatment. Also, the flexible and complete evaluation of the patient and the treatment of associated injuries lead to a positive local and general evolution.
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Disclosure: No significant relationships.

P148

NEGATIVE PRESSURE WOUND THERAPY IN INFECTED FRACTURES- INDICATIONS, HANDLING, RESULTS

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Introduction: Negative Pressure Wound Therapy (NPWT) therapy has been indicated for severe trauma with extensive soft-tissue injuries, with impaired healing due to the severity of the injury and considerable septic risk, thus needing prolonged treatment
Material and methods: Authors present 12 patients with complex injuries of the limbs- 6 crushing trauma with MESS less than 6 and 6 infected fractures with debridement and fracture fixation resulting in considerable soft tissue loss. The patients needed serial debridements and vacuum therapy was applied starting 48 hrs after trauma for an average period of 12 days (7 - 27 days).
Results: Within the study group, secondary debridements were peformed for all the patients and vaccum system was re-installed after these debridements. No amputations were needed. Literature is reviewed in order to compare the outcome of the patients: the hospital stay, anti-microbial therapy, time to healing of the bone and soft tissues (there is no standard group to be compared with) and the result shows considerable improvements in the outcome of the patients.
Conclusion: Vacuum therapy improves healing of the soft tissues, decreases the risk of infection and so, that of secondary amputation. Hospital stay is also positively influenced, so is the moment of weight bearing, and the number of secondaryy necessary procedures. Therefore it is considered a valuable support in treating trauma of the limbs with severe soft tisuue injuries.
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Disclosure: No significant relationships.

P149

LESSONS LEARNED IN 20 YEARS OF MICROSURGERY

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Introduction: Becoming a good doctor and an experienced Reconstructive Microsurgeon can be a long and winding road with a lot of success but also disappointing moments.
Material and methods: . This presentation is focused on a one surgeon's personal experience in Microsurgery during the last 17 years
Results: It will be presented some lessons learned in that period of time. Micro cases take a long time, are raught with potential complications and failure, make things inconvenient for everyone involved from our nurses to the OR staff to our very own families. I can't speak for anyone other than myself, but it remains the most challenging part of my practice.
Conclusion: The aim of this presentaion is to show you the same thing that I was fortunate enough to see in my training - that microsurgical cases demand the most of you as a surgeon, but can also be the most rewarding.
References:
Disclosure: No significant relationships.

P150

EARLY REHABILITATION IN SEVERE FOREARM INJURY

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Introduction: Key words: Neurorrhaphy, arteriorrhaphy, suicide, depression, rehabilitation Background: Suicide attempts have become a very serious and important health problem, giving the facts that: the number of depressed patients and alcohol addicted patients is constantly growing, the time until the first medical/ emergency presentation is more and more prolonged, these patients have a low medical compliance and they request a long time multi specialty care for preventing the relapse.
Material and methods: Materials and methods: With this article we present the case of a 48 years old patient, brought to the emergency room with heavy bleeding, anesthesia in the ulnar nerve territory, dysfunction of flexion movements after self inflected injury (a suicide attempt). At the moment of the first medical examination the patient presented signes of alchohol abuse (alchohol breath). The local examination: cut wound at on the volar aspect of the left wrist with complete section of the ulnar artery, the ulnar nerv, flexor carpis ulnaris, flexor superficialis II, IV. The past medical file of the patient noted long time depression with easy frustration step and chronic alcohol abuse. We decide emergency surgical intervention. After axillary block anesthesia, the wound is prolonged, then we access, expose, control and microsurgical repair of the ulnar artery and nerve, then we acces, expose, control and repair the flexori tendons described earlier; bandages and hand immobilization. After 48 hours the Tinel sign was positive and on the third day after the intervention we decided early Klinert mobilization of the fingers.
Results: The post op period was eventless, with no complications and the patient was discharged on the 10 th day. At the 6 month follow up examination we have evaluated the functional recovery of the hand and we have established an 85% recovery rate. In order to prevent the eventual relapses, the patient was included in a psychiatric program for alcohol addiction and he received psychiatric medical treatment.
Conclusion: The enrollment of behavior disordered patients in special consoling programs and correct psychiatric treatment will prevent the relapse. The early mobilization may represent a solution to prevent the surgical adhesions, there for determining a good functional result.
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Disclosure: No significant relationships.

POLYTRAUMA-MULTIDISCIPLINARY APPROACH (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P151

PNEUMOTHORAX HIDDEN TRAUMA THORACIC CLOSED: THERAPEUTIC OPTIONS AND THEIR CONSEQUENCES

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Introduction: This is an ongoing study about the approach of occult pneumothorax with the conclusion expected in February 2017. Pneumothorax is a clinical entity with relative incidence when associated with chest trauma closed or penetranting. The occult pneumothorax is classically described as an accumulation of air between the visceral and parietal pleura not viewable on chest radiography, but caught in the CT scan. The incidence of occult pneumothorax varies between 4% and 30.2% and now, with the increased availability of CT scans in emergency rooms, that nosology has been more often diagnosed.
Material and methods: This study will assess the epidemiological profile of the population served in our service suffering from occult pneumothorax and define the profile of systemic lesions associated with occult pneumothorax, in addition to the failure rate of expectant therapy in the absence of context and presence of

ventilation positive pressure. This is an observational retrospective study in which will be analyzed through chart review, all cases of trauma victims admitted in our hospital from September 2014 to August 2016 having chest tomography. It will be considered occult pneumothorax all pneumothorax identified on CT and had not been diagnosed with chest radiography or was not seen to scanogram tomography. Noting the initial approach, we divide the groups among those in the chest drainage was carried out during the initial assessment and the group that was established to expectant therapy and evolution of these cases.
Results: In analysis
Conclusion: In analysis
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Disclosure: No significant relationships.

P152

EPIDEMIOLOGY OF LIVESTOCK-RELATED INJURIES IN A MAJOR TRAUMA CENTER IN KASHAN, IRAN

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Introduction: Livestock-related injuries are one of the important factors causing morbidity and mortality in patients admitted to hospital. The aim of current study was to assess the epidemiology of livestock-related injuries in a major trauma center in Iran
Material and methods: In a prospective study, patients with livestock-related injuries who were consecutively admitted to the trauma center in Kashan, Iran between 2006 and 2011 were evaluated. The data collected included patient's demographics, place and nature of accident, damaged organ, educational level, transport and outcome.
Results: A total of 129 patients were included in this study, accounting for 0.3% of all trauma admission (40 273 cases). The mean age was (55.27±14.45) years. Men were affected four times more than women. Falling down from livestock is the main mechanism of trauma in all groups. Upper and lower extremities were most frequently injured (n=72), followed by the head, neck and spine (n=33 for each). There was one death resulting from livestock-related injury in this study.
Conclusion: Despite the low incidence, livestock-related injuries can damage major organs of human body and therefore appropriate training program to increase the safety awareness in home and outdoor is very important.
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Disclosure: No significant relationships.

P153

HEPATIC TRAUMA IN POLYTRAUMATIZED PATIENT: FIVE YEARS OF EXPERIENCE AT TERTIARY REFERRAL HOSPITAL

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Introduction: The liver is the second most damaged organ in abdominal trauma. The evolution of the diagnostic and therapeutic management of hepatic trauma (HT) has achieved, in recent years, a decline in mortality, standing now allong 4 and 15%. The objective of this work is to present our experience as a leading hospital and summarize the management of this type of injury.
Material and methods: Descriptive, retrospective review of liver injuries treated by our service in the past five years (2010-2015). Collected different clinical data (age, sex, mechanism and type of lession, associated injuries, HT grade, presence of stability hemodynamics, peritonism, type of treatment, reoperation, complications, mortality and hospital stay).
Results: Sixty-nine patients are included, average age of 30.4 years. The main injury mechanism was traffic accident (40%). 97% suffered concurrent injuries. Conservative management (NOT) in 71%, with index of laparotomy for bad evolution of 4%. Twenty patients (28%) required surgical treatment. 65% of cases are resolved with primary suture and/or hemostasis, 20% packing, 15% did not require action. 80% required acting on another body. In the surgery, 20% (4) had a postoperative complication. Mortality rate of 10% (7 patients). Three (15%) whith surgical treatment and 4 (8%), with NOT. Hepatic injury was the cause of death in two patients.
Conclusion: The criteria of therapeutic action in the HT, are based on the patient hemodynamic stability. Standardization of the NOT in hemodynamically stable patients, reducing hospital stay and postoperative complications. The prognosis of these patients is not only marked the HT, but by the associated lesions.
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Disclosure: No significant relationships.

P154

BILATERAL DIAPHRAGMATIC RUPTURE

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Introduction: Posttraumatic diaphragmatic ruptures are a rare condition in the polytrauma pathology. Often is a surprise in

laparotomies/thoracotomy for other traumatic injuries. More rare are bilateral diafragmatic rupture. Sometimes are underdiagnosed at injury time, being objectified after a long interval of time (even years) from the moment of the trauma.
Material and methods: We perform a retrspective study from January 2011 till June 2016 in 1st Surgical Unit "St. Spiridon" Emergency Hospital. We operated 15 patients with posttraumatic diaphragmatic rupture.
Results: Three of these patients were diagnosticated with posttraumatic bilateral rupture of the diaphragm. Two of these 3 patients were as single posttraumatic lesion (bilateral rupture of the diaphragm) and one with complex abdominal trauma which beside the bilateral diaphragmatic rupture included a bladder rupture and a mesenteric hematoma. Treatament consisted of suture of the diaphragm with favorable evolution. Discussion: bilateral diaphragm ruptures represent only 15% of all diaphragm rupture. Traumatic diaphragmatic rupture injuries occur in 0,8%-8 of patients who sustain blunt (motor vehicle crash and fall from height) and penetrating trauma. The main mechanism of lesion is sudden deceleration. In our study, all of patients were victims of the cars involved in accidents with frontal impact. Preoperative CT examination was performed at the presentation in the emergency room for 2 patients, the 3rd being diagnosed intraoperatively when laparotomy was performed.
Conclusion: Posttraumatic diaphragm ruptures represent a tiny percentage of the total injuries (0.8% -8%) with high mortality (14% - 50%) difficult to diagnose clinically. CT represent the gold standard in this pathology
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Disclosure: No significant relationships.

P155

MANAGEMENT OF BLUNT SPLENIC INJURIES – A PROSPECTIVE STUDY

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Introduction: The spleen is one of the most vulnerable organs in case of abdominal trauma. Nonoperative management of splenic trauma is successfully applied in children, but there is not a standardized protocol for using this type of treatment in both children and adults.
Material and methods: We performed a prospective study started in march 2013, including by now 49 polytraumatized patients, with splenic injury admitted to the Clinical Emergency County Hospital of Braşov.
Results: The the nonoperative management was successfully applied in 12 patients (24,4%) In 3 patients the nonoperative management was unsuccessful and splenectomy was performed.
Conclusion: We studied also the importance of trauma scores (Spleen Injury Scale, Abbreviated Injury Scale, Injury Severity Score) for establishing the treatment option in patients with splenic injury. The study also revealed the importance and the limitations of imaging methods (ultrasound and computed tomography) in selecting and monitoring patients with spleen injury.
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Disclosure: No significant relationships.

P156

MANAGEMENT OF BLUNT RENAL TRAUMA IN PAEDIATRIC PATIENTS

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Introduction: Blunt renal trauma in children can lead to urine-extravasation, bleeding, an abscess or hypertension. In our hospital (a major level 1 trauma center), we treated a couple of pediatric patients who had a complicated follow-up. We concluded there was no clear thinking about the treatment of blunt renal trauma in pediatric patients. A specialized multidisciplinary trauma team was crucial to treat those patients.
Material and methods: Conservative treatment of blunt renal trauma in adult patients is widely spread and accepted. However, does this also apply for children? - Which diagnostic tests were needed to perform on a pediatric patient? - Which pediatric patients with blunt renal trauma needed to be admitted from the ED? - What is the role of hematuria? - Is there evidence about bed rest? - Which children need to undergo laparotomy?
Results: All international guidelines were reviewed in collaboration with the urology, pediatrics, medical microbiology, emergency department, radiology and trauma surgery. Based on the information gathered during this research, a flow-chart was developed to provide a roadmap of critical steps from the emergency room to follow-up after discharge from the hospital.
Conclusion: The questions, as written above, have in combination with all international guidelines lead to the development of a flowchart for the management of blunt renal trauma in pediatric

patients. Our goal is to implement this pathway and flowchart into all Dutch hospitals. We hope, this will lead to an uniform treatment. However, this flowchart could be used for a study nationwide as well.
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Disclosure: No significant relationships.

P157

PREDICTION OF IN-HOSPITAL OUTCOMES UTILIZING BIOCHEMICAL AND CLINICAL SCORING SYSTEMS IN PATIENTS WITH BLUNT CHEST INJURY

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Introduction: Blunt chest trauma (BCT) represents a significant burden of morbidity and mortality in young population. We aimed to correlate the contemporary BCT scores (Chest AIS, ISS, GCS, TRISS, and RTS) and high-sensitive troponin T (HsTnT) with the hospital complications and mortality.
Material and methods: We conducted a retrospective analysis of BCT patients hospitalized between 2011 and 2015. Patients with GCS$\leq$8 or penetrating chest trauma were excluded. The predictive values of trauma scoring systems and HsTnT were analyzed. Receivers operating characteristic (ROC) curves were constructed for different scores predicting outcomes and the area under the curve (AUC) for score were computed.
Results: Of the total of 1928 BCT patients admitted to the level 1 trauma center; 1373 fulfilled the inclusion criteria. The mean age of patients was 34.9$\pm$15.6 and majority was males (90%). In-hospital complications included pneumonia (5%), sepsis (1.8%) and acute respiratory distress syndrome (1.1%). There were 229 intubated patients,197 patients had chest tubes and 30 patients died (2.0%). ICU and hospital length of stay were significantly associated with polytrauma, RTS, TRISS and positive HsTnT. Age-adjusted predictors of intubation were HsTnT(OR 3.0), RTS(OR 2.1), ISS(OR 1.10) and GCS(OR 0.64). The perfect AUC for predicting intubation and mortality respectively were TRISS(0.78 and 0.81), HsTnT(0.77 and 0.86) and ISS(0.80 and 0.88). Age adjusted predictors of mortality were TRISS(OR 16), HsTnT(OR 9.3), and ISS(OR 1.2).
Conclusion: With respect to different thoracic trauma scores, TRISS and HsTnT are found to be appropriate tools for prediction of in-hospital outcomes in patients with BCT
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Disclosure: No significant relationships.

P158

FREQUENCY, PATTERN, AND OUTCOMES OF BICYCLE-RELATED TRAUMATIC INJURIES: EXPERIENCE FROM A SINGLE LEVEL 1 TRAUMA CENTER

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Introduction: The incidence of bicycle-related traumatic injuries is rising not only among teens but also in adult population worldwide.We aimed to describe the frequency, pattern and outcomes in patients with bicycle-related traumatic injuries admitted to the national level1 trauma center in Qatar.
Material and methods: We conducted a retrospective analysis of data obtained from the national registry database. All patients with bicycle-related injuries that required admission to hospital from January 2010 till December 2015 were included in the study. Data included patients' demographics, clinical characteristics, mechanism of injury, injury severity and outcomes.
Results: A total of 150 patients with bicycle-related traumatic injuries were identified in the study duration. The mean age of patients was 27.2$\pm$16.5 years. The majority was under the age of 18 years and males. The most common mechanism of injury was hit by car (87%). Head injury (47%) was frequently reported followed by extremities (45%) and chest (25%) injuries. The prevalence of documented helmet use was 3%. The median Glasgow Coma Score was 15 (3-15). The median head Abbreviated Injury Scale was 3(1-6) and for chest was 3(2-6). The median Injury Severity Score was 10 (1-41). The median intensive care, ventilator and hospital stay in days were 4 (1-49), 5(1-20) and 5(1-148) respectively. The mortality rate in was 8.7 % (n=13).
Conclusion: The majority involved in bicycle-related traumatic injuries reflects the riskier behavior of male late teens. The low rate of helmet use led to severe head and chest injuries. Awareness of helmet use and safe roads constitute major pilars for injury prevention strategy.
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Disclosure: No significant relationships.

P159

STERNAL FRACTURES AND CARDIAC TRAUMA. A REVIEW OF 62 STERNAL FRACTURES FROM A MAJOR TRAUMA CENTRE

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Introduction: Traditional teaching has emphasised the need to investigate patients with sternal fractures for associated cardiac injuries. We sought to evaluate our practice and management of patients with sternal fractures and to quantify the incidence of associated cardiac injuries.
Material and methods: From May 2014 to July 2016, 1431 patients were admitted to our Unit of which 62 (4.3%) were identified as having a sternal fracture. Information regarding patient demographics, mechanism of injury, associated injuries, mortality and investigations for associated cardiac injury as well as its incidence was gathered.
Results: Five (8.1%) patients had isolated sternal fractures while in the remaining 57 (91.9%) their injury was part of a polytrauma. The most common mechanism of injury was a vehicular incident (31, 50.0%). The average ISS was 21 (4 - 57). Mortality was seen in 2 cases (3.2%). Associated injuries included; head injury (22, 38.6%), spinal injury (25, 43.9%), pelvic injury (8, 14%) and thoracic injury (41, 71.9%). Sternal fracture with other thoracic injury (SFOTI) were recorded as; rib fracture(s) (34, 54.8%), pneumothorax (19, 30.6%), lung contusion (19, 30.6%), haemothorax (10, 16.1%), pneumomediastinum (8, 12.9%), haemomediastinum (6, 9.7%) and pericardial effusion (1, 1.6%). Most fractures were undisplaced (59, 95.2%). Two displaced fractures underwent fixation. Investigations conducted for identification of a cardiac injury were also recorded.
Conclusion: The incidence of cardiac injuries in sternal fractures is low. Mortality from sternal fractures identified on CT is low and is rarely attributable to cardiac complications arising as a consequence of this injury. Furthermore, identification of these injuries rarely alters management.
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Disclosure: No significant relationships.

P160

INCIDENTAL FINDINGS OF OCCULT MALIGNANCIES IN POLYTRAUMA PATIENTS DETECTED BY WHOLE BODY TOMOGRAPHIC STUDIES

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Introduction: Whole body computed tomographic (WBCT) scans are becoming more requently done in trauma patients, and incidental findings of occult malignancies are also more frequently found.
Material and methods: A preliminary retrospective review of all trauma patients enrolled in our institutional trauma database was performed. Those with WBCTs were enrolled into the study. The images and the reports were reviewed for all possible occult tumors in the chest and abdomen.
Results: From January 1, 2015, to September 30, 2016, there were 520 polytrauma patients with an Injury Severity Score (ISS) greater than or equal to 16 admitted through the emergency room at our institution. Out of these 520 patients, 336 patients received whole body CT scans including brain, chest, and abdominal CTs. 19 (3%) patients had significant chest or abdominal incidental findings of tumors that require definitive diagnosis, however, only 2 patients had definite malignant diagnoses.
Conclusion: The preliminary results of this study show that incidental findings of occult tumors in the chest and abdomen are more frequently found in patients who received whole body CT scanning due to trauma. Thus, the use of whole body CTs can be justified for patients with polytrauma if they were hemodynamically stable.
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Disclosure: No significant relationships.

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POLYTRAUMA PATIENTS WITH PELVIC FRACTURES-DAMAGE CONTROL VS EARLY TOTAL CARE

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Introduction: Due to the complexity of the pelvic fractures, many therapeutic methods and implants have been used for stabilising the injuries. Unlike isolated fractures, in polytrauma, the type of the implant depends on the stability of the fracture as well as of the patient
Material and methods: The authors retrospectively analyse 34 polytrauma patients with unstable pelvic fractures admitted between 01.01.2011- 01.06.2015 for pelvic fractures. The criteria were: demography, the stability of the fracture, the anatomical description of the fracture, the hemodinamical stability of the patients, the associated injuries and the main characteristics of the treatment: time from trauma to the hospital, time form admission to surgery, type of bony stabilisation (external, internal), local and general outcome
Results: Unstable fractures were diagnosed either by CT (stable patients) or by intra-operative X ray followed by CT (unstable patients). When surgery was required, external fixation was used in 78 % of the patients within the first 8 hours, while internal stabilisation was usually delayed until the patient was stable. Death occurred in 8 cases, 6 due to associated injury, two due to pulmonary embolism

Conclusion: Pelvic fractures stabilisation in polytrauma aims both mechanical and haemodinamical stability, thus requiring personalised decisions and implants, as well as a multidisciplinary team to asses and treat the patient.
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Disclosure: No significant relationships.

P162

SEVERE MAXILLOFACIAL TRAUMA DAMAGE CONTROL

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Introduction: Damage control is defined by the extreme emergency implementation of a first resuscitation and surgical step, during which there is no attempt at repairing lesions but only at restoring adequate physiological function. In recent years, "damage control" has considerably improved the management of polytrauma patients, especially in war surgery. We propose a "damage control" management strategy, for patients with severe maxillofacial trauma.
Material and methods: Based on literature and our own experience, we referenced every appropriate procedure in initial management of severe maxillofacial trauma. Following visceral damage control strategy, we reviewed step by step severe maxillofacial trauma specificities.
Results: Respiratory distress or hemorrhagic shock management are critical maxillofacial emergencies. Airway control generally requires oro-tracheal intubation, percutaneous or surgical tracheotomy (or in less favorable cases cricothyroidotomy) Facial bleeding control requires oro-nasal packing, hemostatic dressing, selective ligation, external carotid artery ligation, or angiographic embolization. Fractures immobilization helps in bleeding control and pain management, which makes resuscitation easier, and prepares patient evacuation. Later, surgical second step fixes facial injuries in a sustainable way.
Conclusion: "Damage control" can be adequately applied to the management of patients with severe maxillofacial trauma.
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Disclosure: No significant relationships.

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POTENTIALLY PREVENTABLE DEATH AND OPPORTUNITIES FOR IMPROVEMENT AT A LEVEL-I TRAUMA CENTRE

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Introduction: According to American College of Surgeons, multidisciplinary peer review of trauma death, is a quality indicator of trauma care (1, 2). Through this process, potentially preventable death and opportunities for improvement can be identified. It has been shown that the implementation of this quality indicator is associated with reduced hospital mortality (3). In this study we present data from the multidisciplinary peer review at our centre.
Material and methods: Patients that had died within 30 days of trauma admission at Karolinska University Hospital (KUH), Stockholm, Sweden, from April 2012 to March 2016, were reviewed by a multidisciplinary committee, consisted of relevant healthcare providers across the spectrum of care. The review aimed to identify potentially preventable death and opportunities for improvement.
Results: 256 patients were identified during this time period. 29 deaths were excluded from the review: 20 were not trauma related and 9 had taken place after discharge from KUH (medical records were not available). Majority were males, n=160 (70.5%) and the median age was 58±27. The injury mechanism was mainly blunt, n=186 (81.9%). Mean ISS was 36. Causes of death were: Traumatic brain injury n=113 (49.7%), haemorrhage n=51 (22.5%), organ failure n=19 (8.4%) and unknown/other n=44 (19.4%). 10 (4.4%) deaths were considered as potentially preventable and in 80 (35,2%) cases one or more opportunities for improvement were identified.
Conclusion: The potentially preventable death rate at KUH is in line with the previously reported numbers from similar Level-I centres. Multidisciplinary peer review of trauma death identified opportunities for improvement in one in every third patient.
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Disclosure: No significant relationships.

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NON-OPERATIVE MANAGEMENT OF THE SPLENIC TRAUMA

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Introduction: The medical literature has offered multiple data related to the non-operative management of the splenic trauma. The conservative treatment of the splenic trauma represents the first choice for the hemodinamical stable patients, irrespective of the grade of the lesions, being already demonstrated that it is associated with low mortality and morbidity rates.
Material and methods: 10 hemodinamical stable patients with splenic trauma of different grades, admitted in the General Surgery Department of the "Sfantul Pantelimon" Emergency Hospital, between January 2014 and September 2016, were included in the present study. The variables that were analyzed were represented by the frecquency of hemoglobin monitoring or of the clinical examination, the frecquency and types of imaging investigations, the duration and intensity of restricted activity, time to reinitiate oral intake, the length of hospital stay, time for initiating chemical DVT prophylaxis after splenic trauma.

Results: The advantages of the non-operative treatment in the splenic trauma patients are represented by a low hospitalization cost, decreasing the mortality and morbidity rates with consecutive decreasing of the intra- or postoperative complications. Angiography with embolizatin represents the most important adjuvant option asociated to the conservative treatment of the hemodinamical stable patients with splenic trauma. For the unstable patients or with peritonitis, the emergent surgical intervention is the only choice in the therapeutical algorithm.
Conclusion: Non-operative treatment of the splenic trauma represents the tratment of choice for the hemodinamical stable patients.
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Disclosure: No significant relationships.

P165

CHANGES IN THE MANAGEMENT OF POLITRAUMATISED PATIENTS WITH BLUNT LIVER TRAUMA SIGNIFICANTLY IMPROVED THEIR OUTCOME

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Introduction: We compared, in a historical perspective, the outcome in patients with blunt liver trauma
Material and methods: Two groups of patients with blunt abdominal trauma treated in our department during 2002-2006 and 2012-2016 have been compared: group 1 with 20 patients and group 2 with 40 patients. Both groups had a similar sex distribution, with a mean age of 37.6 years in group 1 and 48.8 in group 2. The Injury Severity Score (ISS) was used to assess the lesions severity. Its mean values at patients' admission were 28.8 in group 1 and 27.5 in group 2. 10 % of group 1 patients and 20% of group 2 required surgery because of hemodynamic instability. Liver Injury Scale (LIS) was used to assess the hepatic trauma severity.
Results: In both groups surgery was correlated with the LIS value ($p = 0.00290$). In patients requiring surgery for associated lesions, postoperative mortality was 20% in group 1 and 50% in group 2, being significantly influenced by the ISS value ($p = 0.0395$ for group 1 and $p = 0.019$ for group 2). The mortality in patients managed conservatively was 20% in group 1 and 12.5% in group 2 ($p = 0.023$) and was also influenced by the ISS value, as well as the hospital length of stay (HLS). HLS mean value was significantly shorter ($p = 0.039$) in group 2 (13 days) when compared to group1 (15.7 days).
Conclusion: Progress in critical care techniques and protocols during the last 10 years, resulted in a better prognosis for patients with blunt abdominal trauma.
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Disclosure: No significant relationships.

P166

SURGICAL TREATMENT OF PEDIATRIC PANFACIAL TRAUMA

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Introduction: To optimize treatment protocol for patients with panfacial trauma.
Material and methods: 101 Patients with polytrauma ($ISS \geq 16$) went through the ICU within 2014. Craniomaxillofacial trauma was diagnosed in 28 patients, of which 82.1% had panfacial trauma. On admission during antishock actions a whole body CT is done. Surgical approach is based on interaction of damage control and fast track conceptions with taking into account patient's stability.
Results: On emergency indications facial trauma surgeries were done in 20 (86.9%) cases: percutaneous tracheostomy using Griggs technique (34.8%), maxilla-mandibular fixation (21.7%), nasal packing (8.7%), facial wound suturing (13%). Facial bone reconstruction surgeries are done in delayed time (up to 72 hours) after stabilization of patient's condition and making urgent operations for health reasons. Reconstruction was performed in 56.5% of children. One-stage operation in 61.5%, two-stage – in 38.5% of children, due to severity of polytrauma. For fracture fixation we use titanium miniplates, if necessary use endoscopic assistance. CT control we do on 1 postop day. ALV is shown in 1-2 days. Decannulation is performed after 2-3 weeks using endoscopic control. Postoperative complications were diagnosed in 7.7% of cases, posttraumatic deformities – in 23.1%. After discharge all patients are on the follow-up. Children under 12 years old are re-hospitalized for plates removal (30.8%).
Conclusion: Treatment of children with craniomaxillofacial injuries in specialized emergency trauma hospital permits to diagnose in detail the pattern of facial trauma and combined injuries. Together with multidisciplinary team, high-technology equipment and presence of miniplates it provides early one-stage facial skeleton reconstruction.
References: Panfacial trauma, Polytrauma, Pediatric
Disclosure: No significant relationships.

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ENDOSCOPIC ASSISTANCE IN PEDIATRIC CRANIOMAXILLOFACIAL TRAUMA

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Introduction: Aim: To submit first experience and opportunities of endoscopic assistance in craniomaxillofacial trauma (CMFT).

Material and methods: An experience of 23 video endoscopic-assisted operations (VEAO) in pediatric CMFT is summarized. In a year CMFT of various severity was diagnosed in 147 children. Surgeries were performed to 47 (33.8%) children. VEAO - to 23 (48.9%) children.
Results: Most of VEAO (13; 56.5%) were made for orbital floor fractures: in 6 cases through the maxillary sinus, in 4 through subciliar incision, through both approaches – in 3. In one case (4.3%) a reduction of an impressed lateral orbital wall fracture was made. VEAO were also made for both side mandible angle fractures, what allowed to do the surgery using intraoral approach – 2 cases; for reduction of impressed fracture of the frontal sinus front wall, what allowed to make a thorough sanation and avoid bicoronar incision – 2; for reduction of impressed naso-orbital-ethmoid fracture – 1; for nose fracture reduction – 1; for orbital roof fracture – 2; to control plate position on the orbital floor – 3 and for plate removal – 2 cases. There were no intraoperative complications associated with the use of endoscopy.
Conclusion: Endoscopic control provides an optimal visualization of the fracture in CMFT, what enables not only to specify injury pattern but also to perform anatomic reduction and fixation of the fracture using optimal surgical approach, what by-turn provides better aesthetic outcome. Endoscopy also permits to minimize complications during surgery and can be recommended for plate removal and for controlling posttraumatic process.
References: Endoscopy, Craniomaxillofacial trauma, Pediatric, Endoscopic assistance
Disclosure: No significant relationships.

P168

ANALYSIS OF COAGULATION RATES IN TRAUMA PATIENTS WITH HEMOPERITONEUM DURING NONOPERATIVE MANAGEMENT

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Introduction: Analysis of the evolution of coagulation indexes in patients with traumatic haemoperitoneum presents interest in the context of the continuous increase in the incidence of trauma injuries.
Material and methods: Prospective study (2011-2016), 59 patients with hemoperitoneum, splenic trauma (ST) - 46 (77,97%), liver trauma (LT) - 22 (37,29%), renal trauma (RT) - 7 (11,86%); M:F/2:1; average values: age=38,64±14,26, RTS = 9,33±1,18; ISS = 24,91±13,4. Diagnosis establishment: ultrasonography(USG) - 59(100%), computed tomography(CT) - 46(77,97%).
Results: ST severity (AAST): dgr.I (1), dgr.II (11), dgr.III (31), dgr.IV (4); LT – dgr.I (9), dgr.II (6), dgr.III (7); An number of 22 (37,29%) polytrauma patients had ISS>25. Patients with GCS <12 - 11 (18,64%). The median volume of hemoperitoneum at admission established imagistically - 460,85±336,68ml (0-1500ml). Extra abdominal surgical interventions – 26 in 17 (28,81%) patients: intracranial hemorrhage drainage - 2 (7,69%), wound management - 6 (23,08%), thoracocentesis/thoracotomy - 6 (23,08%), osteosynthesis - 8 (30,77%), tracheostomy - 4 (15,38%). The prothrombin level at admission was 84,69±10,74%, fibrinogen level - 2,88±1,1 g/L, prothrombin time(PT) - 21,34±7,68 sec., platelet count - 181,46±79,42x10^3/ml. The dynamic at 3rd and 7th day values were: 85,75±9,1%, 3±0,9 g/L, 19,59±6,5 sec., 182,8±56,2x10^3/ml and respectively 91±6,6%, 3,3±0,9 g/L, 14,59±4,5sec., 187,1±86,2x10^3/ml.
Conclusion: Dynamic analysis of the coagulation tests in patients with traumatic hemoperitoneum revealed no disorders of the coagulation system (P>0,05), excepting prolonged PT. The coagulation indices improve gradually in parallel with absorption of hemoperitoneum which notes harmlessness of hemoperitoneum absorption during nonoperative management.
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Disclosure: No significant relationships.

P169

ANTERIOR CHEST AND STERNAL FLAIL FIXATION WITH RETROSTERNAL METALLIC PLATES BY THORACOSCOPIC ASSISTED APPROACH

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Introduction: The management of anterior chest flail can be very demanding because of associated visceral lesions (pulmonary and myocardial contusions, pleural effusions) and a high instability of the thoracic wall which doesn't allow efficient spontaneous breathing and coughing. Internal pneumatic stabilisation implies a prolonged time of mechanical ventilation with a high risk of pulmonary infections. Surgical stabilisation of anterior chest flail reduces the length of mechanical ventilation and the risk of associated pneumonia. Video assisted retrosternal positioning of the metallic plate, is a minimal invasive surgery that assures both good fixation and efficient drainage of pleural effusions.
Material and methods: We present 20 patients with severe anterior chest flail, 12 of them also associated sternal fracture. All the patients had severe paradoxical respiration and rapid deterioration of the respiratory status or associated pleural effusions that required thoracoscopy. For respiratory assisted patients surgery was performed in order to shorten the period of mechanical ventilation. Surgeries were performed under general anaesthesia. We used STRATOS metallic plates which were placed retrosternal.
Results: 4 patients died – all of them required prolonged mechanical ventilation. The shortest period of time between the operation and death was 14 days. The other 16 patients were weaned form the ventilator after maximum 7 days. Ventilator-associated pneumonia was observed in only 4 cases.
Conclusion: Anterior chest flail stabilisation with retrosternal metallic plates is superior to internal pneumatic stabilisation, reducing the risk of pulmonary infections. It is a minimal invasive surgery allowing also adequate treatment of pleural effusions.
References:
Disclosure: No significant relationships.

P170

CONSERVATIVE MANAGEMENT FOR THE GRADEIIBLUNT TRAUMATIC AORTIC INJURY

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Introduction: Blunt traumatic aortic injury(BTAI) is critical sever injury with high mortality and is considered for urgent operation. However, the efficacy of conservative management for high Grade BTAI remains unknown. The aim of this study is to investigate the efficacy of conservative management.
Material and methods: A single center, retrospective, observational study was performed. The records of BTAI patients from January 2007 to September 2016, including age, gender, mechanism, injury classification (gradeI～IV), treatment, and mortality, was reviewed.
Results: Ten BTAI patients were enrolled. Eight patients were gradeIIand the other patients were grade III. The 28-day survival rate was 90%. 75% (6/8) of gradeIIBTAI patients were successfully treated with conservative management. One patient with grade II BTAI was died due to brain injury and the other needed Thoracic Endovascular Aortic Repair (TEVAR) due to the dilation of pseudo lumen. All of the grade III patients (2/2) were successfully treated by urgent TEVAR.
Conclusion: Conservative management can be effective option in selected BTAI patients. The further study is needed to investigate the indication of the conservative management for the gradeIIBTAI.
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Disclosure: No significant relationships.

P171

TRAUMATIC INJURIES AFTER SUICIDE ATTEMPTS: EXPERIENCE FROM A SINGLE NATIONAL LEVEL 1 TRAUMA CENTER

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Introduction: Traumatic suicidal attempts are associated with a significant morbidity and mortality. We aimed to describe the frequency, pattern of injury and outcomes of traumatic suicide injuries in Qatar.
Material and methods: A retrospective study was conducted for patients with traumatic suicide injuries and were admitted between 2007 and mid-2016. Data included patients demographics, clinical presentations, mechanism of injury (MOI), injury severity and outcomes.
Results: A total of 160 patients with traumatic suicide injuries were identified with a mean age of 30.9±8.7 and 75% were males. The most common MOI was stab or cut wounds (49%) followed by jumping from height (36%). Apart from the external injuries, the most common site of injury was head, neck or face (34%) followed by extremities (28%) and abdomen (27%). The median Abbreviated Injury Scale for head was 4 (2-9); for chest was 3 (1-9) and for abdomen was 2(1-5). The median Injury Severity Score was 8 (1-59). The median hospital length of stay was 5 (0-143) days. Nearly 11% of patients stayed in hospital <24 hours and 73% did not stay in ICU or on ventilator for one day or more. The mortality rate was 9 %. The comparative analysis showed that the proportion of patients jumped from height was higher in mortality ($p = 0.02$). Also, head and chest AIS among deceased were higher than survivors ($p<0.05$).
Conclusion: Although the most common mechanism of suicide attempt was stab and cut wounds, jumping from height was more lethal. Further studies are required to address the psychosocial and psychiatric aspects of suicide.
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Disclosure: No significant relationships.

P172

PATTERN OF DEATH IN TRAUMA IN A TERTIARY UNIT

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Introduction: Polytrauma is the leading cause of death in people under 44 years and has been defined as simultaneous injury of minimum two regions of the body (sometimes two injuries or more severe injuries in one body area). The aim of this study was to evaluate the pattern of in-hospital death for these patients.
Material and methods: This is a retrospective analysis of a one-year consecutive patients admitted for trauma in our unit with polytrauma diagnosis. Univariate and multivariate analysis was performed.
Results: There were 68 cases with male preponderance (4: 1 male: female). Motor vehicle crash was the main cause (44 cases) followed by falls (16 cases), wok accidents (4 cases) and aggressions (4 cases). Global mortality was 30,9%. One third of deaths occurred in the first 48 hours from admittance. Head trauma was the most frequent injury found in case of death both in the first 48 hours and in the long term mortality. Thoracic trauma was present in 62 of the 68 cases being the most frequent finding. The most frequent lethal combination was, again, demonstrated to be the association between head and thoracic trauma ($p<0.05$). A bimodal distribution of mortality was found. ISS is a good predictor of death. Surgical procedures were employed in two thirds of the cases the most frequent being thoracostomy
Conclusion: Head trauma is the main cause of death in polytrauma patients. A bimodal distribution of mortality was found.
References:
Disclosure: No significant relationships.

P173

PARIETAL RECONSTRUCTION IN POLYTRAUMA

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Introduction: Thoracic trauma represents today, as in the past, a major public health problem, with major implications in daily medical care, especially for thoracic surgery and intensive care departments.
Material and methods: We analyze the polytrauma cases with thoracic involvement admitted in our Thoracic Surgery Department for the last 10 years. During this time we have developed and followed a protocol for correct management of thoracic trauma, of multiple lesions evaluation, and of pathological disorders involved. We have also developed a protocol of paraclinical investigations in polytrauma with thoracic involvement. Once the correct diagnosis has been established, the surgical indication is established based on the severity and vital risk of the lesions. Cases with severe functional disorders resulting from skeletal lesions have been surgically addressed using parietal thoracic reconstruction methods specific for each case, using several osteosynthesis materials and a variety of surgical techniques.
Results: For our patients, the results obtained after surgical intervention in plytrauma with thoracic involvement were very good; early surgical intervention adapted for each case usually gives the best results, reducing the time invasive ventilation was needed, facilitating patients' recovery and social and professional reintegration.
Conclusion: Using surgical techniques adapted for each patient led to a decrease in mortality and morbidity, and, along with a complex of therapeutic measures, helped us attaining the best results.
References:
Disclosure: No significant relationships.

P174

MORTALITY IN POLYTRAUMA PATIENTS, THE EXPERIENCE OF SCUBA GENERAL SURGERY CLINIC

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Introduction: Polytrauma represents about a quarter of all injuries, and in people younger than 45 years is the leading cause of mortality (death)
Material and methods: The purpose of this study is to do a retrospective analysis of the causes of death in a group of 67 polytrauma patients hospitalized at the General Surgery Clinic during 2015, at the same time we analyzed a batch of 11 polytrauma patients who died in the Emergency department. We also made a correlation between mortality and ISS score (Injury Severity Scale) in those 2 groups.
Results: From the 67 polytrauma patients hospitalized in our clinic, 14 have died (20.89% mortality). The main causes of death in both groups in the early hours and the first 24 hours after the presentation were the traumatic shock, the association between traumatic shock and hypovolemic shock, cardiogenic shock, severe hypothermia and severe craniocerebral trauma. For the patients who died more than 24 hours after the presentation the causes of death were represented by severe sepsISS> 17) with increased is, septic shock, acute respiratory failure due to bronchopneumopathy and multiple organ failure (MOF). Our study also confirmed the data from the literature which correlates the high values of ISS (rates of mortality in polytrauma patients.
Conclusion: Early establishment and continuous improvement of the therapeutic measures associated with ongoing collaboration between multidisciplinary teams may lower mortality in polytrauma patients.
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Disclosure: No significant relationships.

P175

POST TRAUMATIC DIAPHRAGM RUPTURES

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Introduction: The diaphragm is the thoraco-abdominal border. It is frequently involved in thoracic and/or abdominal trauma. Lesions are usually complex, with thoracic and/or abdominal viscera involvement, as well as skeletal thoracic and/or abdominal parietal involvement. The incidence in diaphragm involvement in polytrauma has increased over the last decade. Severe polytrauma is frequently associated with diaphragmatic rupture.
Material and methods: We have studied patients with polytrauma involving diaphragmatic rupture admitted in our Thoracic Surgery Department over the last decade. We have followed the circumstances in which clinical signs of diaphragmatic rupture have appeared and we have hierarchized the paraclinical diagnosis methods based on clinical signs. Surgical intervention has been imposed by the aggravation of clinical symptomatology and by the appearance of complications.
Results: Once the diagnosis had been established, the surgical intervention has been lifesaving in most of the cases. Its objectives were lysis of adhesions of herniated abdominal viscera, diaphragmatic suture, or several methods of diaphragmatic replacement with alloplastic materials - these methods were adapted for each patient.
Conclusion: The surgical intervention was needed each time we identified a post traumatic diaphragmatic rupture associated with abdominal viscera herniation and important functional disorders. Postoperative results were very good, lessening the mortality and morbidity rates.
References:
Disclosure: No significant relationships.

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ROAD TRAFFIC INJURIES AFFECTING INFANTS AND TODDLERS IN QATAR: LINKING NATIONAL TRAUMA CENTER AND VITAL STATISTICS DATA FOR INJURY PREVENTION

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Introduction: Road traffic injuries [RTIs] have been identified as the leading cause of death in Qatar, more so for children and youth. However, there is a paucity of data for infants and toddlers [IAT], under 5 years, affected by RTI's. This study will describe the epidemiology of IAT's with RTI's in Qatar and make recommendations for targeted child safety programs.
Material and methods: Data, on IAT patients with RTIs treated at the Hamad Trauma Center [HTC] Trauma Registry for the years 2008 to 2015 were collected, analyzed and linked to published national vital statistics data. This study is a component of the muli-year grant awarded by the Qatar Foundation: NPRP No. 7 - 1681 - 3 - 429 Young Kids In Safe Seats (Y-KISS) - Qatar Program: A Randomized Study to Increase Child Restraint Use in Qatar.
Results: There were 225 IAT RTIs admitted from 2008-2015. In-hospital mortality was 2.4 % with 60% of deaths in males. Only 14% of RTI deaths in this age group occurred in the HTC. Pedestrians [53 %] and unrestrained passengers [43 %] made up the majority of the injured. RTI incidence and mortality rates per 100,000 population have remained largely unchanged over the study period.
Conclusion: Injury prevention must be a public health priority for IATs in Qatar because the majority of RTI deaths among IATs occur in the pre-hospital setting. RTIs in IATs in Qatar affect precocious pedestrians and unrestrained passengers. Interventions to keep these most vulnerable road users safe must be tailored to their highest risks and to reinforce compliance with using proven safety equipment for this age-group. These must focus on awareness programs to avoid driveway back-overs and improve the proper use of child restraints for families with infants and toddlers and for expectant parents.
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Disclosure: No significant relationships.

P177

PREDICTIVE VALUE OF INFLAMMATORY MARKERS IN POLYTRAUMA PATIENTS WITH PELVIC FRACTURES

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Introduction: Treatment of pelvic fractures in polytrauma patients is focused on stabilizing the fracture and the patient while avoiding the "second hit" phenomenon. The authors analyze the possibility to use biochemical markers in order to assess the status of the polytrauma patients with unstable pelvic fractures as well as to establish the treatment and monitor the patients through a retrospective study in a Level 1 Trauma Centre.
Material and methods: We analysed 28 polytrauma patients with unstable pelvic fractures, treated in our hospital (Clinical University Hospital Bucharest) between 01.01.2012-01.01.2015, for which complete medical records and evaluations were available. The following criteria were used for analysing the study group:demography, hemodinamical stability of the patients, associated injuries, type of pelvic stabilisation and biochemical markers: ESR, C Reactive Protein, IL-1, IL-6 related to the outcome of the patients
Results: Until an initial inflammatory phase, (Post- aggressive systemic reaction), there were two types of behavior revealed by the values of these markers within the study group: when the levels decreased, the outcome was favorable; When the levaels increased, with SIRS onset, leading to general complications; it must be underlined that Il-1 and IL-6 proved to be more confident than ESR and CRP when evaluating polytrauma patients.
Conclusion: This research paper demonstrates that in polytrauma patients with unstable pelvic fractures, inflammatory markers, and especially Interleukins Il-1 and IL-6 represent valuable objective elements based on which the trauma team can establish a flexible and patient –adapted, thus efficient therapeutic protocol, able to ensure first of all the survival of the patients, followed by their healing.
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Disclosure: No significant relationships.

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BIOCHEMICAL MARKERS IN POLYTRAUMA PATIENTS WITH FEMORAL FRACTURES

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Introduction: Femoral fractures in polytrauma patients represent a major problem because both the fracture and the treatment have a significant impact upon the patient. Femoral stabilization must be done as soon as possible, and, since we speak about polytrauma, so patients with potential MSOF, minimal invasive surgery is recommended, especially in unstable and borderline patients. The purpose of this paper is to evaluate the impact of the two methods- ETC and Damage Control upon the outcome of the patients and to improve the currently used algorithms.
Material and methods: From the patients operated between 01.01.2009-01.01.2015 in the Clinical Emergency Hospital Bucharest, there were 75 polytrauma patients with femoral shaft fractures.

The patients were divided into group A- 35 patients operated with intramedullary nailing from the beginning and 40 patients- group B, treated initially by external fixation. The evaluation criteria were: hospital stay, MSOF rate, ARDS, local complications (non unions, wound infections, pin track infections, implant failure)
Results: The method of stabilization did not influence the hospital stay, but the life threatening injuries and their evolution had the major influence on hospital stay. Patients from DCOS (Damage Control Orthopedic Surgery) group had a smaller rate of MSOF and ARDS even if they had had higher traumatic scores. External fixation followed by intramedullary nailing (IMN) was not associated with higher rate of complications than primary IMN.
Conclusion: External initial stabilization in femoral fractures seems to be the optimal treatment in polytrauma because it has a smaller systemic impact and because it protects the organism already affected by trauma.
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Disclosure: No significant relationships.

P179

WEIGHT BEARING AFTER PELVIC RING FRACTURE SURGERY. WHAT IS THE EVIDENCE?

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Introduction: The aim of this paper was to undertake a systematic review of the literature to ascertain primarily whether the evidence base exists to guide post-operative rehabilitation and weightbearing after pelvic fracture surgery, and secondarily to identify which systems are used for classification of pelvic fractures and assessment of outcomes.
Material and methods: A systematic review of the literature from 1990 onwards was done in October 2015. MESH headings were "Pelvic Fracture", "Pelvis Fracture", "Pelvic Trauma", "Pelvic Ring" and " Pelvic Injury". Papers were included if they were available in English, related to adult humans, had a minimum of 8 cases with a minimum follow-up of 6 months, and were not primarily pathological, open or penetrating injuries. Applying these filters resulted in a final list of 108 papers from a starting number of 2027.
Results: 108 papers reported outcomes on 7437 patients. Only one paper was primarily aimed at investigating post-operative weight-bearing, in Tile B2 fractures. More than half of the papers did not specify the post-operative rehabilitation regime used. Within a subset of Tile type C fractures 12 of 28 papers did not state their post-operative management, and only 2 papers allowed full weight-bearing. There was little agreement on outcome scoring systems, with the most popular being the Majeed system, used by 17.6% of papers, and more than half the papers did not state what post-operative weight-bearing was employed.
Conclusion: Despite large numbers of papers being devoted to the management of pelvic fractures, evidence on rehabilitation and post-operative weight-bearing schedules is scarce.
References:
Disclosure: No significant relationships.

P180

PMN (POLYMORPHONUCLEAR GRANULOCYTE) MIGRATION ACTIVITY – A NEW LABORATORY IMMUNE MARKER? FIRST RESULTS OF A COMPARISON FROM NON-TRAUMATIZED UP TO SEVERE TRAUMATIZED PATIENTS

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Introduction: In today's clinical practice, specification of the patient's immune status is achieved by using non-specific markers. The PMN migration activity might allow a more functional assessment. The parameter validation and test optimization is essential for an establishment in clinical practice.
Material and methods: Six severe trauma patients were included and 8 measurements conducted in 14 days. (ISS $\geq$ 16, Age $\geq$ 18, AIS head $\leq$ 3) The control group consists of 10 hip joint replacement patients, who were measured 4 times during 5 days, preoperative measurements created a non-traumatic third group. Additionally body temperature, leukocyte count, CRP, PCT and IL-6 were detected. We used a set-up described by Egger, in which a cellulose nitrate membrane imitates the tissue structure. Every measurement is performed with fMLP and without. After cell incubation, fixation and staining, the cells are pictured by microscope. A software counts the PMNs in each depth, generates a migration profile and calculates the median migration (DC50) and adhesion index (AI).
Results: DC50 and AI decline with increasing trauma severity (DC50: non-traumatic: 19.5 μm; hip joint replacement: 13.1 μm; severe trauma: 10.4 μm). The AI in the severe trauma group recovers up to nearly non-traumatic levels until day 14. It wasn't possible to draw conclusions on the basis of common markers regarding the migration activity. The chemoattractant didn't influence cell migration as expected.
Conclusion: The method has been successfully established in our laboratory and showed potential to be developed and implemented to a greater extent. More cases need to be recruited to validate the method.
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Disclosure: No significant relationships.

P181

ULTRASOUND APPROACH OF THE CENTRAL VEIN PRESSURE (CVP) AND ASSESMENT INDEX OF THE INFERIOR VENA CAVA (IVC)

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Introduction: Utility and indications for use of bedside ultrasound to measure the diameter of the inferior vena cava (IVC) and compare-match with the central venous pressure measurements (CVP). Estimation of hemodynamic status, the response and the effectiveness or not of fluid resuscitation.
Material and methods: A randomized 42 patients with spontaneous breathing and mechanical ventilation (25/17). Patients carrying measuring probe CVP. Detection of the aorta-inferior vena cava in transverse diameter, conversion to the longitudinal axis, and imaging of the CPP The objective measurement of the diameter of the inferior vena cava to inhaling and exhaling
Results: In patients with spontaneous respiration was found statistically significant relationship between the mean diameter of the CPP measured by (US) at the end of exhalation and the average diameter of the CVP during exhalation. In the group of patients with spontaneous respiration threre was a statistically significant difference between the mean diameter of the CPP measured by ultrasonography at the end of inhalation and CVP. In the group of patients with mechanical ventilation, no statistically significant relationship between the mean diameter of the CPP and average CVP during exhalation.
Conclusion: The values of the diameter of the CPP (IVC) with ultrasound during breathing is a useful tool to assess the hemodynamic status of the critical patient. It appears to have a greater reliability of measurement of CVP, is not affected by the position of the patient's head, it is not invasive and does not have the complications of catheter placement (subclavian- jugular). Reliability and application in patients with hypovolemic shock.
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Disclosure: No significant relationships.

P182

MANAGEMENT OF POLYTRAUMA PATIENTS WITH CLOSED THORACIC INJURIES

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Introduction: Thoracic injuries in polytrauma cause 30-50% mortality due to severity, quick progression of pathological processes and hemopneumothorax, leading to respiratory disturbance.
Material and methods: We present treatment results of 139 patients with pelvic fractures, different multiple injuries and closed thoracic trauma aged 18-72 years. The main causes of trauma were traffic road accidents (74,37%). Multiple rib fractures (n=117), fractures of the sternum (n=23), clavicle (n=19), scapula (n=19) and long bones (n=87) were associated with traumatic brain injury (n=120) and abdominal organ lesion (n=49). All patients were completely examined according to elaborated algorithm. Study group included 64 patients treated by early stabilization of the upper limbs, sternum and ribs. Indications for rib cage fixation were dominated thoracic injuries, with paradoxical breathing associated with fractures of the pelvis and proximal femur. Control group included 75 patients treated by traditional methods: drainage and puncture of the pleural cavity with systematic X-ray control. The main aim was to maintain permeability of respiratory ways – sanation of the tracheobronchial tree with curative bronchoscopy, use of mucolytic and broncholytic drugs, aerosol inhalations and magnetotherapy.
Results: Early stabilization by fixation of multiple fractures of the thoracic cage and shoulder girdle proved its effectiveness in complex with physiotherapy The mean duration of mechanical ventilation was reduced, complication rate decreased by 20,8%. The period of hospitalization significantly decreased.
Conclusion: Thoracic injuries in polytrauma are severe lesions that need complex examination and urgent treatment to prevent pleural complications, to reduce the period of hospitalization and to improve long-term outcomes.
References:
Disclosure: No significant relationships.

P183

RARE CASES OF THORACO-ABDOMINAL INJURIES CAUSED BY IMPROPER USE OF ANGLE GRINDERS

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Introduction: Objective: In this study we have analized the incidence of critical thoraco-abdominal injuries which requierd hospitalization and surgical procedure, in patients who have misused the angular grinders.
Material and methods: Patients and methods: In the Bucharest Emergency Clinical Hospital, in the Second Surgical Department, there have been registered in the last five years a small amount of this kind of trauma. The patients presented opened thoraco-abdominal penetrating injuries. One of the cases presented posttraumatic evisceration with multiple intestinal injuries and local peritonitis which needed immediately lapartomy and enterectomy with multiple enteroraphies. Another case presented thoracic injuries associated with the openning of the pleura and the pericardium which needed hemostatis and pleural drainage.
Results: The evolution of the patients was simple, without complications. The immediate transport from the accident site and the surgery being performed in less than one our from the injuries are important for the further evolution of this patients.
Conclusion: The thoraco-abdominal injuries produced by broken grinder discs at high speed are associated with impressive parietal injuries which involves the evisceration of the internal organs and retention of foreign bodies (disc fragments). The use of protective shells for this devices reduces the risc of some serious accidents which can be lethal.
References:
Disclosure: No significant relationships.

P184

CLOSED REDUCTION AND EXTERNAL FIXATION (CREF) FOR UNSTABLE PELVIC FRACTURES IN POLYTRAUMA

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Introduction: Pelvic fractures are serious injuries associated with a diverse assortment of morbidities. Mortality rates for patients sustaining pelvic fractures range from 10% to 50% depending, for the most part, on the severity of pelvic fracture bleeding and the presence of associated injuries to the brain, thorax, and abdomen.
Material and methods: The study represents a prospective analysis of treatment results of 154 polytrauma patients with unstable pelvis fractures. Males were 102 (66,23%), females - 52 (33,77%). The patients' age varied from 14 to 84 years. The average age was 36,51±1,05 years ($p<0,05$). The main cause of trauma was traffic road accident (64,37%), fall from height (25,32%) and high energy stroke with compression of the patient (10,31%) The patients were divided in 2 groups according to M.Tile classification: type B – 65, type C – 89. A complex examination was performed according for the algorithm. All patients underwent surgical treatment of the pelvis injuries by a device for reposition and fixation of the pelvic ring.
Results: After surgical intervention all the patients were mobile, walked with crutches from the 2-5th day, that facilitated their nursing. Complex management ot polytrauma patients with pelvis injuries provided positive results in 97,4%.
Conclusion: A new device for reposition and fixation of the pelvic bones proposed and introduced in our clinical practice permits to operate the fragments position in three perpendicular planes, ensures the stable bone fixation in different clinical situations, and permits motions in early postoperative period, promotes a quick recovery of pelvic organs function, cardiovascular and respiratory systems.
References:
Disclosure: No significant relationships.

P185

UNDERSTANDING OF THE BULLET WOUNDS OCCURRENCES AND THE CORRECT SUCCESSION OF THE SHOTS IN FIREARMS INCIDENTS, COMPULSORY OF THE TRAUMA SURGICAL TEAM FROM THE EMERGENCY ROOM

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Introduction: The globalization is a good thing from an economic point of view but as a side effect, brought a mixture of human cultures and ethnics who in the underworld, tend to solve their disputes violently and with firearms. Besides these, terrorist attacks on the civilian population carried out with military weapons, are becoming more frequent. In these circumstances it is important that the surgeons from the Emergency Room to quickly understand the trauma made by firearms upon a person in order to apply a complex therapeutic decision that would positively solve critical situations with people that were shot.
Material and methods: This paper presents a famous and controversial case from Bucharest, where a 36 year old man that was sitting in a car on the driver's seat, was executed by one or more persons in a parking lot. In the crime, there were used several weapons with military features as well as manufactured bullets with the purpose of enhancing their killing power.
Results: The patient was operated by a multidisciplinary team (general surgeons, plastic surgeons) with good results.
Conclusion: The hemodynamic instability of the people that were shot implies an emergency approach of the surgical maneuvers, accompanied by a high level of understanding of the way the bullet injuries are made for both the entry wounds and the exit wounds.
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Disclosure: No significant relationships.

P186

SENSITIVITY OF BEDSIDE ULTRASOUND (E-FAST) V SUPINE CHEST XRAY FOR THE DETECTION - IDENTIFICATION OF PNEUMOTHORAX TO EMERGENCY DEPARTMENT

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Introduction: The supine anteroposterior (AP) chest radiographs in patients blunt trauma has little sensitivity for the determination of pneumothorax. The Ultrasound (US) has been proposed as alternative screening test for pneumothorax in this population.
Material and methods: From June 2014 at the Emergency Department of Rhodes General Hospital (Greece) began the implementation of TUS for detection - recognition of pneumothorax. We compared the transthoracicTUS and AP supine chest xray, with reference to the CT thorax regarding the specificity-sensitivity and false-positive-

negative results. Take right and left pleura-diaphragamtic sections. In considering the mutant angulated to the chest above the diaphragm. On intercostal incisions physiological lung moves in the chest wall. So the two pleura crawling between generating real time point of "slip» (sliding sign). Using the M imaging mode generated point of "sandy coastline »(Seashire) from small removable reflections of the normal lung.

Results: Despite recent limited experience and the small number of cases (42 parients), though there were ten (10) cases wherein TUS diagnosed pneumothorax (PTX) while supine a/chest (CRX () failed. In one patient the TUS diagnosed with failed and the chest xray chest CT and chest.

Imaging pneumothorax (PTX) with CT, TUS, supine chest xray

CT	TUS	Chest xray
Absent	Present (1)	Absent
Present 41	Present (42)	Absent (10)
Present 41	Present 42	Present 31

Conclusion: The Chest ultrasound (TUS) is appropriate imaging method - recognition of pneumothorax and superior to chest radiography, especially in the ED.

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Disclosure: No significant relationships.

P187

POLYTRAUMA IN ELDERLY PATIENTS – TRAUMA REGISTRY DATA

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Introduction: Because of the quality improvement of the medical treatment we assist to a process of aging of the population. Due to multiple comorbidities, the old and very old are at greater risk for mortality than younger patients after trauma.

Material and methods: We performed a retrospective study at our Level 1 trauma center of all the patients more than 65 years old admitted in Bucharest Emergency Hospital during 2013.

Results: From the 181 polytrauma patients admitted only 29 had the age over 65. Regarding sex ratio it was quite identical (15 male/14 female patients). 17 of the patients were transferred to our hospital, and 20 patients died form multiple injuries. Most of the lesions were produced by road traffic accidents and pedestrians. The mean ISS score was 28, and the mean TRISS score was 54.

Conclusion: Because the lesions occurs on a fragile patients with low resources, most often elderly patients dies, even if, according to TRISS score, the probability of survival is 50%.

References:

Disclosure: No significant relationships.

P188

MORTALITY OF POLYTRAUMA PATIENTS IN A TERTIARY EMERGENCY CENTER

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Introduction: The fundamental principle of a trauma system is to send the right patient to the right hospital into the right time.

Material and methods: Retrospective analysis of the data of the trauma registry of the patients admitted in to the level 1 trauma center with NISS higher than 15.

Results: Out of the 181 patients admitted to the Emergency Hospital Bucharest in 2013, 59 cases died (32%); 54 cases of all patients arrived intubated at the emergency room. Regarding the etiology of the died trauma patients within an approximately equal proportion accounted for a accident roads (20 cases) and accidents in which pedestrians were involved (18 cases). 10% of deceased patients had signs of sepsis in the ICU. 19 were hemodynamically unstable patients (systolic blood pressure> 90 mmHg) to the emergency room. About half (30 cases) of deceased patients were transferred from other hospital units to our center.

Conclusion: Given the severity of trauma patients should be transferred as quickly as the top-level trauma centers to decrease morbidity and mortality in both trauma.

References:

Disclosure: No significant relationships.

P189

EFFICIENCY OF THE FAST SCAN IN BLUNT ABDOMINAL TRAUMA

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Introduction: This study aimed to evaluate the accuracy of FAST scans in blunt abdominal trauma and whether the findings correlated with those found on CT.
Material and methods: A retrospective cross-sectional study of 30 patients who suffered blunt trauma between 11/10/2015-11/10/2016. Patients were selected based on the presence of; Blunt trauma within 24 hours and one of the following was performed; FAST, abdominal CT or exploratory laparotomy. Results of FAST scans, CT and intraoperative findings were used to determine presence of injury. ISS was used to evaluate severity of trauma. OIS was used to document abdominal viscera injury on CT.
Results: 25 of the 30 patients received a FAST scan. 15 had a positive FAST and 10 had a negative FAST. The sensitivity was 83.3%, specificity 100%, positive predictive value 100%, and negative predictive value 70%. 17 of these 25 patients also had a CT and 3 patients had CT without FAST. 11 patients had an exploratory laparotomy, 3 of which did not have FAST.
Conclusion: The FAST scan was able to accurately identify the presence of haemoperitoneum in this study. However FAST scans are unable to determine the severity of the abdominal injury therefore are not ideal for making the decision to operate or not. It had poorer accuracy in ruling out the presence of haemoperitoneum, which may lead to an underestimation of potential life threatening injuries, therefore CT scans to confirm the presence of blood or visceral injury are still desirable for a negative FAST in haemodynamically stable patients.
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Disclosure: No significant relationships.

P190

IDENTIFYING RISK FACTORS FOR PAEDIATRIC TRAUMA IN GALILEE AND THE GOLAN HEIGHTS

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Introduction: Sixty two percent of childhood injuries in Israel are due to road traffic crashes. According to Israel's central bureau of statistics, in 2015, there were 23,488 casualties from 12,661 road traffic crashes of which 848 were children brought to Ziv Medical Center for treatment.
Material and methods: A retrospective study was performed to investigate the association between road traffic crashes and where patients live. Using published indices, possible associations were explored between the socioeconomic level of the place (village, town or city) where the patient lives and the frequency of road traffic crashes, and whether male drivers are involved in more car crashes than women. The records of 3293 patients aged 15-20 years living in the Galilee and Golan and injured in road traffic crashes requiring admission to Ziv Medical Center between 2004 and 2015 were reviewed.
Results: Initial analysis in the 15 to 20 year age group has failed to show a correlation with census data on completion of high school, employment and national military service, but has shown up towns and villages with much higher than national average road traffic trauma statistics and a male proponderance for all causes of vehicular trauma. Further correlations between town planning, road infrastructure and socioeconomic data are being investigated.
Conclusion: There is anecdotal evidence that driving practices, driving without a licence and driving in certain areas in the Galilee and Golan are risk behaviours and factors implicated in high numbers of traffic crashes. Proving associations and implementing effective solutions is imperative to trauma prevention.
References:
Disclosure: No significant relationships.

P191

MASSIVE TRANSFUSION AT OUH ULLEVåL - TRENDS OVER TIME

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Introduction: A massive transfusion protocol (MTP) provides a resuscitation strategy for haemodynamically compromised patients due to massive tissue injury and/or major bleeding. Evidence supports a balanced transfusion with RBC, FFP and platelets in a 1:1:1 ratio (1), in accordance with the MTP at Oslo University Hospital from 2007 (2). Achieving a 1:1:1 ratio as early as possible is important but logistically challenging. We wanted to explore the change over time in the use of blood products and fluids the first 3 Hours after injury.
Material and methods: A retrospective analysis of local data from the international prospective observational study ACIT database from January 2009 to July 2016. All patients receiving > 3 RBC were included. Data included mean number of blood products, total volume of crystalloids and colloids administered within the first 3 hours after injury.
Results: 118 patients were included in the analysis, 78 % were men and 86 % had suffered blunt injury. The median ISS was 26 (IQR17-36). The ratio of plasma to RBC increased from 0.57 in 2009 to 1.42 in 2016. The ratio of platelets to RBC was close to 1:1 in the whole period. The average infused volume of crystalloids decreased from $>$ 3L to $<$ 1L and the use of colloids vanished during the period.
Conclusion: It was not until 2015 we were getting close to 1:1:1 at 3 hours. Simultaneously, we noticed a gradual decrease in the use of crystalloids, with colloids almost vanishing. How these changes influence outcomes in terms of complications and mortality needs further exploration.
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Disclosure: No significant relationships.

P192

VASCULARIZED BONE GRAFTS FOR SEGMENTAL BONE DEFECTS AND NON-UNION

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Introduction: Free vascularized bone grafts were found to be effective where a massive bone defect resulted after a trauma or from wide tumor resection
Material and methods: We present our experience - a few clinical cases with free vascularized bone grafts for large post-traumatic bone defects, impossible to treat using other methods
Results: Our experience with microvascular transfer of fibular and radial grafts has shown that massive autogenous bone grafting with an intact vascular pedicle decreases the time to bony union and the duration of immobilization required for functional reconstruction of an extremity. The technique has proven reliable in the reconstruction of bone defects of greater than 6 to 8 cm following defects existing in a fibrotic, avascular bed. More importantly, these techniques have been applied for limb salvage in patients with severely traumatized extremities that were not candidates for more traditional methods of bone grafting. Donor site morbidity was negligible.
Conclusion: Those data suggests that vascularized bone grafts represent a valuable procedure for reconstruction of large, previously infected shaft defects.
References:
Disclosure: No significant relationships.

P193

IMPACT OF TRANEXAMIC ACID ON EARLY DEATH IN TORSO TRAUMA PATIENTS WITH HEMORRHAGIC SHOCK

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Introduction: Tranexamic acid (TXA) significantly reduced all-cause mortality in bleeding trauma patients, but it is unclear on efficacy for the severe civilian torso trauma patients undergoing damage control surgery (DCS) in developed countries [1]. In this study, we aimed to verify the impact on administration of TXA in bleeding patients with DCS.

Material and methods: We conducted observational study in single Japanese trauma center between January 2012 and December 2014, 62 adult trauma patients developed hemorrhagic shock requiring DCS, excluded the cardiopulmonary arrest on arrival at the hospital served as subjects in this study. Damage control resuscitation(DCR)during DCS included a massive transfusion protocol, permissive hypotension, body temperature maintenance, and cardiac output monitoring after ICU admission. We compared in two groups depending on whether were administration of TXA (TXA group: n=42, non-TXA group: n=20). The primary endpoint was 24-hour mortality.
Results: Median age of the patients was 60 (interquartile range: 40-71) years, median ISS was 38 (28-43), median revised trauma score was 5.56 (3.34-6.77), 24-hour mortality rate was 27.4%. Operative procedure of DCS was included thoracotomy (TXA: 28.5%, non-TXA: 100%, p =0.12) and laparotomy (10%, 57.1%, 0.015), respectively. There was no difference in amount of transfusion in DCR period. Multivariable logistic analysis revealed that administration of TAX was associated to reduce 24-hour mortality (Odds ratio: 0.11, 95% CI: 0.01-0.74, p =0.02).
Conclusion: Administration of tranexamic acid had a great impact on the 24-hour mortality in severe trunk trauma patients undergoing DCS.
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Disclosure: No significant relationships.

P194

ABDOMINAL VASCULAR INJURIES

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Introduction: To evaluate the results of the treatment of patients with abdominal vascular injuries.
Material and methods: Data on 56 patients with abdominal vascular injuries seen at at Emergency Clinical Hospital Bucharest were reviewed retrospectively.
Results: The incidence of various types of trauma were blunt in 24 patients,stab wounds in 26 patients and gunshot wounds in 6 patients. Only 18 patients were hemodynamicaly stable. Isolated abdominal vascular trauma was detected in 7 patients. Vessels injured included aorta 2, named visceral arteries 3,inferior vena cava 2, named visceral veins 9, iliac arteries 1 and iliac veins 1, epigastric, hypogastric, intercostal arteries - 9, epigastric, hypogastric, intercostal veins 4, gonadal vessels 2, renal veins 5, non-named mesenteric vessels with segmental bowels necrosis 18. Two or more vascular injuries were found in 11 patients.The most frequent associated injuries were small bowel 11, liver 8, spleen 7,colon 6, diaphragm 4, stomach 2, duodenum 2, pancreas - 1.Infrarenal v. cava ligation was performed in all cases of hemodynamic instability. Minor named abdominal vessels were ligated in all cases. Segmental intestinal resection was performed in all patents with 4 to 5th grade of intestinal injuries due to devascularisation. Overall mortality rate was 34%. The vessels with the highest mortality rates were inferior vena cava. No differences in mortality rate were found according to type of trauma. The associated injuries with the highest mortality rates were pancreas,duodenum, diaphragm, liver and colon.

Conclusion: Isolated abdominal vascular injuries are rare. High mortality rate is associated with injury grade.
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Disclosure: No significant relationships.

COMPLEX ARTICULAR INJURIES (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P195

CLINICAL AND FUNCTIONAL OUTCOME OF PROXIMAL TIBIAL FRACTURES: THE VALUE OF THE 3-COLUMN CONCEPT

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Introduction: The use of the three-column classification (TCC) has remarkable value in operative planning, particularly with regard to posterior column fractures (PCF). The aim of this study was to assess functional outcome and general health status in patients with intra-articular proximal tibial fractures. Furthermore, the TCC was evaluated towards predicting the outcome.
Material and methods: A retrospective cohort study including 218 AO/OTA type 41 fractures with intra-articular involvement was conducted, with a minimal follow-up of 14.5 months. Outcome was assessed using the Knee injury and Osteoarthritis Outcome Score (KOOS). Moreover, radiological outcome was assessed with regard to postoperative malalignment, congruence and condylar widening.
Results: A retrospective cohort study including 218 AO/OTA type 41 fractures with intra-articular involvement was conducted, with a minimal follow-up of 14.5 months. Outcome was assessed using the Knee injury and Osteoarthritis Outcome Score (KOOS). Moreover, radiological outcome was assessed with regard to postoperative malalignment, congruence and condylar widening.
Conclusion: Considering fracture severity and frequent soft-tissue involvement, operatively treated patients showed moderate outcome. Complications, sagittal malalignment and PCF negatively influenced the functional outcome of operatively treated patients. Therefore, restoration of the posterior proximal tibial angle and fixation of PCF according to the three-column classification approach, may result in better mid- to long-term functional outcome.
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Disclosure: No significant relationships.

P196

RECONSTRUCTION OF THE MEDIAL PATELLOFEMORAL LIGAMENT USING A QUADRICEPS TENDON GRAFT IN CHILDREN

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Introduction: Dysplastic dislocation of the patella is one of the most frequent of the knee's pathologies in children. Currently it proposed many different methods of treatment of this disease. At the same time tendinous plastic of the medial patellofemoral ligament using both autografts and allografts is becoming more common. In most cases it is necessary form two points of fixation of tendon graft on the patella and the femur.
Material and methods: In the period of 2015-2016 60 children were being operated using this technology in Morozov Children's Hospital, Moscow, Russia. In 55 of them were made of isolated plastic of the medial patella's ligament. In 5 children were made simultaneous plastic of the medial patella's ligament and anterior cruciate ligament plastic. In 7 cases reconstruction using a quadriceps tendon graft performed for recurrent dislocation of the patella after Yamamoto's plastic and lateral release. Reconstruction of the medial patellofemoral ligament using a quadriceps tendon non-free graft can solve 2 problems. Firstly, this method involves absence additional fixation in the patella. Secondly, while simultaneous anterior cruciate ligament plastic is performed the lack of autoplastic material is excluded.
Results: The average term of the recovery movement in the knee joint was 2 months. Postoperative rehabilitation was conducted in orthosis with adjustable angle. Currently all children, included in the review, recovered full range of motion.
Conclusion: Thus, this method of of the medial patellofemoral ligament's plastic with dysplastic dislocation of the patella, in our opinion, is a effective and minimally invasive treatment of patellar instability.
References:
Disclosure: No significant relationships.

P197

A RARE COMBINATION OF ELBOW DISLOCATION WITH FOREARM FRACTURES

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Introduction: The association of a forearm fracture with elbow dislocation is a rare injury and only small series have been reported.

Both simple and complex elbow dislocations have been described, as well as disruptions of the proximal radio-ulnar joint, with Wong-Chung proposing the addition of a fifth group to the Bado classification of the Monteggia lesion - fractures of the radius associated with dislocations of the proximal radio-ulnar and/or elbow joints.
Material and methods: For a period of 1 year we have treated 6 patients with elbow dislocation and forearm fracture. Two had diaphyseal forearm fractures, 2 had diaphyseal fractures of the radius and 2 had distal forearm fractures. Three had posterior elbow dislocations (1 transolecranon fracture-dislocation, 1 terrible triad of the elbow and 1 elbow dislocation with radial head fracture) and 3 had posterior elbow dislocations with disruptions of the proximal radio-ulnar joint. All were treated operatively. X-rays and MEPS were obtained at 1, 3 and 6 months.
Results: At 6 months the average flexion-extension arc was 120 degrees, the average prono-supination was 110 degrees and the average MEPS was 86.8. All fractures healed and no major complications occurred.
Conclusion: The association of a forearm fracture with an elbow dislocation is a rare and often undiagnosed injury, especially when a disruption of the proximal radioulnar joint is present. In our series the stabilization of the forearm fracture inevitably lead to stabilization of the elbow joint, which shows that in such cases, contrary to the established order, the injuries should be addressed from distal to proximal.
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Disclosure: No significant relationships.

P198

INJURY OF THE OBTURATOR NERVE IN THE MODIFIED STOPPA APPROACH FOR ACETABULAR FRACTURES

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Introduction: The aim of this study was to evaluate the incidence of obturator nerve injury in the modified Stoppa approach for acetabular fractures, and to analyze the relationship between the degree of medial displacement of the quadrilateral plate and obturator nerve injury.
Material and methods: Twenty-two patients with acetabular fractures that were surgically treated with the modified Stoppa approach were enrolled. The radiologic results were evaluated with postoperative pelvis computed tomography according to the Matta criteria. The medial displacement of the quadrilateral plate was measured in the three-dimensional reconstruction image with the inlet view. The functional outcomes were evaluated by using the Harris hip score (HHS) at postoperative 1 year and complications including nerve injuries were evaluated. Postoperative electrodiagnostic tests were performed on clinical suspicion of neurologic injury.
Results: There were 14 cases of anatomical, 6 cases of imperfect, and 2 cases of poor reduction. The average HHS was 86.9, and 86% of the patients had excellent or good results. The incidence of obturator nerve injury was 9.1%, and all from the initial trauma. The average displacement of the quadrilateral plate was 15.9 mm. There were 15 patients in group 1 (below the average displacement) and 7 patients in group 2 (equal or above the average displacement). The incidence of obturator nerve injury from trauma was 0% in group 1 and 28.5% in group 2, which showed a statistically significant difference ($p = 0.030$).
Conclusion: There were no postoperative obturator nerve injury. Preoperative obturator nerve injury was more common in patients with a displaced quadrilateral plate.
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Disclosure: No significant relationships.

P199

PERCUTANEOUS SURGICAL FIXATION OF CARPAL BONE FRACTURES

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Introduction: The aim of the present study is to analyze results and complications of scaphoid waist fractures treated with percutaneous fixation using a volar approach.
Material and methods: We retrospectively reviewed of 92 patients with scaphoid waist fractures, which were treated in our institution through 2016 using a volar percutaneous fixation. Average follow-up was 16 months (12–48). Injuries were classified using Heberś classification, including types B1/B2; the rest were excluded. Politrauma patients, dorsal approach, fractures associated with distal radius injuries, patients treated using another surgical technique and patients transferred to other centers were also excluded. Demographic data, mechanism of injury, associated injuries and postoperative complications were collected. Functional results were evaluated using the DASH questionnaire. Consolidation was considered as presence of bony bridges crossing fracture site in all x-rays projections performed.
Results: Average time to fracture healing was 6.6 weeks (range 5-11). After 12 months of follow-up, wrist range of motion was 70° of extension (range 58-80) and 75° of flexion (range 72-86). Regarding functional evaluation, the average score DASH questionnaire was 75 in patients that had associated injuries, decreasing to 42 in patients without it. Only two patients could not return to their daily activity. Complications were present in 1.08% patients during the surgical intervention and 9.78% patients during follow-up. The most frequent

was non-union in 5 cases. Average timing of surgical intervention was 20-25 minutes
Conclusion: Volar percutaneous fixation is a simple and quick technique for a specialized surgeon characterized by low morbidity and complications rates compared to ORIF, which accelerates patients functional recovery.
References:
Disclosure: No significant relationships.

P200

PROXIMAL HUMERAL FRACTURES FOLLOWING HIGH ENERGY INJURIES – OUR EXPERIENCE IN SEARCH FOR THE RIGHT THERAPEUTICAL APPROACH

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Introduction: Almost 10% of comminuted PHF occur following high energy trauma, such as MVA, fall from height, electrical shock etc. The aim of this study was to collect these cases in our hospital for one year and to present the technical mistakes, complications and outcomes.
Material and methods: During this period, we operated 185 patients with PHF of which 19 ($\sim$10%) were with high energy fractures. We based on Neer classification. We used three types of implant: LCP, unipolar prosthesis and K-wires. The diagnosis was based on X-ray in all 19 patients, and on CT scan only in 5 cases. We used three surgical approaches: DPA, TDA and ALA. In 5 cases we added auto- or allograft in addition to ORIF.
Results: The most frequent mistake was malreduction of the fracture followed by wrong position of implant or allograft. Only 6 patients (31%) were without complications and in another 13 (69%) we identified a lot of complications. The final outcomes are based on Constant-Murley and DASH scores. In our study we obtained excellent outcome only in one case, good and fair outcomes in 10 patients and poor results in 8 (42%).
Conclusion: The PHF following high energy injuries are related with longer operative time, X-ray exposition and hospital stay and lead to more common and serious complications. Moreover, the incidence of poor results is higher and they correlate with type of the fracture. Finally, we can say that these injuries present an unsolved problem with lot of questions, which requires a more purposeful and larger investigations.
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Disclosure: No significant relationships.

P201

CORRECTIVE OSTEOTOMY IS AN EFFECTIVE METHOD OF TREATING DISTAL RADIUS MALUNIONS WITH GOOD LONG-TERM FUNCTIONAL RESULTS

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Introduction: The decision whether to correct a distal radius malunion is primarily based on functional impairment and wrist pain. The purpose of this study was to assess the long-term functional outcomes of corrective osteotomies for symptomatic malunited distal radius fractures.
Material and methods: All consecutive corrective osteotomies of the distal radius performed in one centre between January 2009 and January 2016 were included. The primary outcome was the functional outcome assessed with the DASH and the PRWE score. Secondary outcomes were range of motion, grip strength, pain as indicated on the Visual Analogue Scale (VAS) before and after corrective osteotomy, radiological parameters, time to union and complications.
Results: A total of 48 patients were included, with a median time to follow-up of 27 months. The median age was 54.5 years (IQR 39 – 66) and 71% was female. The median DASH and PRWE score were respectively 10.0 (IQR 5.8 – 23.3) and 18.5. (6.5 – 37.0). Except for pronation and supination, range of motion and grip strength of the injured wrist were significantly less compared to the uninjured side. The median time to union was 23 weeks (IQR 12 to 29.5) and radiographic parameters improved significantly. VAS pain scores decreased significantly from 6.5 preoperative to 1.0 postoperative. Eighteen patients (38%) had a complication for which additional treatment was required.
Conclusion: Corrective osteotomy is an effective method of treating symptomatic distal radius malunions with good long-term functional results, improvement in radiographic parameters and pain scores.
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Disclosure: No significant relationships.

P202

INVESTIGATION OF APPROACH AND FIXATION FOR POSTEROLATERAL FRAGMENT OF TIBIAL PLATEAU FRACTURES

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Introduction: Because computed tomography(CT) is commonly used to evaluate fractures involving the articular surface, the likelihood of finding posterolateral fragments has recently increased. The purpose of this study was to evaluate how to treat for posterolateral fragment of tibial plateau fractures.
Material and methods: 33cases in which lateral or bicondylar tibial plateau fractures diagnosed from April 2011 to December 2015 were extracted from our retrospective trauma database. CT had been performed before surgery, Posterolateral fragments were identified from 11cases. There were 4 male and 7 female patients with a mean age of 57.7±20 years. Fractures were classified according to the AO classification. AO 41-B3 7cases, C2 2cases, C3 2cases. PACS was used to measure several parameters that were proposed by Sohn et al JOT 2015 to describe posterolateral fragments. And We investigated How to approach and how to fixation for posterolateral fragments.
Results: The approach was performed in 6cases with Anterolateral approach, and 4cases with Anterolateral+Burks approach, and 1case Posterolateral transfibular approach+Burks approach. Additional Raft screws were used 8/11cases(73%), The lateral AP distance(LAPD) was mean 11.3±6.2mm.
Conclusion: We could correspond to posterolateral fragment using Anterolateral approach in 10/11cases(91%). But only 1case we had to use posterolateral transfibular approach because of remarkable displacement,and we estimated it difficult to reduce from anterolateral approach. The other side,regard to place posterior buttress plating, we estimate using Burks approach is suitable for most posterolateral fragments cases.In this study we found cases which had 0mm about LAPD in 6/11 cases(55%). So we prospect of necessity for additional raft screws fixation of posterolateral fragment in tibial plateau fractures.
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Disclosure: No significant relationships.

P203

DISPLACED ACETABULAR FRACTURES IN ELDERLY PATIENTS. INTERNAL FIXATION VS ARTHROPLASTY

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Introduction: Acetabular fractures in elderly patients are usually fragility fractures resulting from a low energy trauma. When a high energy trauma is involved, displaced acetabular fractures, often associated with comminution, are possible.
Material and methods: In a five year period we treated surgically 9 patients over 65 years of age with acetabular fractures. The average age was 72.5 years (66-81 years). According to Judet and Letournel classification (1), 4 fractures were classified as posterior wall fractures, one was posterior column, 2 were transverse and 2 were transverse with posterior wall. The treatment consisted in internal fixation in 5 cases, immediate total hip arthroplasty in 3 cases and late total arthroplasty in one case.
Results: All patients survived more than one year. For the patients with internal fixation, according to Matta criteria (2), good radiological results were obtain in 3 patients and imperfect reduction in 2 patients. Clinical results were good in 4 cases and poor in one case. For the patients with artroplasty good clinical results were obtained for all patients. Immediate arthroplasty was possible for patients with posterior wall fracture.
Conclusion: Transverse fractures and those associated with posterior wall of the acetabulum are difficult to treat with hip arthroplasty due to technical problems related to the fixation of acetabular component. In simple posterior wall fractures immediate artroplasty is a better solution but must be associated with fixation of the acetabular fragment. Therapeutic decision between internal fixation and primary hip artroplasty is difficult due to variable condition of the elderly patient and geometry of the fracture.
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Disclosure: No significant relationships.

P204

GAIT ANALYSIS IN EVALUATING FUNCTIONAL OUTCOME AFTER TIBIAL PLATEAU FRACTURES

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Introduction: Tibial plateau fractures remain a challeng in modern traumatology, due to their complexity and to their major implications upon the knee. These are the reasons the authors evaluate the functional results of tibial plateau fractures and identify the therapeutic problems
Material and methods: This retrospective study evaluates 52 patients operated between 1.01.2013 si 1.01.2015, mean age 48 yrs (20-66). Fractures were classified following the AO classification; the implants were: L/T plates (10 cases), angular stability implants (35 cases), CREF (7 cases). Functional evaluation-18 months follow-up was completed with gait analysis, during the Erasmus + project Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery COR-skills
Results: Functional evaluations showed excellent results (21 cases), good (12 cases), satisfactory (8 cases) and unsatisfactory in 4 cases. The complications were 2 septic cases and 4 malunions. The results were signifficantly better after A and B type fractures. Gait analysis showed minor changes in type A and B fractures and persistent changes in type C fractures, related with reduction defects and severe cominution

Conclusion: Open reduction and internal fixation in order to restore the local anatomy, obtain absolute stability and allow early functional recovery are the goals in treating tibial plateau fractures. The more the impairment of the articular surface, the worse the functional result is to be expected. Incomplete reduction and comminution impaired walking, as shown by gait analysis

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Disclosure: No significant relationships.

P205

THE EFFECT OF POSTERIOR MALLEOLUS FRACTURE ON SYNDESMOTIC REDUCTION

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Introduction: The aim of this study is to show the role of the posterior malleolus fracture in syndesmotic reduction.We hypothesized that anatomic reduction of the syndesmosis cannot be reliably achieved without reposition and fixation of the fracture of the posterior malleolus engaging the fibular sulcus of the tibia.

Material and methods: A prospective study of 28 patients with trimalleolar fracture with unstable syndesmosis after ORIF. All the patients had been evaluated with early postoperative CT-scans. Standard measurements were made to assess the accuracy of syndesmotic reduction. CT measurements included: The length of the fibular incisura, its anterior and posterior width, depth, translation and rotation of the fibula.

Results: In 64 % of all cases with trimalleolar fracture the syndesmosis was malreduced. In the group of patients with well reduced syndesmosis (36%), fracture of the posterior malleolus was reduced and fixed in 70 %.

Conclusion: Open reduction and internal fixation of the displaced posterior fragment restores the anatomy of the fibular sulcus of the tibia and greatly reduces the risk of syndesmotic malreduction. In order to reduce the risk for syndesmotic malreduction and to improve the prognosis in these patients it is important to restore the anatomy of the fibular sulcus prior to reduction and fixation of the syndesmosis.

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Disclosure: No significant relationships.

P206

THE OUTCOME OF AO TYPE 44 ANKLE FRACTURES: MANAGEMENT OF POSTERIOR MALLEOLUS FRACTURES AND SYNDESMOTIC INJURIES

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Introduction: The consequences ankle fractures can be disastrous. This study assessed the outcome and its determinants of patients operatively treated for AO type 44 ankle fracture. Further, we faced the lack of evidence concerning the management of posterior malleolus fractures and syndesmotic injuries[1,2].

Material and methods: A retrospective adult cohort study included 432 AO/OTA type 44 ankle fractures. Median follow-up was 52 months. Classification was performed by the AO/OTA-classification and by the affected malleoli. Outcome was assessed using patient files, X-rays, AOFAS ankle score (functional outcome) and EuroQol-5D (quality of life, QOL) questionnaires.

Results: The median AOFAS-score was 88. 27.9% of the patients reported restricted mobility, 21.1% experienced problems with usual activities and 40.4 % suffered from pain or discomfort. In 8.8% radiographic failure was observed. Posterior malleolus fractures were associated with poor functionality ($p = 0.019$), whereby a postoperative step-off predisposed for radiological failure, poor functionality and QOL in patients aged up to 65 years ($p = 0.002$, $p = 0.015$, $p = 0.022$, respectively). Syndesmotic injuries and delayed-staged surgery protocol were associated with radiological failure ($p< 0.001$, $p = 0.034$, respectively), which in turn correlated with poor functionality ($p = 0.003$). A prolonged time to removal of the syndesmotic screw was associated with a worse QOL ($p<0.001$).

Conclusion: The outcome was comparable with other studies. The presence of a syndesmotic injury was pathognomonic for radiological failure, which in turn was associated with poor functionality. Displaced posterior malleolus fractures of all sizes in patients aged up to 65 years require an operative posterolateral or posteromedial approach.

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Disclosure: No significant relationships.

P207

FUNCTIONAL RESULTS AFTER OPERATIVE TREATMENT OF COMPLEX INTERCONDYLAR FRACTURES OF DISTAL HUMERUS

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Introduction: The complex anatomy of distal humerus, with its unique orientation of the articular surfaces with respect to anatomic reduction, reconstitution of joint congruity, restoration of the functional bone axis, fixation stability and remobilization, it is generally accepted that internal fixation provides the most favorable outcome for distal humeral fractures.
Material and methods: This retrospective study includes 51 patients surgically treated in our clinic in the period up to 2000 by 2016. The average age was 43.7 years (women 70%, men 30%). We studied the functional outcomes following surgery, using the MEPS and the DASH scoring system. The mean follow-up checks of injury was 32 months.
Results: The average value of the Dash score was 33.2 points, while the average value amounted MEPS score (85.5), which is a good functional outcome. Complications following surgery have occurred in 19% of cases. Our results are similar when compared with the results of other authors in world literature. Athwal G. et al have received an average score of 87 MEPS value, Theivendran K. et al have obtained average values: MEPS score (72), DASH score (46.1), which is slightly worse than our because they had a greater number of patients with complex intra-articular fractures type "C" using the AO/OTA classification.
Conclusion: Fractures of distal humerus are extremely difficult to treat surgically. For a good functional outcome is the most important early surgical treatment, ideal reconstruction and stable fixation of fragments.
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Disclosure: No significant relationships.

P208

INFLUENCE OF COLUMNS BUTTRESS PLATING ON ALIGNEMENT FOR PILON FRACTURES

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Introduction: Pilon fracture management remains challenging, with a high complication rate (20-50%). Among the reported complications, secondary displacement can be avoided by the systematic use of stable osteosynthesis-locking plates as buttress plates, following «the pilon map».
This work evaluates secondary displacement of the axis of the tibial plafond in coronal and sagital plane on XRays, postoperative, at 6 and 12 months after surgery.
Material and methods: This study considers 16 patients with complete articular distal tibia fractures. Anatomical reduction of articular surface and buttress of columns in metaphyseal area were aimed. Quality of reduction and stability over time were evaluated by measuring tibial plafond angle (coronal and sagital plane) between joint line and longitudinal diaphysial axis on postop x-ray, 6 and 12 months.
Results: No significant secondary displacement of fracture was encountered. Measurements were performed on digital AP and Lateral radiographs. Results comparing angles on first postoperative W-Ray and 1 year postoperative X-Ray are summarized. Frontal Variation: Valgus-2,7, Varus-3,5°, Range-6,2°, Mean variatio-1,23° Sagital variation: Posterior-10,4°, Anterior-2,8°, Range-13,2°, Mean variation-2,9°
Conclusion: The analysis of the frontal plane offers a relative constancy. A mean variability of 1,23, given the measurement bias, enforces hypothesis of a high stability using locking plates in a buttress technique. Significant discrepancy between results in the frontal and sagital plane, at 6 and 12 months postoperatively is the result measurement difficulties. IIs difficult to guarantee constant lateral views and hardware often covers the articular surface hiding the landmarks. Locking plates buttressing columns offers highly stable osteosynthesis. Measurement bias must be taken into consideration.
References:
Disclosure: Speaker for: DePuy Synthes, Stryker

P209

HIGH-ENERGY TIBIAL PLATEAU FRACTURES TREATED BY TRANSOSSEOUS OSTEOSYNTHESIS WITH FROZEN CANCELLOUS ALLOGRAFTS

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Introduction: Impacted,depressed fractures of tibial plateau that can ocurr due to high-energy and low energy trauma, surely present challenge for compensation of insufitient metaphyseal part of the bone.
Material and methods: The study included 32 patients with depressive tibial plateau fractures surgically treated in our clinic in the period from 2008 until 2016 year. The average age of patients was 48 years (23-62). Male respondents was 23 (71.8%) and 9 (28.2%) female. The right tibia is operated in 20 (62.5%) and the left in 12 (37.5%) cases. According Schatzker classification type IV fractures had 9 (28.1%), type in 10 (31.2%) and type VI 14 (43.7%) of respondents. In all patients to fill bone metaphiseal tibial defect was used cancellous allograft taken from a bone bank. Tibio-femoral frame is set in 25 cases (78.1%). The time monitoring and analysis is 15 months (10-35 months). Assessment of bone and functional results were done according ASAMI - scoring system.
Results: We noted fracture healing in all cases. In any case there was no resorption of allograft. Assessment bony fusion to ASAMI - classification are: excellent 20 (62.5%), a good 9 (28.1%), satisfactory 4 (12.1%). We did not have bed results. Functional ASAMI scoring system is: excellent 18 (56.2%), a good 8 (25.0%), satisfactory 5 (15.6%) and 1 (3.1%) bad result.

Conclusion: The combination of this type of bone compensation with transosseous osteosynthesis treatment of these fractures greatly minimizes postoperative complications and gives good bone and functional results.
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Disclosure: No significant relationships.

P210

3D MODELS OF DISPLACED INTRA-ARTICULAR CALCANEAL FRACTURE: MAJOR HELP IN CLASSIFICATION, SURGICAL TECHNIQUE AND QUALITY CONTROL

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Introduction: Displaced intra-articular calcaneal fracture is a complex injury. His gold standard treatment is surgical, but it is technically difficult. 3D reconstruction were used in het planning of the procedure and in the assessment of the reduction, as quality control. The use of 3D model gave also a better inter- and intra-observer agreement in the Sanders classification.
Material and methods: 3D reconstruction images of unilateral intra-articular fractures were made and printed before and after osteosynthesis. Patients were treated by open reduction and internal fixation with plate and screws with extended lateral approach. Subsidence of the facet of the posterior subtalar joint was assessed with principal component analysis. Demographics, time to surgery, operation duration, Sanders classification, Böhler angle before and after surgery, time to healing, postoperative AOFAS score, complications were also recorded.
Results: 31 patients with DIACF were treated. 8 women and 23 men. Ages ranged from 15 to 75, average 50 years. 25 Sanders II, 6 Sanders III-IV. Duration of surgery averages 79 minutes. Follow up ranged from 6 to 36 months. One patient, with a type IV fracture needed a subtalar fusion. AOFAS scores averages 85.
Conclusion: The use of 3D model before and after surgery gave a clear overview of the fracture pattern and of the quality of the reduction, and probably allowing a shortened duration of the surgery. Segmentation of the tarsal bones has a clear added value compared to the use of 3D reconstruction of the whole rear foot in the treatement and assessment of DIACF.
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Disclosure: No significant relationships.

P211

FIXATION OF POSTERIOR AND LATERAL MALLEOLAR FRACTURES USING THE POSTEROLATERAL APPROACH

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Introduction: Involvement of the posterior malleolus (PM) in ankle fractures is a negative predictive factor for developing posttraumatic osteoarthritis. (2) We used the posterolateral approach in all patients with even minor (10%) PM fractures. Previous studies are promising. (1,3) The goal was to evaluate the wound healing and to assess articular congruency.
Material and methods: Twenty patients, of which 14 females, with a mean age of 59 years (22 to 96) were operated on between 2013 and 2016 by one single surgeon (GP) and retrospectively analysed. Of all fractures, 85% were classified as AO-type 44B and 15% as 44C. The average size of the posterior fragment on X-ray was 26.7% (9.5% to 60.9%). Associated fibular fractures were treated with a lateral (60%) or posterior plate (40%) and screw osteosynthesis using the same incision.
Results: In all patients an articular step of <1 mm was obtained on postoperative imaging. In 25% of all patients superficial wound infections of necrosis occurred within two weeks after surgery, none of them required surgical debridement. No correlation was found between a lateral approach to the fibula and the presence of wound problems. All of the problems resolved with systemic antibiotics and local wound care without re-admission to the hospital.
Conclusion: We conclude that the posterolateral approach provides great exposure to fixate the PM anatomically. Superficial wound infections are not uncommon and can mostly be treated with antibiotic therapy. A lateral approach to the fibula using the same incision is feasible and not a risk factor for postoperative wound problems.
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Disclosure: No significant relationships.

P212

POSITIONING RADIAL AND/OR AXILLARY NERVE UNDERNEATH A MOLDED PLATE-OSTEOSYNTHESIS FOR TREATMENT OF HUMERAL SHAFT FRACTURES: IMPACT ON OUTCOME

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Introduction: Our surgical management consists of osteosynthesis with a large molded plate. Our goal is to remove the plate safely afterwards by leaving the radial nerve and in some cases the axillary nerve underneath the molded plate. We studied also the impact on the nerve function postoperatively and we observed the impact on stability of the osteosynthesis due to molding the plate.
Material and methods: Since Dec 2013 we treated 20 patients. We identify the axillary and radial nerve. The fracture is reduced anatomically. A long anglestable plate, in some cases molded proximally and in all cases molded distally to bridge both nerves, is applied as a neutralization plate.
Results: No patient had preoperative radial nerve palsy. There were no observed cases of wound infection, IA screw penetration or AVN of the humeral head. 5 patients had temporarily radialis nerve palsy postoperatively and none permanent paralyse. 2 patients had sensory loss on the dorsal side of the forearm due of manipulation or damage of the posterior antebrachial cutaneous nerve. 1 patient had a failure of the screws although a spontaneous union of the fracture. Average postoperative shoulder aROM was good to excellent. In 2 cases the plate was removed because of irritation of the hardware without nerve damage. We observed no breakage of the plate or other problems due to molding it.
Conclusion: The surgical technique presented here uses a technique to address all aspects of the fracture and provided mindful handling of the axillary and radial nerves. Furthermore with this technique we can safely remove the hardware without secondary complications.
References: Humeral Shaft Fracture Fixation; Incidence Rates and Complications as Reported by American Board of Orthopaedic Surgery Part II Candidates Michael B. Gottschalk, MD; William Carpenter, MD; Elise Hiza, MD; William Reisman, MD; James Roberson, MD J Bone Joint Surg Am, 2016 Sep 07; 98 (17): e71. http://dx.doi.org/10.2106/JBJS.15.01049 Plate fixation of the humeral shaft for acute fractures, with and without radial nerve injuries. 1992;6(1):10-3.
Disclosure: No significant relationships.

P213

PRIMARY TIBIO-TALO-CALCANEAL FOR SEVERE PILON FRACTURES

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Introduction: Objectives: Review results after primary tibio-talar-calcaneal arthrodesis with Intramedullary nail for severely cominuted pilon fractures, non reconstructibles according to articular fractures treatment principles. Assess time to heal and fuse (fracture and arthrodesis) and intra and postoperative complications.
Material and methods: The retrospective study was performed on 32 pilon fractures operated at UCL Hospital Brussels, (October 2011-June 2016) out of which 28 had open reduction and internal fixation and 4, with severe comminution of the articular surface, received primary tibio-talar-calcaneal arthrodesis with an intramedullary nail. These were reviewed, regarding age, sex, injury type, previous musculo skeletal conditions, need for temporary external fixation, time to second surgery (nailing), arthrodesis type (open / arthroscopic), bone grafting /additional soft tissue reconstruction, complications, time to bone healing, need for revision surgery, radiological alignment of the hindfoot. The average period of follow up was 10 months.
Results: Out of the 4 patients with primary arthrodesis, 1 had high energy (good bone stock) and 3 low energy trauma (poor bone quality). Provisional external fixation was needed in 3 cases. 1 case with severe posttraumatic soft tissue loss needed a free flap. 1 case had arthroscopic tibio talar arthrodesis, 3 were operated with an open technique. 1 autograft from iliac crest and 1 allograft were used. All fixations were performed with an intramedullary nail.
Conclusion: Primary tibio-talar-calcaneal arthrodesis with fracture reduction and stabilisation is a valuable option for selected cases (severe comminution of joint surface in pilon fractures, poor bone stock), when failure of anatomic reduction and stable internal fixation is highly predictable.
Disclosure: Speaker for DePuy Synthes, Stryker

P214

GRAVITY STRESS RADIOGRAPHS HAVE ADDITIONAL VALUE IN PREDICTING DEEP DELTOID LIGAMENT INTEGRITY IN SUPINATION EXTERNAL ROTATION ANKLE FRACTURES; THE WAXE-TRIAL

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Introduction: In SER-type ankle fractures without medial fracture, the medial clear space (MCS) at a mortise view is used to predict a deep deltoid ligament rupture. A MCS≥4mm is considered to be an indication for operative treatment. However, presumably this leads to overtreatment of many patients. The goal of the current study was to investigate whether a gravity stress radiograph is beneficial in the judgement about stability in SER-type ankle fractures.
Material and methods: 39 patients with a SER-type ankle fracture without medial fracture and MCS<6mm on mortise view were included. Within a week after trauma a gravity stress radiograph and MRI-scan (used as reference standard to determine deep deltoid ligament integrity) were made. The MCS measurements were compared with the MRI findings to determine the sensitivity, specificity, and positive (PPV) and negative (NPV) predictive values as indication for a complete deltoid ligament rupture.
Results: The mean MCS at 'normal' mortise views was 3.11 (range:1.73-5.93) mm, compared to 4.54 (range: 2.33-10,40) mm at gravity stress radiographs. According to the MRI, in 20 cases the deltoid ligament was normal, in 13 edematous, in 1 partially ruptured, and in 3 completely ruptured. With MCS≥4mm as threshold for predicting a complete rupture at 'normal' ankle mortise views the sensitivity was 66.7, specificity 91.7, PPV 40.0 and NPV 97.0.

Additional gravity stress radiographs with MCS≥6mm as threshold lead to a sensitivity of 100, specificity 91.7, PPV 50.0 and NPV 100.
Conclusion: Gravity stress radiographs have more discriminative ability for diagnosing SER-type fractures with or without a complete deltoid ligament tear than 'normal' ankle mortise views. It therefore has additional value in choosing between operative and safe nonoperative treatment of SER ankle fractures.
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Disclosure: No significant relationships.

P214A

FLUOROSCOPIC-GUIDED HYDRODILATATION OF GLENOHUMERAL JOINT FOR ADHESIVE CAPSULITIS: RESULTS IN OUR PATIENTS GROUP AND REVIEW OF LITERATURE

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Introduction: Adhesive capsulitis is a common debilitating condition of the shoulder. It affects up to 5% of population, is prevalent in 5th-6th decade and is associated with diabetes. There are several modalities of treatment including anti-inflammatory medications, local steroid injection, short-wave diathermy and physiotherapy. If conservative treatment has failed, more invasive treatments such as arthroscopic capsular release, manipulation under anaesthesia and hydrodilatation can be tried. Hydrodilatation involves physical distension of the glenohumeral joint capsule using fluid, to disrupt adhesions and free up the joint space.
Material and methods: We reviewed our practice of fluoroscopic guided hydrodilatation performed by two MSK radiologists. Patients with clinico-radiological diagnosis of adhesive capsulitis underwent fluoroscopic-guided hydrodilatation after >4 months of failed conservative treatment. Usually 15-20mls of normal saline was injected after confirming with contrast and injection of 40mg of Triamcinalone. Pain scores were obtained before and after the procedure, over a 4 week period.
Results: 49 patients were suitable for inclusion in this study. At 4 weeks, 36/49 patients (73%) reported significant improved pain scores post procedure. The mean pain score was 8.4 pre-procedure, 5.4 at 48h, 4.4 at 2 weeks and 4.2 at 4 weeks. There was a statistically significant ($p < 0.05$) improvement in the pain score, from a mean of 8.2 pre-procedure to 4.2 at 4 weeks.
Conclusion: Fluoroscopic-guided hydrodilatation for adhesive capsulitis is a promising alternative treatment to this rather challenging clinical problem. Patients prefer this treatment as surgery has a longer recovery process and is more invasive with higher risks attached.
References:
Disclosure: No significant relationships.

P215

THE ROLE OF RHBMP-7 IN SURGICAL TREATMENT OF ASEPTIC LONG BONE NONUNION

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Introduction: Our surgical revision concepts for the treatment of aseptic humeral, femoral, and tibial diaphyseal nonunion were evaluated. It was determined if nonunion healing occurred more frequently, if time to bone healing was shorter, and if clinical and radiological outcome was better following application of additional recombinant human Bone Morphogenetic Protein-7 (rhBMP-7) compared to no rhBMP-7 use.
Material and methods: Between 01/2005 and 03/2015, a retrospective cohort study was performed in a Level I Trauma Center. One hundred and twenty patients were treated with the diagnosis of aseptic diaphyseal humeral (22 patients), femoral (41 patients), and tibial (57 patients) nonunion using rigid internal fixation and autologous bone grafting. Additional biological augmentation with rhBMP-7 was applied in 62 patients. Clinical and radiological follow-up was performed 6 weeks, 3 and 6 months after revision surgery in accordance with the DASH Outcome measure in the humerus, the LEFS Score in femur and tibia, and the SF-12 for all entities.
Results: The median range of time between index operation and surgical revision did not demonstrate significant differences between the cohort groups. One hundred and five out of 120 (humerus: 20, femur: 37, tibia: 48) nonunions healed within 12 months after revision surgery with a median time to union of 6 months, but there were no significant differences between the cohort groups with and without rhBMP-7. According to the DASH in the humerus (with rhBMP-7: 43.2; without rhBMP-7: 50.9, p =0.679), to the LEFS in the femur (with rhBMP-7: 45.9; without rhBMP-7: 30.8, p =0.241) and in the tibia (with rhBMP-7: 52.0, without rhBMP-7: 45.0, p =0.946), and to the SF-12 for all entities no significant differences between the cohort groups were found.
Conclusion: Aseptic nonunion in humerus, femur, and tibia healed irrespective of additional rh-BMP-7 application. For successful treatment, internal stable fixation with interposition of corticocancellous bone grafting is necessary to achieve a high degree of rigid stability.
References:
Disclosure: No significant relationships.

P216

OUR EXPERIENCE IN THE TREATMENT OF THE TIBIAL PLATEAU FRACTURES

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Introduction: The study was aimed to identify the role of surgical treatment of tibial plateau fractures, its functional outcome and complications.
Material and methods: 64 cases of tibial plateau fractures treated by different surgical methods and variuos implants type were studied from Jan 2014 to Dec 2015 in our clinic and followed-up for minimum period of 6 months.
Results: The systematisation of the casuitry was made using Schatzker and AO classifications. Leading causes of the fractures were high-energy traffic accidents and falls. The treatment methods consist of: CRIF, with percutaneous cannulated cancellous screws, ORIF with buttress plate with or without bone grafting, locking or nonlocking plates, external fixator. Early range of motion started soon after the surgery. No weight bearing upto 6-8 weeks. As complications we found: redepression 4 case, malunion 2 cases, knee stiffness 9, wound dehiscence in 1 cases and non-union or infection in none of our cases. The average flexion of the injured knee was significantly lower in comparison with the contralateral side (124.9° vs. 135.2°). Knee stability did not differ statistically significantly. There were no signs of posttraumatic arthrosis in 45% of cases, mild signs in 30%, clear signs in 18%, and severe signs in 7% using the Kellgren and Lawrence scale.
Conclusion: As conclusion we found that surgical management of tibial plateau fractures will give excellent anatomical reduction and rigid fixation to restore articular congruity, facilitate early motion and reduce arthrosis risk and hence to achieve optimal knee function. The choice of optimal surgical methods, proper approach and implant is made in relation to fracture type according Schatzker and AO classification.
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Disclosure: No significant relationships.

P217

OUR EXPERIENCE WITH MODIFIED STOPPA APPROACH FOR SURGICAL TREATMENT OF ACETABULAR FRACTURES

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Introduction: The aim of the paper was to analyse the degree of cominution of the acetabular fractures, the clinical and radiological results, early and late complications after a two year follow-up of modified Stoppa approach for the treatment of acetabular fractures.
Material and methods: We evaluated 19 patients with acetabular fractures who were subjected to osteosynthesis with plate and screws using modified Stoppa approach, hospitalised in our hospital between January 2012 and December 2015. All the patients needed surgery via anterior approach for the stabilisation of acetabular fractures. The criteria we analysed were: fracture type, surgical time, blood loss during operation, quality of reduction, degree of comminution in the acetabular weight-bearing area, early and late postoperative complications.
Results: The follow-up radiographs were graded according to the criteria developped by Matta and functional outcome was assessed using Harris hip score. Mean follow-up was 16.2 months. Mean Harris hip score was 77.8. Anatomical reduction of the acetabular fractures was achieved in 14 patients, satisfactory in 3 patients and poor in 2 cases. Postoperative foot drope was observed in 2 patients, obturator nerve damage in 1 patient, partial iliac vein damage 1 case and avascular necrosis of the femoral head 1 case.
Conclusion: The modified Stoppa approach is a good alternative to the ilioinguinal approach and it can be used to treat complex acetabular fractures who need an anterior approach.
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Disclosure: No significant relationships.

P218

LOCKED PLATES FOR TIBIAL PLATEAU FRACTURES SCHATZKER V AND VI IN PATIENTS OLDER THAN 65 YEARS

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Introduction: Our objectives were to compare the radiological, clinical and functional results of bicondylar tibial plateau fractures types V and VI of Schatzker classification in patients older than 65 years treated with single lateral or bilateral locking plates.
Material and methods: Nineteen tibial bicondylar (Schatzker V and VI types) were surgically treated between August 2012 and July 2015. Oxford Knee Score (OKS) and visual analog scale (VAS) were used for follow-up.
Results: The average follow-up time was 24,8 months. There were 13 Schatzker's VI and 6 type V fracture. 2 presented severe swelling and phlyctenas and 4 were managed initially with external fixation at the emergency department. Twelve V and VI type fractures were treated with two plates and 7 with single plate. New degenerative signs (not present at the moment of the injury) in X-rays were the most common complication (11 patients, 57,9%) at end follow-up and 7 patients had pain (VAS 2 to 6). 4 patients needed a new surgical procedure (2 infections, 2 hardware intolerances and 1 osteotomy). Avarage OKS was 36,8 (19-49), suggestive of mild to moderate osteoarthritis. There were no differences between 1 and 2 plate groups relating to grafting, bleeding, loss of reduction, axis modification, time to healing, VAS, OKS and appearance of osteoarthritis.

Conclusion: Open reduction and internal fixation by locking plating is a valid treatment for tibial plateau fractures Shatzker's type V and VI in patients older than 65 years. No differences were found between the use of 1 or 2 plates, and the preoperative planning with or without CT.

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Disclosure: No significant relationships.

P219

PRONATOR QUADRATUS PEDICLED BONE GRAFT FOR THE TREATMENT OF NONUNION OF THE SCAPHOID

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Introduction: We report our experience with the operative treatment of six ununited scaphoid fractures with pronator quadratus pedicle bone graft.

Material and methods: We made a prospectively study between 2013-2015 upon six patients with ununited scaphoid fractures and treated with pronator quadratus pedicled bone graft and Herbert-screw (4) or Kirschner-wires fixation (2). There were recorded: time from fracture to diagnosis of nonunion, initial treatment, type of fixation, time to union, range of wrist motion, subjective complains, complications, grip strength, Mayo clinical wrist score, duration until return to work.

Results: The final evaluation was made using subjective and objective criteria, the patient satisfaction, chronic pain, active range of motion, grip strength and ability to work. The mean period of evaluation was 14 month. The range of motion of the affected wrist averaged 61° flexion, 59° extension, 13° radial deviation and 25° ulnar deviation compaired with an average of 73° flexion, 65° extension, 16° radial deviation and 29° ulnar deviation of the contralateral wrist. The grip strength showed an average of 39 kilograms-force on the operated site compaired with an average of 41 kilograms-force on the contralateral site. All the patients returned to work after an average of 17 months. The final results according to Mayo Clinic Wrist Score was excellent in 3 cases and good in 3 cases.

Conclusion: The pronator quadratus vascularised bone graft procedure is technically easy, optimal because of his good structural integrity as well as a robust blood supply and can be harvested with minimal donor site morbidity.

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Disclosure: No significant relationships.

P220

LOCKING OR NON-LOCKING HOOK PLATE IN TREATMENT OF UNSTABLE LATERAL CLAVICLE FRACTURE

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Introduction: The purpose of this study was to compare the outcomes and complications of locking or nonlocking clavicular hook plate for fixation of unstable lateral clavicle fractures.

Material and methods: All patients with unstable Neer type II lateral clavicle fractures were operated in our hospital from January 2014 to December 2015.

Results: The outcomes of 22 patients with unstable fractures of the lateral clavicle treated using locking clavicle hook plates were compared with those of 26 patients (mean age 38.50 +/- 13.34 years) treated using a nonlocking ones. The time to hardware removal was slightly shorter in the locking hook plate group (7+/-3.28 months) compared with the nonlocking hook plate group (7.83+/- 3.89 months), whereas the Constant-Murley score was slightly lower in the locking hook plate group (88.5+/-7.24) compared with the nonlocking group (92.5+/-7.10) at final follow-up. There are four complications in the locking hook plate group and 2 in the nonlocking hokk plate group. Complications in the locking hook plate group included one loss of reduction and two re-fracture and one acrimio-clavicular joint subluxation after implant removal. Complications in the nonlocking group included one wound infection and one screw pullout. In our study, the locking clavicular hook plate may provide an equally stable fixation with nonlocking hook plate by same removal time and same shoulder Constant-Murley score recovery.

Conclusion: Our findings suggest that locking clavicular hook plates are equally useful for treating unstable lateral clavicular fractures, but in face of complicated ones, the locking hook plate would not get more benefits than nonlocking hook plate.

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Disclosure: No significant relationships.

P221

SEMI-CONDYLAR PROSTHESING IN COMPLEX TREATMENT OF GONARTHROSIS

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Introduction: Knee joints osteoarthritis remains an important matter for modern orthopedics. 5-20% of patients, who underwent total joint replacement, had disorders of only a single part of a joint, mostly the medial one. Nowadays semi-condylar joint replacement is the method of choice for older patients with insulated degenerative-dystrophic disorders of the medial part of femoro-tibial joint. Semi-condylar joint replacement is indicated for: gonarthrisis (medial) with varus knee joint deformation up to 15°, knee joint insulated degenerative-distrophyc disorder, femoral bone medialis aseptic necrosis. Preservation of knee joint tendons is a viable condition for such surgery.
Material and methods: The research studies the results of semi-condylar joint replacement in patients with gonarthrosis. From 2009 till 2015 we implanted 37 semi-condylar endoprostheses. All operations applied less-invasive approach. In 25 cases surgical treatment begun with diagnostical arthroscopy.
Results: have been studied during the period from 6 month till 5 years using WOMAC and KSS scales. Ecellent results were in 11 (29.7%) cases, good in 20 (54.0%), satisfactory in6 (16.3%); no cases of pathological process in adjacent part of a joint or due to the component's aseptic instability was observed. Single case of wound edges' surface necrosis, not affected the final functional result of treatment, was the only complication.
Conclusion: Semi-condylar joint replacement is the method of choice for patients with insulated disorder of a knee joint's single part; activity level could be preserved at reasonably high level. Semi-condylar joint replacement, if applied as indicated, is not worse than total one, and promotes more versatile recovery of knee joint's functions.
Disclosure: No significant relationships.

P222

ROTATOR CUFF INTEGRITY AFTER ANTEROGRADE HUMERAL INTERLOCKING NAILING IN ADULTS

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Introduction: The aim of this work is to evaluate the results of the anterograde intramedullary of fractures of humeral diaphysis and their consequences of rotator cuff.
Material and methods: A prospective study was conducted to review 42 causes of fractures of the humeral shaft treated by intramedullary nailing with anterograde locked nail, between 2011 and 2015. The AO classification was used. Functional assessment was performed using the Constant Score.
Results: Theere were 25 (59,5%) men and 17 women (40,5%) with a mean age of 55,4 years (18 to 87 years). Type B fractures of AO classification were the most frequently seen. There was also a case of open fracture with primary radial nerve injury. Union rate of 92,9%%. There are reports of two cases of nonunion (4,8%), a case of entrapment of radial nerve in fracture site (2,4%), 3 cases of subacromial impingement requiring extraction of the nail (7,1%). The functional assessment of the shoulder was performed after bone healing and obtained an average value of 78,3% on the Constant score, but no significant statistically difference was found compared to the contralateral shoulder.
Conclusion: The subacromial impingement seems to be the most frequent complication, but without functional consequences after the removal of hardware ant stitching of the rotator cuff when it was needed. Although the osteosynthesis with plate remains the gold standard treatment for diaphyseal fractures of the humerus, intramedullary nailing in selected cases is a minimally invasive procedure with excellent results, rapid functional recovery with a low incidence of complications.
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P223

EXPERIENCE WITH 3.5 MM STEEL PELVIC RECONSTRUCTION PLATES IN THE OSTEOSYNTHESIS OF COMMINUTED CLAVICULAR SHAFT FRACTURES

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Introduction: Plate osteosynthesis is the method of choice in comminuted clavicular shaft fractures where intramedullary fixation is not possible. After experiencing implant failure with 3.5 mm titanium reconstruction LCP (locking compression plates), we switched to steel pelvic reconstruction plates, either as bridging or as neutralization plates. We analyzed our results with this method.
Material and methods: 39 patients were treated between 07/2011 and 10/2015. The endpoints were fracture consolidation at 12 weeks, deforming/bending of the implant, complication related reoperation, non-/delayed union and implant removal.
Results: 3(7.7%) patients were reoperated due to complications, (1 periimplant fracture, 1 infection, 1 postoperative bleeding). Implant removal due to discomfort was performed in 14(35.9%) patients after 21.9 months average. All patients showed adequate fracture consolidation at 12 weeks. Nevertheless, we documented 9 (23%) cases of plate deformation (bending) after 3 months. 8 were used as bridging plates and 1 as neutralisation plate.
Conclusion: The use of steel reconstruction plates for multifragmentary clavicular shaft fractures leads to adequate healing. Nevertheless, used as bridging implants, these plates tend to bend. This and the need for meticulous form adjustment to the individual complex anatomy of the clavicle lead to high implant removal rates. With no consensus over the optimal implant for these fractures[1], steel pelvic reconstruction plates are a viable and cost effective alternative (implant price approx. 3x lower than an anatomical clavicular LCP(3.5/2.7mm)). The higher risk of plate bending does not influence fracture healing. The probability of plate removal is high. For bridging osteosynthesis anatomical clavicular LCP plates can be a superior alternative.

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Disclosure: No significant relationships.

P224

GAIT ANALYSIS IN EVALUATING THE POST-OPERATIVE OUTCOME OF ANKLE FRACTURES

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Introduction: Evaluation of results of fracture treatment is made using subjective and objective criteria,most commonly used being the Xrays. However, the functional outcome is not always consistent with imaging;what matters is the functional result and the social and professional reintegration. The authors use a different evaluation method, gait analysis.
Material and methods: The authors used platform gait analysis used in the Erasmus + project "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery COR-skills", evaluating 25 patients with ankle fractures: 10 patients with bimalleolar fractures, 11 patients with equivalent bimalleolar fractures, 4 patients with trimalleolar fractures. They were clinical and imaging in accordance with the criteria in force, but it was added gait analysis.
Results: Comparing results based on evaluation of clinical data, imaging, and gait analysis, in the studied group a discrepancy between the speed of passive and active mobilization of the ankle and the speed of recovery for the gait symmetry was discovered in 18 % of the patients
Conclusion: Since the goal of treating any traumatic injury is social and professional reinsertion of the patients, the authors believe that gait analysis may be a more reliable criterium to evaluate the progress of treatment, compared to pure imaging criteria. A certain correlation between the radiological landmarks and the gait aspect can be suggested and further studies are necessary in order to completely evaluate this aspect
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Disclosure: No significant relationships.

P225

FUNCTIONAL BRACING IS A SAFE AND MORE COMFORTABLE TREATMENT OPTION FOR SE2 ANKLE FRACTURES

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Introduction: In general, Lauge-Hansen SE2-type ankle fractures are treated conservatively with cast immobilization during six weeks. Some disadvantages of cast are lack of comfort and stiffness. This study was designed to evaluate whether functional treatment with removable brace is a safe and pleasant alternative.
Material and methods: Randomized controlled trial. Patients between 18-75 year and Lauge-Hansen SE2-type fracture visiting emergy department were asked to participate. During first week both groups received cast. After one week the patients were randomized: one group received cast, the other a brace. For outcome Olerud & Molander Ankle Score (OMA-score), VAS score of comfort and pain, EuroQol-5D and range of motion were used. Evaluation was done at 6 and 52 weeks.
Results: Total 44 patients participated (21 cast, 23 brace). There were no differences in baseline characteristics. After six weeks VAS for comfort (cast vs brace; 5.74 vs 7.21; p =0.02), VAS pain (3.15 vs 2.05; p =0.12), OMA-score (51.75 vs 61.32; p =0.23) and EuroQoL-5D (7.26 vs 6.74; p =0.05). After 52 weeks VAS pain (1.15 vs 0.82; p =0.34), OMA-score (88.46 vs 96.18; p =0.02) and EuroQoL-5D (6.08 vs 5.41; p =0.003). Both week 6 and 52 shows no significant differences in range of motion. No complications, like dislocation or need of surgical intervention, occurred in both groups.
Conclusion: The study, comparing cast with brace, shows a significant difference for the VAS score of comfort in favor of the brace at week six. After a year OMA-score and EuroQol-5D shows significant differences. Treatment with a brace is a safe and more comfortable option for Lauge-Hansen SE2-type ankle fractures.
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Disclosure: No significant relationships.

P226

ARTHROSCOPIC MANAGEMENT OF RECURRENT ANTERIOR SHOULDER INSTABILITY

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Introduction: The aim of this study is to evaluate the patients who have undergone this procedure with a mean follow-up period of more than 3 years.
Material and methods: During a time period of 4 years (2010 – 2013), 48 patients with an average age of 28,9 years were operated on in our department. They all had a positive apprehension sign preoperatively and satisfied the inclusion criteria of this study. The mean follow-up period was 37,2 ±9,9 month.
Results: Three patients (6,3%) had suffered a new dislocation, one of them with a low-energy trauma and the other two with high-energy

trauma. The rest of the patients (93,7%) were satisfied with the surgical result and returned to their previous everyday activities while 70,8% continued to participate in sporting activities without restrictions. The mean ASES score was increased from 67,7±21,5 preoperatively to 90,8 ± 21,7 postoperatively (p<0,001), the mean modified Rowe Score from 38 ± 17,3 to 93,8±14,5 (p<0,001) and the Oxford Instability Score from 27,6 ±± 11,1 to 45,1±8,3 (p<0,001). No significant restriction in shoulder range of motion was documented.

Conclusion: In conclusion, an arthroscopic Bankart repair performed in combination with a Hill-Sachs remplissage in an effective treatment of anterior shoulder instability with engaging bone defect. In general, this is a soft tissue procedure that seems to offer an adequate treatment option for the management of engaging Hill-Sachs lesions providing good midterm functional results.

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Disclosure: No significant relationships.

P227

MANAGEMENT OF CALCANEAL MALUNION WITH OSTEOTOMY: REPORT OF 3 CASES

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Introduction: Regardless of treatment method, calcaneal fractures are highly disabling injuries. Malunion is one of associated complications (that results in disability) causing long-lasting pain and functional deficits. When these symptoms occur the ideal principle of management is to restore the shape of the bone and preserve motion of adjacent joints.

Material and methods: 1st case: A 28 year old man who was operated with a two months delay having a severe intraarticular calcaneal fracture following a MVA. Initially a plate was applied. 17 months later he was reoperated, for metal removal and multiplane osteotomy using three screws was performed. 2nd case: A 53 year old woman, after a fall from 3rd floor sustained a severe intraarticular calcaneal fracture, which was operated three weeks later. She faced difficulties wearing shoes and she was walking with a crutch. A year later an osteotomy of the tubercle and repositioning was performed. 3rd case: A 46 year old woman, after a fall, sustained a fracture of L. calcaneus which was treated conservatively. In 2 months f-u. reevaluating the displacement, was proposed operative treatment. A longitudinal osteotomy was performed followed by reposition and ORIF. Three months later the patient was pain free and walking FWB.

Results: Improvement was observed by patients in pain relief and walking due to improved alignment. All three patient returned to their previous jobs or activities. The performed osteotomies helped them achieve satisfactory outcomes postoperatively.

Conclusion: Calcaneal osteotomy can be used as a mehod in treating malunions by reshaping the calcaneal contour and recovering the hind foot function to avoid possible arthrodesis.

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Disclosure: No significant relationships.

P228

OPEN INJURIES OF THE ANKLE- TREATMENT, OUTCOME

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Introduction: Skin and soft tissue injuries which characterize the open trauma make sometimes quite difficult the choice between different techniques, especially concerning the incision and the type of bone stabilization, which are definitely influenced be the time from trauma and mainly by the injury of the skin

Material and methods: We analyze 24 patients with open trauma of the ankle, operated between 01.01.20010-01.06.2014, age 22-48 yrs. The injuries were both bony and capsule-ligamentous in 20 cases, 4 patients had open dislocations without fractures; surgery was performed immediately after arriving in our hospital. Following Gustillo-Andersen classification, the injuries were type I -4 cases, type II-4 cases, type IIIA-6 cases, III B- 8 cases and III C-2 cases.

Results: Different problems were raised for each type of open injury requiring different surgical techniques. The circumstances influencing post-operative outcome were: the time between trauma and surgery, the type of the skin and soft tissue injuries. Septic complications appeared in 14% cases with Staphylococcus aureus. Amputation was necessary in 1 case due to irreversible ischemia

Conclusion: Treatment of open trauma of the ankle is difficult since the cutaneous injury narrows the therapeutical options and post-operative complications are quite frequent. The key of success in these cases is urgent surgery: thorough debridement and stabilization adapted to the bone and especially soft tissue injuries

References:

Disclosure: No significant relationships.

P229

A SYSTEMATIC REVIEW ON DYNAMIC VERSUS STATIC DISTAL TIBIOFIBULAR FIXATION

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Introduction: Distal tibiofibular syndesmosis disruption occurs in approximately 1-18% of all ankle sprains. The static fixation with 1 or more multiple cortical screws is the most embraced fixation method to reestablish the natural biomechanical proportion of the ankle articulation to avoid talar shift and long-term complications such as chronic ankle instability and/or degenerative changes of the ankle joint. However, there are still significant problems that should be considered, such as screw loosening, breakage (7% to 29% of the cases), discomfort and the time to return to weight-bearing. Beside screw fixation, a variety of different surgical fixation techniques have been

described, including bioabsorbable screws, syndesmosis bolts and dynamic devices based on the suture-button design. Hence, it still remains controversial which device should be used. In the last couple of years dynamic fixation for syndesmosis injuries, using a suture-button technique, raised more interest due to its advantages over the static fixation. Here we have reviewed the functional outcome, post-operative complications, re-operation rate and financial aspects of both the suture-button fixation and the traditionally applied static fixation in unstable ankle fractures accompanied with distal tibiofibular syndesmosis injury.

Material and methods: A computerized literature search using PubMed/MEDLINE and EMBASE was conducted in search of suitable articles between January 2006 and February 2016. A total of 4 suture-button studies, 5 suture-button vs. static fixation studies and 1 study discussing the financial aspects were identified.

Results: The AOFAS of 104 patients treated with the suture-button device was 91.08 points with an average study-follow up of 24.85 months. The AOFAS of 106 patients treated with a static fixation device was 87.95 with an average follow-up of 24.78 months. Removal of the suture-button device was reported in 10.5% of 229 patients and removal of the screws in 38.5%.

Conclusion: Dynamic fixation of ankle syndesmosis injuries demonstrated to be a viable alternative to the static fixation device, with lower reoperation rates and less complications. They can accurately stabilize the ruptured syndesmosis without device breakage or loss of reduction.

References:

Disclosure: No significant relationships.

P230

COMPLEX PROXIMAL AND DISTAL ARTICULAR TIBIAL FRACTURES – ROLE OF EXTERNAL AND INTERNAL FIXATION

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Introduction: Complex articular fractures are big challenge for skeletal traumatologist. Risk of infection and skin necrosis can be avoided by initial stabilization using external fixation temporarily which can be later replaced by internal fixation. However external fixation with primary minimal internal fixation or external fixation only, as a definitive method, can be useful in some situations.

Material and methods: Three series of patients with complex proximal and distal tibial fractures were treated with 3 different protocols. In the first series, 30 patients after temporarily fixation with external fixators and later internally fixed, have been analyzed. In second series 30 patients were treated primarily by external fixation and minimally invasive internal fixation. In the third series of 30 patients we analyzed results of external fixation as definitive methods. For external fixation we have used high mobile original external fixation device, already applied to 26 thousand patients.

Results: In the group of patients initially treated by external and later by internal fixation we have had two infections: one superficial and one deep. In the second group we have had pin tract minor infections in 4 patients but no deep infection. In third group we have had 5 pins and wires tract infection without deep infection. All fractures healed in all of three groups.

Conclusion: From results obtained it can be concluded that the most comfortable treatment for patients with complex intraarticular tibial fractures is temporarily external and definitive internal fixation. External fixation with or without minimal internal fixation is acceptable also.

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Disclosure: First author of this abstract has licence agreement with Ortokon DOO, producer of his patent External skeletal fixator

P231

OPEN REDUCTION AND INTERNAL FIXATION OF LATERAL TIBIAL PLATEAU FRACTURES WITH SUBCHONDRAL 2.7 MM SCREWS

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Introduction: Tibial plateau fractures are complex articular injuries. Aim of therapy is to obtain restoration of a congruent articular surface, achieve stability and re-establish alignment. We present a method of exact reconstruction of the articular surface and stable fixation of the lateral tibial plateau with subchondrally placed screws.

Material and methods: Surgical technique: Classical anterolateral approach, lateral submeniscal arthrotomy, visualisation of the fracture and osteotomy of the lateral tibial condyle. The articular surface is reconstructed under visual control and temporary fixed with Kirschner-wires of 1.0-1.6 mm. One or more 2.7 mm locking screws are placed subchondral for permanent stable fixation of the articular surface. Whenever needed, the metaphyseal bone defect is filled with autologous or allogenic bone graft. The lateral tibial condyle is reduced and a 3.5 mm locking compression plate applied.

Results: Since February 2014 a total of 23 patients with a lateral tibial plateau fracture were treated according to the technique as described above. 4 patients were lost in the follow-up and the 3-month follow-up of 2 patients isn't completed yet. 11 patients had no complaints of any kind. At approximately 3 months postoperatively, 10 patients had a full range of motion, 3 patients had a flexions deficit of at least 30°. 2 patients had a residual instability of the medial collateral ligament. Postoperative one superficial infection was noted. In total, 10 out of 17 patients showed on the 3 month CT successful reduction without significant articular steps or anatomical malalignment.

Conclusion: A goed technique for stable fixation of deptessed fradtures of the tibial plateau.

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Disclosure: No significant relationships.

P232

INJURIES OF THE STERNOCLAVICALAR JOINT - AN INNOVATIVE APPROACH IN THE MANAGEMENT OF A RARE INJURY: TIGHT ROPE FIXATION OF THE COSTO-CLAVICULAR LIGAMENT

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Introduction: Injuries of the sternoclavicular joint (SCJ) are described is an isolated and concomitant to polytrauma in the specific feature as the SCJ represents the only articulation of the arms to the torso. The costoclavicular ligaments (CLL) provide the most tight stability followed by the most cited sternoclavicular ligaments (SCL). Severe instability is mainly caused by the disruption of the SCL and the CCL. possible treatment options are described in a large variety employing the use of plating, wires or autologous tendons with mainly limited functional outcome. Could the stabilization of CCL next to an anatomic fixation of the SCL provide sufficent reconstrction of the SCJ?
Material and methods: A 58 year old male showed severe anterior and painful instability of the SCJ following a fall on his shoulder 8 weeks ago. The SCJ had been reconstructed in an open procedure with stabilization of the CCL employing 2 tight ropes and anatomical suture of the SCL. Tight ropes had been placed through the medial clavicle and the 1st rib anatomically Follow up had been carried out after 2, 6, 12, 26 and 52 weeks.
Results: The reduction of the SCJ was succesful. X-ray prove the anatomic position of the SCJ. Pain was decreased in between the forst 6 weeks. The patient showed uneventful follow up and returned to work 6 months after the prcedure as a hard working farmer.
Conclusion: Innovative stabilization of the CCL with tight ropes additional to a suture of the SCL may enable anatomic reconstruction of the SCJ considering cosmetic and functional results.
References:
Disclosure: No significant relationships.

HIP FRACTURE (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P233

PROPHYLACTIC SYNTHESIS OF CONTROLATERAL HIP FRACTURE IN OSTEOPOROTIC PATIENTS

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Introduction: the study tried to evaluate the advantages of prophylactic synthesis of contra lateral hip fractures.
Material and methods: 4 patients have been operated between 2009-2010 with hip fractures in osteoporotic patients. Neck fractures Garden IV in 2 patients and pertrochanteric fractures Kyle III and IV in two others patients. We used a simple implant, a quickly method during the same surgery time and anesthesia. The K wires with injected cement were percutaneously inserted. Through a 5 mm skin incision, a channel is created in the proximal femur bone and the implant, made of a fabric pouch hosting Titanium rods, is built percutaneously within the femur. A small amount of bone cement is then added, and interdigitates to the osteoporotic bone to further fixate the implant.
Results: Rehabilitation was obtained and full weight bearing was allowed immediately. The potential benefits expected with the use of this minimally invasive method are: Quick procedure – 15 min, No soft tissue or bone damage, No bleeding, short rehabilitation period, reduced morbidity and mortality, Low cost, same drape, single anesthesia. No hip fracture occurs since now at theses 4 patients.
Conclusion: The method is simple, reproducible and economically. The osteoporotic patient will be operated during the same anesthesia after the operation of fractured hip. This is a simple method the preventive treatment of the contra lateral side at the same time with surgery treatment of fracture of all patients. Maybe in to the future it will be usefull the prophylactic injection of the osteoporotic hip only by biological cement.
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Disclosure: No significant relationships.

P234

EARLY COMPLICATIONS IN NECK HIP FRACTURES. RELATIONSHIP WITH TIME TO SURGERY AND BASE SITUATION OF PATIENT

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Cot, 12 de octubre, madrid/SPAIN

Introduction: Hip fractures are one of the most frequent fractures of our practice, however there're still many questions unresolved and a large number of controversies
Material and methods: For this analysis we used our hospital database during 2015, which have collected information about time to surgery and medical complications. To analyze the patient's baseline we use the ASA classification. We have applied a statistical analysis to compare all the variables

Results: We obtained 111 neck hip fractures and we divided patients into two groups, those operated before or after 48 hours. Of the 111 fractures, 32 (28.82%) were operated within the first 2 days and 79 (71.17%) did it later. There were 36 (32.43%) medical complications, of these, 6 (18.75%) occurred in the <48h group and 27 (34.17%) in the > 48 hours group. 13 patients died during hospitalization and 5 in the next 3 months, representing a mortality rate of 16.21%. However, we don't get differences in complications (p = 0.564) and mortality (p = 0.406) in both groups. When we relate the ASA with medical complications we observe as the ASA increase, significantly increase both the number of complications (p = 0.0133) and the number of deaths (p = 0.024).
Conclusion: In our study group we found no significant differences in surgical delay, but we find that the patient's baseline conditions a higher rate of complications and mortality. So perhaps we should optimize patient baseline, identify patients who would benefit from early surgical treatment or open the debate on the implementation of orthogeriatric units.
References:
Disclosure: No significant relationships.

P235

OUTCOMES OF 337 PELVIC INJURIES MANAGED BY A NEWLY ESTABLISHED PELVIC SERVICE AT A MAJOR TRAUMA CENTRE

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Introduction: In June 2012 Aintree Hospital was appointed as a Major Trauma Centre (MTC) following the inception of major trauma services throughout the UK. In 2012 a pelvic service was established. We present the results of 337 pelvic injuries managed at our institution.
Material and methods: Between July 2012 and August 2016, 337 patients were admitted with pelvic trauma. Information regarding patient demographics, type of injury, mechanism of injury, associated injuries, method of treatment, complications, outcomes and mortality was gathered.
Results: There were 105 male and 232 female patients (average age 51.1). The most common mechanism of injury was a vehicular incident (172, 51.0%) followed by a fall from height > 2 meters (96, 28.5%). Sixty-two percent (209) had an ISS >15. A mortality of 6.2% (21) was recorded. Associated limb injuries (193, 57.3%) were most common followed by chest injuries (154, 45.7%). Isolated pelvic and acetabular fractures accounted for 52.3 (176) and 27.9% (94) of injuries. There were 67 (19.8%) combined pelvic and acetabular injuries. The most common type of pelvic fracture was the Tile A2 (153, 45.5%) followed by B2 (61, 18.2%). The most common acetabular fracture (Letournel) was the anterior wall (124, 36.7%) followed by the anterior column (69, 20.4%). One hundred and three (30.6%) underwent surgery. Post-op complications included sciatic nerve palsy (3, 2.9%) and errant screw placement (2, 1.9%).
Conclusion: We report satisfactory results in both operative and non-operative management of pelvic fractures. There has been an exponential increase in demand for pelvic trauma services since our appointment as an MTC.
References:
Disclosure: No significant relationships.

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PERIPROSTHETIC HIP FRACTURES: REVISION OF 67 CASES

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Introduction: 0,1-6% of patients with primary hip artrhoplasty develope a periprosthetic proximal femoral fracture [1]. The main risk factors are: osteoporotic bone, female gender and advanced age [2 3]. The Vancouver classification system allows to define these fractures and helps with surgical management[4]
Material and methods: We retrospectively evaluated 67 patients, treated between 2008 and June 2016: we analyzed diagnosis, surgical procedures, post-operative indications, radiographic and clinical outcomes.
Results: 62,7% of patients are female. Patients average age is 77,4 years. 88,1% of fractures is traumatic. B1 fractures are the most common (40,3%). Type A fractures are commonly treated conservatively. 100% of B1 fractures was treated with osteosynthesis. B2 fractures was treated with osteosynthesis and in 95% of cases was associated a stem revision. 100% of B3 fractures was managed with osteosynthesis. In 50% of cases was associated stem revision and in 25% was associated a bone graft. 100% of C fractures was treated with osteosynthesis. After surgery, in only 20,9% of cases is recommended progressive weight bearing. In other cases not weight bearing is recommended for a variable time. The majority of fractures is consolidated whithin 6 months. The most frequent complications are dysmetria (23,9%) and chronic pain (9%). Only 16,7% of patients can walk independently, of which 7,1% without limp.
Conclusion: Periprosthetic proximal femoral fractures are most common in female gender. The majority of them are traumatic. The quality of life of the patients after theese fractures is worst in the majority of cases with impairment of the deambulation.
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Disclosure: No significant relationships.

P237

HIP FRACTURE MANAGEMENT IN PATIENTS OVER 75 YEARS OLD

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Introduction: Comorbidities, high body mass index (BMI), smoking, mediocre case management and surgery waiting time proven to have unfavorably influence on hip fracture treatment outcomes in elderly.

Our objective was to assess the impact of surgery delay, comorbidities and obesity in hip fracture outcomes in patients aged over 75.
Material and methods: A prospective study was conducted between October 2013 and January 2016 and included 55 patients older than 75 years. The patients were divided into three groups: conservative treatment (A), surgery during the first 48h (B) and surgery after 48h or more (C). Patient's history and health status data were collected by a blinded study nurse. Outcomes were assessed using the Oxford Hip Score (OHS) and Harris Hip Score (HHS). Charlson Comorbidity Index (CCI) was used to evaluate the one-year mortality. Follow-up visits were scheduled at 6 and 12 months.
Results: Patients with surgery in the first 48 hours had significantly increased OHS and HHS scores compared to those treated conservatively ($p < .014$) or after 2 days or more ($p < .033$). Patients with higher BMI ($p < .042$) and smokers ($p < .044$) had inferior OHS and HHS scores. There were no di erences between the groups regarding CCI. Six patients in group A and C were declared deceased by their relatives at 12 month follow-ups. Causes of death were complications from comorbidities in all cases.
Conclusion: Early surgery time could improve chances of functional recovery and lead to symptoms amelioration. Surgery delay may be associated with increased mortality in patients with comorbidities.
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Disclosure: No significant relationships.

P238

UNCONVENTIONAL PERIPROSTHETIC FRACTURE FIXATION TECHNIQUES

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Introduction: With the advent of orthopedic implants occurred along time, patients with periprosthetic fractures of the femur are increasingly common and often difficult to treat. These patients are typically elderly and have osteoporotic bones. No clear consensus exists regarding the optimal management strategy. These fractures are frequent in hip prosthesis and the prosthetic knee. Determinants in both cases are older osteoporosis patients and implicitly present at this age.
Material and methods: All our patients were hospitalized in the Orthopedics and Traumatology Clinic of the County Clinical Emergency Hospital of Craiova and suffered of periprosthetic fractures. Several methods are known for osteosynthesis in these fractures. Some of them have become classics, others are modern. We used different cable cerclage systems, intramedullary rods or plate fixation in order to obtain stability of fractures.
Results: All these methods of fixation are difficult or do not give full satisfaction on fragments fracture fixation. In these conditions we were forced to seek solutions and techniques of osteosynthesis. We've used the methods used in orthopedic implants known but have been used in a completely different way than the classical usage recommendations. In all cases, fixing and maintaining the fracture fragments of bones was very good and curing was achieved in all cases.
Conclusion: Sometimes we are forced to go off-book to conduct the patient to a cure and a good recovery. Small technique tricks are needed in order to achieve a good result.
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Disclosure: No significant relationships.

P239

HIP FRACTURE'S TREATMENT IN OUR DEPARTMENT AT THE LAST 13 YEARS

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Introduction: The average age of the population increased, the presence of the osteoporosis became higher. The osteoporotic bones brake easier, the incidence of hip fracture grow. I would like to show, how our strategy changed during the last 13 years.
Material and methods: We examined our patients, who admitted to our department between 2003 and 2016, suffered from femoral neck fracture. We scanning their age, gender, preexisting disease, time between the accident, hospitalization and operation. In their anamnesis we pay respect to osteoporotic condition.
Results: Since 2003 we have been treated 1063 patiens with femoral neck fracture. The average age was 76. Our strategy changed a lot since the start. In 2003, 46 out of 85 patients was treat with screws (54%), in 2015 only 16 out of 89 (18%)patients received screws. Most of the cases our primary solution is arthroplasty. Ages ago we did not make operation in poor condition (10 % of our patient left without operation), nowadays we do some kind of operation (IF or arthroplasty) if the anesthesiologyst allow it. Sometimes we do it just for better nursing. Early arthroplasty open the door to early mobilization, and protect against complication.
Conclusion: Femoral neck fracture is common in elderly. IF with screw not allow weight bearing, so the old patient be unable to return to their home, and need expensive in-house rehabilitation. Inmobility elevate the incidence of decubitus, pneumonia and deep vein thrombose. To avoid these illnesses a proper treatment, prevention, early rehabilitation will decrease the mortality rate, making better quality of life.
References: Analysis of hips fracture care in Hungary between 2004-2009, Flóris, I., Belicza, É.
Disclosure: No significant relationships.

P240

SEASONAL TRENDS IN ORTHOPAEDIC TRAUMA: UPDATED CONCLUSIONS AND PRACTICE IMPLICATIONS FOR 2014-2016

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Introduction: At the *16th European Congress of Trauma & Emergency Surgery* in 2015 we showed how trends in paediatric trauma impact geriatric hip fracture management within a regional, acute-care hospital [1]. In this paper we update that analysis, conclusions and implications in the light of two further years of trauma data.
Material and methods: All adult hip fracture and paediatric trauma cases presenting in 2014-2015 were sourced from internal databases. Hospital In-Patient Enquiry (HIPE) provided 'date of admission' and 'date of operation' in order to calculate 'time to theatre' (TtT) and 'length of stay' (LoS).
Results: In 2014 we admitted 286 hip fractures with 95.5% undergoing operative fixation: mean age 81 [19-98], M:F = 1:2.1. Admissions in 2015 were consistent with this profile. In 2014 mean TtT was 44-hrs and LoS 14-days. In 2015 average LoS remained constant but we improved TtT by 3 hours (or 6.8%). In 2014, 38% (of 273) hip procedures were delayed due to time, review or unfit patients: we reduced cancellations by 4% to 34% in 2015. In 2014, 63% of hip fractures were operated on within 48 hours (89% without time or review). In 2015 we improved by 2% (to 65%) or to 96% 'fixation within 48' without time or review delay.
Conclusion: Paediatric admissions limit our ability to meet "operative fixation within 48-hours". Delays due to time constraints and medical review reduce ideal service performance by 31%. This is compounded by a 5% year-on-year decrease in access to a second operating theatre. Finally, we benchmark a predictive model using 3 years of trauma data.
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Disclosure: No significant relationships.

P241

IMPLICATION OF LATERAL FEMORAL WALL DISRUPTION IN THE DEVELOPMENT OF EARLY COMPLICATIONS AFTER INTERTROCHANTERIC FRACTURES TREATED WITH INTRAMEDULLARY NAILING

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Introduction: Integrity of the lateral femoral wall is an important factor to bear in mind while treating intertrochanteric fractures; influencing surgical procedure, outcomes and complications. The aim of the present study is to assess clinical and radiological outcomes of patients who suffered an intertrochanteric fracture with lateral femoral wall disruption, treated with intramedullary nailing
Material and methods: Observational prospective study from 2013 to 2015. 210 patients who suffered an intertrochanteric fracture were included; all of them treated at our institution by intramedulary nailing (PFN-A; Synthes). Average follow-up was one year. All fractures were classified using AO system and radiological evaluation was carried out before, during and after surgery. Several variables were analized, such as disruption of the lateral fermoral wall, varus or valgus deformity, quality of reduction and distance between the end of the helical blade to the lateral edge of the nail. Clinical outcomes were collected.
Results: Lateral wall disruption was present in 70 cases. Anatomical reduction was achieved in 66 cases. Fracture consolidation was obtained in 100% of the patients. 20 patients developed a fracture colapse with varus deformity of the proximal fragment, associated with lateral protrusion of the helical blade; mostly in A3 fractures. All of them refered lateral thigh pain that difficulted weight-bearing. The association between lateral pain and hardware protrusion was statistically significant ($p < 0.05$).
Conclusion: Lateral femoral wall disruption is associated with fracture varus colapse and hardware protrusion in intertrochanteric fractures treated with intramedullary nailing. These radiological signs are associated with worse clinical outcomes such as pain and weight bearing difficulty.
References:
Disclosure: No significant relationships.

P242

MECHANICAL FAILURE OF FEMORAL INTRAMEDULLARY NAIL WITH PROXIMAL JUNCTION BREAKAGE: A SERIES OF 5 CASES AND REVIEW OF LITERATURE

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Introduction: We present a case-series of mechanical failure and proximal breakage of these nails and review their operative condition, associated risk factors, presentation, treatment and surgical outcome.
Material and methods: Between June 2013 and June 2015, 590 patients underwent closed reduction and internal fixation with intramedullary nails (IMN) in our hospital for proximal femur fractures. During this time period we revised 5 cases for IMN breakage. Preoperative assessment included clinical, laboratory and imaging findings. Out of the five patients, four were females (mean age 78,6 years). All has associated morbidities like osteoporosis or diabetes.
Results: Breakage occurred at the nail junction with the lag screw in all cases. One patient had also broken the proximal screw and two patients also had a broken distal screw. Time breakage ranged from 3 month to 1 year after primary implantation. In our series the most common cause of nail breakage was metal fatigue secondary to union delay or nonunion. Three patients were rescued using a new IMN, and two with total hip arthroplasty. Broken IMN were removed using a smooth guidewires and cultures obtained during the revision surgery were all negative. After an average of 12-month follow-up, all patients had resumed ambulation with no major complication reported.

Conclusion: IMN breakage, although rare, is being increasingly reported in the literature. Main reported risk factors are those that increase mechanical fatigue and delay bone union, such as improper fracture reduction, poor surgical technique or increasing patient's comorbidities. IMN design and material used may also favor failure.

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Disclosure: No significant relationships.

P243

OPERATIVE TREATMENT OF UNSTABILE PELVIS RING INJURIES

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Introduction: Unstable pelvic ring injuries are among most serious injuries of skeletal system. They are difficult for treatment often associated with young age and multiple organ injuries.

Material and methods: Materials and Methods: There were 26 unstable pelvic ring injuries operatively treated at University Clinic for Orthopedic Surgery and Traumatology from August 2008 until August 2015. Average age of 22 males and 4 female patients was 45.4 years. Most common mechanism was traffic accident (19), fall from height (6), and one patient was buried under rubble. All 26 patients were operated and 24 have had C type injury according to Tiles classification, and two had type B. Follow up was 23 months on average (8 – 84 months). We used Majeed and Iowa Pelvic Score.

Results: Pelvic ring injuries were healed in all 26 patients. 13 patients had leg length discrepancy 9 mm on average. Fourth patients were using aid while walking (stick), and 5 out of 26 had sexual dysfunction. Majeed score was 72.1 on average (23 to 100), and Iowa Pelvic Score was 76.5 (38 to 100).

Conclusion: Unstable pelvic ring injuries are demanding for internal stabilization. If treated adequately and timely, good results can be expected. On average our patients had very good functional outcome.

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Disclosure: No significant relationships.

P244

THE EFFICIENCY OF HYALURONIC ACID SOLUTION AFTER ARTHROSCOPIC SURGERY IN PATIENTS WITH PRIMARY STAGES OF COXARTHROSIS

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Introduction: To define the efficiency of chondroprotectors after hip arthroscopy in patients with primary stages of coxarthrosis, we performed complex study of 100 patients with hip joint coxarthrosis on 1-2 stage, which underwent surgical arthroscopic treatment in traumatology department of M.I. Pirogov Vinnytsia Regional Hospital in 2006-2015.

Material and methods: All patients were subdivided into two parts, first (control) group of 50 patients with CA, who underwent surgical treatment without further indication of chondroprotectors. The second (study) group of 50 patients with 1st and 2nd stage of CA, who underwent surgical treatment and 1-3 weeks later received hyaluronic acid solution 40 mg/2.0 ml intraarticularly. Surgical treatment efficiency was estimated 6 months after surgery using analogue pain evaluation scale and Harris scale for hip joint clinical classification.

Results: Hyaluronic acid preparations application in early post-surgical period, such as intraarticular injection of hyaluronic acid solution 40 mg/2.0 ml increased the efficiency of hip joint arthroscopy, resulted in decrease of pain syndrome and improved hip joint functions according to modified Harris scale. Thus, average scores of study group made 79.56 points compared to 72.22 points of control group.

Conclusion: The performed study proves the efficiency of choldroprotectors indications after hip joint arthroscopy in patients with primary stages of coxarthrosis and the necessity to include them into complex pharmaceutical treatment.

Disclosure: No significant relationships.

P245

IMPLANT'S ELASTICITY MODULUS VS REPARATIVE OSTEOGENESIS

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Introduction: It has been recently established that implants with high elasticity modulus introduced into an intact femoral bone of a rabbit

cause stress-shielding syndrome. Although, fixators with low elasticity modulus do not lead to any negative changes in bone tissue structure.
Material and methods: Experimental study involved 36 chinchilla rabbits, subdivided into 4 groups: 1st – control group, animals did not undergo surgery; 2nd – femoral bone fracture was fixed by IM nail of stainless steel 316L (elasticity modulus - 220 GPa); 3rd - fracture was fixed by IM nail of vanadium-titanium alloy BT-6 (elasticity modulus - 110 GPa); 4th group - fracture was fixed by IM nail of zirconium-titanium alloy (elasticity modulus - 47 GPa). Observation period was 90 days.
Results: Morphologic study revealed the difference in structural and functional conditions of bone regeneration after implants made of different alloys, with reasonable superiority of Zr-Ti alloy implants. Mechanical study showed the best results of Zr-Ti implants (71.8+/-3.1MPa), which elasticity modulus was closest to the elasticity modulus of natural bone tissue (60.5+/-1.5MPa). The X-ray examination revealed that fixators with high elasticity modulus leads to the femoral shaft compact layer thinning, irregularity of a bone compact layer periosteal surface from sites without external bony plates, and to the presence of resorption lacunae surface of the diaphysis and extension of cortical bone's central channel.
Conclusion: The resutls of experimental study prove the high efficiency of implants, which elasticity modulus is clother to elasticity modulus of natural bone tissue for femoral bone fractures treatment in rabbits.
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Disclosure: No significant relationships.

P246

NEW CLASSIFICATION FOCUSING ON THE RELATIONSHIP BETWEEN THE ATTACHMENT OF THE ILIOFEMORAL LIGAMENT AND THE COURSE OF THE FRACTURE LINE FOR INTERTROCHANTERIC FRACTURES

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Introduction: There are various types of intertrochanteric fractures that are unstable pertrochanteric fractures of the hip. The aim of this study was to develop a systematic and comprehensive classification of intertrochanteric fractures.
Material and methods: This study enrolled 74 patients with intertrochanteric fractures treated by us between 2012 and 2015. The fractures were classified using 3D-CT images taken immediately after the fractures occurred based on the course of the lateral fracture line (LFL) that extends through the lateral femoral cortex distal to the vastus ridge of the greater trochanter in the intertrochanteric area. Furthermore, the presence or absence of additional typical fractures was also studied. Then, 4 orthopedic specialists examined the 3D-CT images of 20 patients randomly selected from the 74 patients to evaluate both the inter-rater and intra-rater agreement levels.
Results: Intertrochanteric fractures were classified into three types according to the LFL patterns. Type I (41.9%), the Lateral Wall Pattern, has a LFL that extends towards the lateral fiber bundle attachment area of the iliofemoral ligament. Type II (24.3%), the Transverse Pattern, has a LFL that extends towards the medial bundle attachment area. Type III (33.8%), the Reverse Oblique Pattern, has a LFL that extends between the lateral and medial fiber bundle area of the iliofemoral ligament. Each type showed characteristic displacement and was associated with various combinations of typical fractures (fracture across the intertrochanteric line, posteromedial fragment, including the lesser trochanter, posterolateral fragment posterior to the femoral greater trochanter, and banana-shaped big fragment, including both the greater trochanter and the lesser trochanter). The mean k values for the interobserver and intraobserver agreement levels were 0.77 (0.70–0.85) and 0.76 (0.70–0.85), respectively, which were considered substantial agreement levels.
Conclusion: We believe our new classification is a useful communication tool for medical professionals in the diagnosis of fractures.
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Disclosure: No significant relationships.

P247

EXTRAMEDULLARY NAIL IN THE TREATMENT OF AO/OTA 31A FRACTURES

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Introduction: Deficiency of the contact between fracture fragments of the femur treated by an internal fixation without possibility for dynamization leads to overload of the implant, possible fatigue implant breakage and to the need for additional surgery. Some pertrochanteric fractures require dynamization both in femoral neck axis and in femoral diaphysis axis.
Material and methods: Retrospective analysis of operative time and intraoperative blood loss was performed on the series of 47 patients with fracture in the trochanteric area of the proximal femor treated by EM nail at our clinic. These results were compared with values for DHS treatment of the same fracture types taken from the literature. X-rays analysis of the EM nail patients series was also performed.
Results: Average values for clinical parameters in EM nail series: operative time was 39 (20-81) min; intraoperative blood loss was 80 (40-180) ml. Comparing these results with values from the literature for DHS there was not found statistically significant difference ($p > 0,05$). X-rays showed successful healing in all patients. Dynamization was not always necessary for fracture healing. Regarding complications there were: cutout in one patient and superficial infection in one patient.
Conclusion: Regarding operative time and intraoperative blood loss, there was not significant difference between observed EM nail group and DHS results from the literature in the treatment of AO/OTA 31A fractures. EM nail is an implant with double dynamization feature (in the axis of femoral neck, but also in the long axis of the femur),

confirming itself as more adaptable to stabilize some subtypes of these fractures.
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Disclosure: No significant relationships.

P248

EFFECTS OF A NECK OF FEMUR FRACTURE ON FRAILTY LEVEL

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Introduction: Aim: to explore the grade of Frailty variation between admission and discharge in an elderly cohort admitted to our Hospital following Neck of Femur Fracture (NOFF).
Material and methods: We collected all NOFF patients above 60 years old (y.o.) admitted in our Hospital from May 2016 to July 2016. The Clinical Frailty Scale score was calculated to all the patients on admission and on discharge.
Results: 65 elderly patients admitted with NOFF (60-102 y.o., 70.8% females, 29.2% males). On admission 36.1% of the patients were classified between "well" and "managing well" on the Clinical Frailty Scale, 20% of the patients were "vulnerable", 12.3% were "mildly frail", 10.8% were "moderatly frail", 15.4% were "severly frail", 3% were "very severly frail" and 1.5% was terminally ill. On discharge the "well", "managing well" (24.6%) and the "vulnerable" patients (18.5%) were decrerased. The" Mildly" and "Moderatly Frail" patients were almost invariable (13.8% and 10.8%), while the "severly frail" were significantly increased (24.6%). The very severly frail and the terminally ill represented the 7.7% and this percentage corresponds also to the mortality rate.
Conclusion: The above results demonstrate that there is an increase on frailty following a NOFF. It is known that the higher degree of frailty corresponds to a higher risk of mortality and institutionalization and these results can explain the reason of the higher mortality one year after a NOFF comparing to the normal population.
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Disclosure: No significant relationships.

P249

PERIPROSTHETIC FRACTURES AROUND A NON-CIMENTED HIP PROSTHESIS

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Introduction: Healing problems after a proximal periprosthetic femur fractures are notorius. Most of these studies observed periprosthetic femur fractures of cimented hip prosthesis.
Material and methods: The authors studied 935 hipprosthesis between 2010 and 2015. Of these 30 proximal femurfractures around the prosthesis was noted. All these fractures were non-cimented,type corail stems. 21 THP and 9 BHP. mean age was 82 years. 2 pseudo AL, 13 vancouver B1, 9 Vancouver B2 and 6 vancouver C.In 60 % of the cases an ASA score of III-IV was seen. In 22 cases a hooked LCP plate was used. In 6 cases a LCP plate in 2 cases cerclages cables and in one case an allograft was used. Delay in surgery 2.6 days, hopitalisation time 18 days.
Results: In 24 cases a systemic complication was seen. In 4 cases a local complication (1 infection and 3 heamatoma. In 8 cases some subsidence of the corail stem was noticed. All patients healed in an average of 16 months after surgery. Immediate weigth bearing was allowed if possible.
Conclusion: In these frail patients with a periprosthetic fracture around a non-cimented hip prosthesis, good outcome was seen after osteosynthesis irrespective the type of fracture.
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Disclosure: No significant relationships.

THROMBOEMBOLIC PROPHYLAXIS IN TRAUMA (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P250

IMPROVING VTE ASSESSMENT AND PRESCRIPTION IN SURGICAL PATIENTS IN A MAJOR TRAUMA CENTRE

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Introduction: VTE is the most common cause of preventable in-hospital deaths, with surgical patients being at particular risk of developing clots. We must act to reduce VTE risk amongst surgical patients. All patients should be assessed for VTE risk on admission (within 24 hours) All patients found at risk should be offered prophylaxis, in the form of LMWH and/or TED stockings Aims:

- To reduce the risk of VTE by following NICE guidelines on VTE risk assessment and prophylaxis

- To measure current practice regarding VTE, and make sustained improvements

Material and methods: Each of the two audits assessed 80 patients, using an agreed proforma designed to measure clinical practice regarding VTE risk assessment and prophylaxis, in accordance with NICE guidelines. Posters were introduced across all surgical wards, designed to act as a reminder of the importance of VTE risk, and to improve practice of VTE risk assessment and prophylaxis.
Results: 1st cycle: assessment carried out in 67.5% of patients, this rose to 77.5% in the re-audit. Correct prescription of Tinzaparin was seen in 85% of the drug charts in the 1st audit, this increased to 87.5% in the re-audit. Correct prescription of TED stockings, increased from 63.75% to 86.25%. The number of patients actually wearing TEDs increased from 56.25% to 77.5% ($p =< 0.05$).
Conclusion: This audit has helped to demonstrate that through simple measures such as posters or verbal reminders, it is possible to encourage the practice of VTE risk assessment and prophylaxis, and hence reduce the risk of VTE.
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Disclosure: No significant relationships.

P251

THROMBOEMBOLIC EVENTS IN POLYTRAUMA PATIENTS – A DIAGNOSTIC AND THERAPEUTIC CHALLENGE

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Introduction: Polytrauma patients may experience complications with vital prognosis, at various organs and systems. Thromboembolic events are frequent, both in the arterial and the venous system, with clinical or subclinical manifestations. Early diagnosis and appropiate management of these complications are accompanied by improved prognosis.
Material and methods: There were analyzed 54 polytrauma patients, admitted in the Department of General Surgery of the "Bagdasar-Arseni" Clinical Emergency Hospital. The patients were evaluated clinically, biologically and para-clinically for the highlight of possible thromboembolic complications (deep venous thrombosis, pulmonary thromboembolism, atrial fibrillation/atrial flutter with embolic risk). Para-clinical investigations imposed: venous Doppler exam of lower limbs, chest CT with contrast substance, echocardiography, ECG, ECG holter. Highlighting the thromboembolic complications imposed the anticoagulant treatment opportunity assessment, both during hospitalization and on long-term, taking into account possible severe complications given by the associated surgical diseases.
Results: Of the patients analyzed, 24,3% presented thromboembolic complications. Among patients with thromboembolic complications, only 68% had clinical manifestations, the rest being with subclinical expression. Also, of these patients, 43% presented deep venous thromboses, 14% pulmonary thromboembolism and the remaining episodes of atrial fibrillation/atrial flutter, with spontaneous, chemical or electrical conversion to sinus rhythm. The introduction of the anticoagulant treatment was evaluated, considering the ratio with the bleeding risk associated to the polytrauma.
Conclusion: Polytrauma patients develop relatively frequent thromboembolic events. These complications are accompanied by high morbidity and mortality. The diagnosis imposes multidisciplinary approach and extensive cardiological investigations. The treatment is usually difficult, given the associated surgical disease and the complications arising from it.
References:
Disclosure: No significant relationships.

P252

OPTIMISED D-DIMER LEVELS FOR DETECTION OF THE VENOUS THROMBOEMBOLISM IN TRAUMA PATIENTS

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Introduction: Testing of D-dimer levels has been used for the screening of venous thromboembolism (VTE) in medical situations. However, the efficacy of D-dimer testing in trauma patients remains controversial. This study aimed to evaluate the optimised D-dimer level for VTE screening in trauma settings.
Material and methods: A single-center retrospective cohort study was conducted with consecutive patients between 2011 and 2015. VTE was diagnosed with CT pulmonary angiogram and venography or duplex ultrasound. Deep venous thrombosis (DVT) was classified into proximal and distal according to the location. D-dimer level was measured for 3 days before diagnostic imaging and the largest value was recorded.
Results: A total of 146 adult patients ($\geq$18 years) were included in this study. Of these, 83 developed DVT (56.8%) and 32 pulmonary embolism (PE) (21.9%). Of the patients diagnosed with DVT, 45 had proximal lesions (54.2%).There was a no significant association with D-dimer level and VTE (DVT or PE) development, whereas D-dimer level was significantly associated with proximal DVT or PE ($p =0.024$). Multivariate analysis revealed that D-dimer level $\geq$ 15 μg/ml was an independent predictor of proximal DVT or PE development (odds ratio 2.33; 95% CI 1.14 – 4.78).
Conclusion: The screening with CT pulmonary angiography and venography should be suggested for patients who had an elevated D-dimer level $\geq$ 15 μg/ml to detect proximal DVT or PE, which require long-term anticoagulant therapy.
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Disclosure: No significant relationships.

INNOVATIONS AND ADVANCED TECHNOLOGY: 3D PRINTING & WOUND CARE (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P253

NEW TREATMENT FOR NONUNION WITH BONE MARROW ASPIRATE TRANSPLANTATION

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Introduction: We conducted a study of the healing for nonunion treated with bone marrow aspirate transplantation. We evaluated the efficacy of this treatment for nonunion.
Material and methods: There were 6 oligotriphic and 1 atrophic nonunion. After the drilling was undergone at the nonunion site with 2.5mm drill under fluoroscopy, iliac crest aspiration and percutaneous injection were performed. We evaluated union rate and union period.
Results: The union rate was 86% (6/7). The average of union period was 7.5 months. 1 nonunion was congenital hypo-P viremia and uncontrolled.
Conclusion: Bone marrow aspirate transplantation is safe and effective, and the healing rates are similar to those reported for similar nonunion treated with autograft.
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Disclosure: No significant relationships.

P254

A 10-POINT SURGICAL SITE INFECTION (SSI) CHECKLIST CAN LEAD TO A REDUCTION IN SURGICAL SITE INFECTIONS POST-OPERATIVELY IN OPEN ABDOMINAL EMERGENCY SURGERY OPERATIONS

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Introduction: SSIs are the most common post-operative complication and can significantly add to patients morbidity during the recovery phase post-operatively. Our aim was to determine the SSI rate post emergency abdominal surgery on the Surgical Emergency Unit (SEU) at the Oxford University Hospitals Foundation Trust (OUHFT) and determine if a 10-point checklist could reduce the SSI rate.
Material and methods: All patients undergoing emergency open abdominal surgery were included. Patient demographics, operative approach, type of operation, prophylactic antibiotic usage, rate of antibiotic resistance associated with SSI, post-operative length of stay, 30-day SSI rate were recorded. All SEU surgeons were then informed and educated about the 10-point SSI checklist which included:
Ensure cleaned umbilicus and the patient shaved in the anaesthetic room preop
Antibiotics administration in anaesthetic room pre op
Warming blankets to ensure normothermia
2% Chlorhexadine skin preparation
Disposable drapes
Intraperitoneal washout with 2L warm normal saline
Gloves change prior closure
Wound wash with povidone iodine solution
Wound closure in layers
Skin closure with subcuticular suture and surgical glue as dressingAt the end of operation, lead surgeon signs the SSI checklist to ensure that all parts had been carried out. Repeat of recordings 4 weeks later.
Results: We are still collecting the data post the intervention of the SSI checklist, but already we have seen a significant reduction in the SSI rate and a significant reduction in length of stay.
Conclusion: Post emergency open abdominal surgery the SSI rate on the SEU at the OUHFT was significantly reduced after the implementation of a 10-point SSI checklist.
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Disclosure: No significant relationships.

P255

OPEN ABDOMEN WITH CONCOMITANT ENTEROATMOSPHERIC FISTULAE: A SURGICAL CHALLENGE. HOW WE DO IT

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Introduction: Enteroatmospheric fistulae occur in 25% of patients with an open abdomen. The mortality rate is between 6 and 33 %. The main problem is the adequate drainage of secretions from the wound. Adverse patient outcomes are associated with uncontrolled sepsis and the high-output fistula. AIM To review the different options to treat a enteroatmospheric fistulae in open abdomen, and define, in our opinion, the easier, safer and more reproducible one.
Material and methods: We have reviewed several techniques explained below: A baby nipple coverage of fistula in a chronically frozen abdomen. To seal the hole in the bowel with an acellular human dermal matrix graft fixed with fibrin glue. To use a composite free latissimus dorsi–serratus flap to close the fistula. To put a tube drainage.
Results: We have adopted as routine a combination of ring technique ready-made with the sponge and the isolation of the fistula from the wound with paste (Corega R) We have applied this solution to patiens with open abdomen type 4 in the Björck Classification. First of all, we make cuts on the inner drape and on the sponger to create a hole to

identify the fistula. This allows secretions to flow directly from the intestinal opening to the collecting tube and the aspiration system.The paste is placed around fistula mouth to isolate it from the wound. A continuous negative pressure at _100 mm Hg is applied.
Conclusion: Vacuum-assisted wound care therapy can be used to stabilize and treat intestinal fistulas associated with complex wounds in patients with an open abdomen.
References: Woodfield, Parry, Bissett, Mckee Experience with the use of vacuum dressings in the management of acute enterocutaneous fistulas ANZ J. Surg. 2006; 76: 1085–1087 doi:10.1111/j.1445-2197.2006.03956. Gui, Pepe, Callari, Persiani, Di Giorgio, Magalini. Vacuum-Assisted Wound Care (V.A.C._) for Enteric Fistula Closure: How We Do It. World J Surg (2014) 38:3280–3283 doi:10.1007/s00268-014-2739-0 D'Hondt, Devriendt, Van Rooy, Vansteenkiste, D'Hoore, M.D., Penninckx, Miserez. Treatment of small-bowel Fistulae in the open abdomen with topical negative-pressure therapy. American Journal of Surgery (2011) 202, e20–e24
Disclosure: No significant relationships.

P256

EX-VIVO BIOMECHANICAL TESTING ON THE ANIMAL MODEL OF FRACTURED PIG FEMUR FIXED WITH NOVEL BIODEGRADABLE INJECTABLE POLYMER COMPOSITE GLUE

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Introduction: In recent years,there has been a growing interest in the use of bone adhesives. Such glue would provide simple and quick method of fixing fractures. In our study,newly developed biodegradable "self-setting" bone adhesive prepared from inorganic tricalcium phosphate powder and aqueous solution of organic thermogelling polymers will be used for ex-vivo fixing of fresh pig femur with comminuted fracture.
Material and methods: Ex-vivo biomechanical tests will be performed on 105 adult fresh pig femurs with artificial created comminuted fracture (ACF) of diaphysis. Three different types of newly developed injectable "self-setting"biodegradable bone adhesive will be used for fixation of 90 pig femurs with ACF (45 femurs with ACF fixed by 3 different types of adhesives in combination with plate osteosynthesis, 45 femurs with ACF fixed by 3 different type of adhesives without plate osteosynthesis). Fifteen femurs with ACF will be fixed only with plate osteosynthesis. Biomechanical testing of the 105 fixed femur fractures will be performed on linear electrodynamic test instrument(ElectroPuls E10000, Instron). All 90 femurs fixed by adhesive will be tested on Micro-CT before and after biomechanical testing.
Results: Introduced study is part of European AO Trauma minigrant project. Currently biomechanical testing is being performed. Study results and their evaluation will be available in april 2017. Definitive results and conclusions will be presented at ESTES Congress in Bucharest, May 2017.
Conclusion: Introduced study is part of European AO Trauma minigrant project. Currently biomechanical testing is being performed. Study results and their evaluation will be available in april 2017. Definitive results and conclusions will be presented at ESTES Congress in Bucharest, May 2017.
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Disclosure: Introduced study is part of European AO Trauma minigrant project. Project no AOTEU-R-2016-064 was supported by AOTRAUMA, Switzerland.

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NEGATIVE PRESSURE THERAPY IN NECROTISING FASCIITIS TREATMENT

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Introduction: Necrotizing Fasciitis (NF) is characterised by rapidly spreading of infection and necrosis of the soft tissue and fascia; the risk factors for NF include diabetes mellitus, trauma, wound infections, decubitus ulcers, peripheral vascular disease. The aim of this study was to discuss the effectivity of Negative Pressure Therapy (NPT) in treatment of NF wounds.
Material and methods: Twenty six patients (14 male, 12 female; mean age:61.6 years) were treated between 2011-2016; they were analysed retrospectively regarding as age, sex, isolated microbiological agents, modalities of treatment and mortality rate.
Results: In 17 (65.3%) patients co-morbidities, the most common isolated microbiological agents were as follow*: E Colli, Acinetobacter spp, Pseudomonas aeroginosa*. The mean hospitalisation time was 22.2 (4-62) days.The patients wounds were classified according to Wong&Wang in stage 1(47.3%), stage 2 (36.8%) and stage 3(15.7%). All patients with stage one and two were treated with an adequate antibiotcs, iv fluids and electrolyte, the wounds after an agressive debridment were submitted to NPT; those in stage 3 with NPT and Hyperbaric Oxygen Therapy, in ICU conditions. Three patients were diverted by an ileostomi and another 2 with flexi seal fecal management system. The mean Laboratory Risk Indicator for Necrotizing Fasciitis (LRINEC) was 10 (7-12)for the patients included in stage 3, and 6.4(0-11)patients of stage one and two. The defects of only three patients were closed by fasciocutaneous flap. The mortality rate was 3.8%.
Conclusion: The new dressing devices such as NPT were utilised with succes in treatment of NF, this modality was able to lower the rate of reconstructive surgery.
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Gangrene:Etiology and Outcame Analysis of 41 patientes, Urol Int 2012;88:289-98
Disclosure: No significant relationships.

P258

THE TREATMENT OF DEEP PARTIAL AND FULL THICKNESS HAND BURNS WITH NEXOBRID

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Introduction: Enzymatic debridement is an alternative to surgical debridement of deep dermal burn wounds. NexoBrid® is an agent consisting of proteolytic enzymes which can be used in the acute phase and selectively debrides eschar and so, preserves vital tissue[1]. It reduces the need for surgical excision and skin transplantation[2,3]. The preservation of viable dermis might lead to better functional and cosmetic outcomes, which is mainly important in functional areas, as the hands. The burn center in Beverwijk started to treat hand and leg burns with NexoBrid®.
Material and methods: This is a prospective description of patients treated with NexoBrid®. The different methods of aftertreatment are described and results, including complications, are given.
Results: Eight patients with hand and/or leg burns were treated. After enzymatic debridement, full thickness burns received split skin grafts. Partial thickness burns received cadaver skin or Flaminal®. Cadaver skin was experienced as comfortable and Flaminal® as more painful. Both aftertreatments resulted in spontaneous epithelialization. Wound healing in our patients varied from two weeks till over a month postburn. Two retransplantations were needed.
Conclusion: Our first experience with NexoBrid® yielded good results. NexoBrid® provides adequate debridement of eschar and when dermis is preserved spontaneous epithelialization can be awaited for. To evaluate the outcome of hand function in patients with deep dermal hands burns that are treated with NexoBrid®, a prospective cohort study is underway in which we evaluate these outcome parameters are evaluated.
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Disclosure: No significant relationships.

P259

THE FLIR ONE THERMAL IMAGER FOR THE ASSESSMENT OF DEPTH OF BURN WOUNDS: RELIABILITY AND VALIDITY STUDY

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Introduction: Although accuracy is limited, clinical evaluation is still the most widely used method for the assessment of burns.[1,2] Thermal imaging is a low-priced technique, which measures skin temperature as an indicator of tissue perfusion and might be helpful in assessing burn wounds.[3] Before implementation of a novel measurement tool into clinical practice, its clinimetric properties should be tested. We assessed the reliability and validity of the recently introduced FLIR ONE thermal imager.
Material and methods: Two observers obtained thermal images of burn wounds. Subsequently, temperature differences between the burn wound and healthy skin (ΔT) were calculated. Reliability; the intraclass correlation coefficient (ICC) and standard error of measurement (SEM) of both observers were calculated. Validity; the ΔT values were compared to the registered healing time of the burn wounds. The ability of the FLIR ONE to discriminate between healing $\leq$21 days and >21 days was evaluated by means of a receiver operating characteristic curve and a ΔT cut-off value.
Results: Reliability: ICCs were 0.99, indicating excellent reliability. The SEM varied between 0.17-0.22°C. Validity: the area under the curve was calculated at 0.69 (95% CI 0.54-0.84). A cut-off value of -1.15°C (46% sensitivity; 82% specificity) discriminates between burn wound healing $\leq$21 days and >21 days.
Conclusion: Our results show that the FLIR ONE camera is highly reliable. The moderate validity calls for additional research. Furthermore, the FLIR ONE is pre-eminently feasible, allowing easy and fast measurements. Its use might be cost-effective in clinical burn practice as well as in more general heath care.
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Disclosure: No significant relationships.

P260

OPTIMIZED HYDROXYAPATITE NANOPARTICLES INHIBITS BACTERIAL GROWTH IN A RAT WOUND MODEL

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Introduction: Hydroxyapatite nanoparticles has many biological roles that make it desirable for a variety of biomedical applications.
Material and methods: We performed an assessment of the effect of hydroxyapatite nanoparticles doped with silver Staphylooccus against methicillin-resistant (MSSA) and methicillin sensitive Staphylococcus aureus (MSSA). The wounds were simulated in rats, (n = 4 per group). The animals were maintained in a pathogen free environment in accordance with the NIH Guide for the Care and Use of Laboratory Animals. For the examination of the effect of hydroxyapatite doped with silver it was necessary to create wounds in the posterior cervical region and their contamination with MRSA and MSSA strains.
Results: There was established, that the silver doped hydroxyapatite has antiseptically and regenerative impact, reduce microbial contamination and exudate in 24 h, compared to simple bandage silver.
Conclusion: The hydroxyapatite doped with silver patches increase wound healing process, has the potential to reduce risk of bacterial infection and promote the overall wound healing process.
References: These studies were supported by National PN II 259/2014 project.
Disclosure: No significant relationships.

P261

ADDENDUM REPORT: EFFECTIVENESS OF REGIONAL NERVE BLOCK ON CLAVICLE AND SHOULDER SURGERY

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Introduction: Shoulder and clavicle operations have often been performed under general anesthesia, but it requires more human resources and time. We adopted clavicle and shoulder operation under only regional anesthesia since January, 2014. The aim of this study is to consider the utility of only a regional anesthesia operation. We have added a year's patient data to last year report.
Material and methods: 91 patients who underwent a clavicle and shoulder operation (ORIF and removing implant) were chosen in retrospective from January 1, 2013 to January 1, 2016. They were allocated in two groups: brachial plexus block group (BG, n = 57) and general anesthesia group (GG, n = 34). Brachial plexus block was performed using nerve stimulator and ultrasound. Only an interscalene block was adopted for clavicle surgery. To support analgesia of the upper arm, we adopted a musculocutaneous block additionally for shoulder surgery. We evaluated the waiting days of ORIF operation, In-operation room time excluding operation time, complication and the annual number of general anesthesia cases in 2013 and 2014,2015.
Results: In-operation room time for brachial plexus block was shorter than with general anesthesia (mean BG-58.8 min versus GG-82.0 min). The annual number of clavicle and shoulder operations under general anesthesia could be decreased (26/26 cases, in 2013. 5/31 cases, in 2014. 3/29 cases in 2015). There were 8 complications of brachial plexus block cases(2- bradycardia, 1-Horner syndrome, 1-nausea, 4-insufficient analgesia). General anesthesia were 6 cases. There were a few differences these groups for the waiting days.
Conclusion: clavicle and shoulder operations under regional anesthesia is effective.
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Disclosure: No significant relationships.

P261A

ULTRASOUND-GUIDED INJECTION FOR CARPAL TUNNEL SYNDROME (CTS): RESULTS IN OUR PATIENTS GROUP AND REVIEW OF LITERATURE

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Introduction: Carpal tunnel syndrome (CTS) depends on the severity of the damage to the median nerve. CTS may improve after a few months without treatment in few cases or after conservative management. The management includes modifications of activities, non-surgical and surgical treatments that aim to relieve the pressure on the nerve. If CTS is caused by an underlying medical or physiological condition, such as hypothyroidism, rheumatoid arthritis or pregnancy, treating the condition or childbirth should improve the symptoms. However, treatment may be required if the median nerve is severely compressed or the symptoms are chronic. Non-surgical treatments include wrist splints and corticosteroid injections.
Material and methods: We looked into our practice of ultrasound-guided corticosteroid injection for this condition. Twenty-four patients with sonographically-confirmed CTS were analysed after their treatment. All were symptomatic for >4 months and have failed treatments. Ultrasound-guided injection were performed by two dedicated musculoskeletal radiologists. Sonographic assessment of the nerve thickness, calibre change and neovascularity was

undertaken. Pain scores were obtained before and after the procedure for 4 weeks.
Results: 17 out of 24 wrists have been successfully treated and rest are still having their long term followup. Our combined therapeutic intervention led to a significant improvement in pain scores and most of the patients >70% are satisfied with their outcome.
Conclusion: Ultrasound guided corticosteroid injection shows promise as an alternative treatment to surgical management for Carpal tunnel syndrome. Patients prefer this treatment as surgery has a longer recovery process and is more invasive with higher risks attached.
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Disclosure: No significant relationships.

P261B

ULTRASOUND GUIDED PERCUTANEUS DRY NEEDLING AND INJECTION FOR LATERAL EPICONDYLITIS: OUR RESULTS IN OUR PATIENT GROUP

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Introduction: Dry needling is a procedure in which a fine needle is passed underneath the skin into the inflamed section of the common extensor origin in order to create a calculated injury that triggers an inflammatory response and reparative tissue. There are several modalities of treatment including corticosteroids injection, shockwave, autologous blood injection, platelet-rich plasma (PRP) etc based on similar principles of bringing several different growth factors and other cytokines that can stimulate healing of bone and soft tissues. There are some studies showing benefit in lateral epicondylitis and few other common musculoskeltal conditions.
Material and methods: Patients with lateral epicondylitis were recruited having had symptoms failing to resolve to conservative treatment such as anti-inflammatory medicines, rest, resting brace application, exercises and physiotherapy. Patients received ultrasound guided dry needling to the affected site and were requested to keep a pain diary. In this they were asked to rate their pain on a scale of 1 to 10. Pain diaries were recorded prior to dry needling and subsequently at 1 hour, 24 hours, 2 days, 1 week, 2 weeks and 4 weeks post-procedure.
Results: 26 patients were recruited to this study. Examination of pain diaries in follow-up appointments 4 weeks post-procedure showed symptom improvement in 74% of cases.
Conclusion: Dry needling is an attractive minimally invasive percutaneous but effective option for the improvement of symptoms in patients with lateral epicondylitis in order to promote healing. Patients prefer this treatment as surgery has a longer recovery process and is more invasive with higher risks attached.
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Disclosure: No significant relationships.

TRAUMA EDUCATION AND SIMULATION (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

P262

ERRORS CONTRIBUTING TO TRAUMA MORTALITY – RETROSPECTIVE ANALYSIS IN LEVEL 2 TRAUMA HOSPITAL

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Introduction: This study was conducted to identify the incidence, type and setting of errors leading to mortality in trauma patients.
Material and methods: All trauma patients that died during their initial hospital admission for 5-year period (January 2011 to December 2015) were analyzed. During the study period, 2870 patients with trauma injuries were admitted and a total of 490 cases (18%), fulfilling polytrauma criteria, have been reviewed. One hundred and twenty eight patients were excluded from statistical analysis (incomplete folder, missed values of ISS or imagistic findings, unmentioned maneuvers in ICU or omitted autopsy protocol) and finally from 362 patients remained we retained 47 deaths (13% of patients included).
Results: Twelve patients (3.3% admissions) had recognized errors in care that contributed to their death. Important errors patterns included: delayed control of abdominal and intra-thoracic hemorrhage or inadequate recognition (6.3%), failure to secure or protect airway (4.2%), inappropriate management of unstable patients in 8.5% of deaths (long operative procedures, unstable patients sent to CT or to interhospital transfer), missed or delayed diagnoses (4.2%) and inadequate DVT prophylaxis (2.1%). By the internal processing classification of causes, 25% were input errors, 41.7% were intentions errors and 33.3% were execution errors. By phase of trauma management, 16.6% of errors occurred in the ED, 25% during the secondary survey and initial diagnostic, 33.3% during surgery, 16.6% during transport to CT or interhospital transfer and 8.3% in the ICU stay.
Conclusion: This study combines contemporary understanding of error causation, classification and proposes their remediation with a specific process and protocols.
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Disclosure: No significant relationships.

P263

MUSEC IN PORTUGAL SATISFACTION SURVEY - WHAT STUDENTS THINK OF AN ULTRASOUND COURSE

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Introduction: MUSEC (Modular UltraSound ESTES Course) is an ultrasound course created under the European Society for Trauma and Emergency Surgery. It was intended to train surgeons and emergency physicians with an imaging method that is easily accessible, portable and innocuous for the patient, which shortens time to diagnosis and treatment. The course is modular, including basic and advanced modules, with emphasis on the hands-on component and online education. The inaugural course was held in Lyon in 2013 and since then, MUSEC has expanded through out Europe and there is some interest shown by countries outside Europe as well.
Material and methods: Eight courses have taken place in Portugal up to March 2016, corresponding to 14 modules. For this study the Authors used the answers to the satisfaction survey held by the 120 participants.
Results: Most participants were young doctors, under the age of 30 years, surgical residents and with no previous experience in ultrasound. Participants agree the course to be helpful in their daily clinical practice, with impact on decision-making. The course and its contents were considered adjusted to its' objectives, and conducted with appropriate teaching methodologies. The practical component is one of the most appreciated aspects.
Conclusion: The degree of student satisfaction with MUSEC is high. All students recognize the value and the need for a course, which, as stated, demystifies ultrasound. All participants would recommend it to their medical colleagues.
References:
Disclosure: No significant relationships.

P264

CAN METEOROLOGICAL CONDITIONS PREDICT ORTHOPAEDIC TRAUMA ADMISSIONS?

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Introduction: Anecdotal evidence suggests that meteorological conditions may have a substantial effect on orthopaedic trauma admissions at Mayo University Hospital, independent of the effects of seasonal variation. We source, clean and analyse in-house data to investigate this important clinical hypothesis.
Material and methods: All 'trauma' and 'other' admissions presenting from 01-Mar-16 to 31-Aug-16 were extracted from A&E paper logbooks. Daily meteorological data was downloaded from Met Éireann (http://www.met.ie/) providing wdsp (mean wind speed), hm (highest 10-minute mean wind speed) and hg (highest gust).
Results: During the 6-months of this study 331 trauma (6.7%) and 4,587 other (93.3%) cases were admitted through our A&E department. Of the 331 trauma cases, 41.7% were male, median age 43 [2 to 99] and 58.3% female, median age 62 [2 to 97]. Top-3 trauma diagnoses included: "# Distal Radius" (61, 18.4%), "# Neck of Femur" (59, 17.8%) and "# Ankle" (32, 9.7%). Initial analysis did not reveal any significant relationship between wind-speed and trauma. However, other variables including precipitation amount and sunshine duration were significant. We then analysed wind-speed against lagged trauma admissions, revealing significant correlation ($p < 0.05$) for wdsp, hm and hg.
Conclusion: Ali and Willet [1] have not shown a relationship between weather and trauma in their review. We show that wind-speed is relevant to trauma admitted in MUH after 3 days ($p < 0.05$). Both freezing temperature and day-of-week ($p < 0.001$!) were significant for the 93.3% 'other' admissions via A&E. Finally, we present a predictive model of orthopaedic trauma admissions and track it against actual future events.
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Disclosure: No significant relationships.

P265

A COMPARISON OF THE ACADEMIC OUTPUT OF MAJOR BURNS UNITS IN THE UK AND IRELAND

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Introduction: Academic output is just one aspect of a successful career as a Burns Surgeon. However, for those with a strong interest in academia, the academic output of a department will likely be a key factor when deciding how to rank jobs. The aim of this study was to quantify and rank the academic output of Burns Units across the UK and Ireland.
Material and methods: The Institute for Scientific Information Web of Science Bibliometric was used to collate cumulative [1950–2015], 10-year, [2005–2015] and 3-year, [2013–2015] research output data for Burns Units in the UK and Ireland.
Results: 35 Burns Units were identified. Departments were ranked for each time period according to the number of papers produced, number of citations and h-index (a measure of the impact of scientific output). The top 3 departments for number of papers in the last 10 years were Broomfield Hospital, Chelmsford (218), Queen Morriston Hospital, Swansea (188) and Glasgow Royal Infirmary (176). The top 3 for h-number were Wythenshaw Hospital, Manchester (18) Morriston Hospital (17) and Glasgow Royal Infirmary (16).
Conclusion: Academic output varies across Burns Units in the UK and Ireland. A number of departments have consistently maintained high academic outputs across the years and will be of interest to surgeons hoping to pursue a career in academia.
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Disclosure: No significant relationships.

P266

PERCUTANEOUS FIXATION OF THE ANTERIOR COLUMN OF THE PELVIS. WHICH WAY BEST TO TAKE.?

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Introduction: Percutaneous fixation of the anterior column can be challeging because of the special nature of the anatomic landmarks. The authors tried to find out in which position the image of the image intensifier give the best visualisation of the anterior column. For this perpuse the authors plastic models of a hemipelvis n°4070 of Synbone loaded with metal markers. A virtual line was used to see in which position the whole anterior column could be reached.

Material and methods: A set of hemipelvis n° 4070 from Synbone was used. Metal markers were glued to highlight on image intensifier the bounderies of the acetabulum and the iliopubical branch. A virtuale line was drawn on the computer to cover the whole lenght of the anterior column. Special attention was made to avoid violating the acetabulum and the crossing of the corona mortis. In total seven positions of the pelvis-fluorscopie was tried. Inlet, Outlet, Inlet + 20° of exorotation,Outlet + 30* exorotation, lateral site position, lateral poition + 30° exo and lateral poistion + 30° endorotation.

Results: We could only withhold the lateral position with the image intensifier in 30¨of endorotation as the most valuable position which respected the integraty of the acetabulum and the corona mortis crossing.

Conclusion: The authors found only the lateral site position with the image intensifier in 30° of endorotation as the most safe route for antegrade or vretrograde fscrew fixation of the anterior column by percutaneous menas.

References: Modified Iliac Oblique—Outlet View: A Novel Radiographic Technique for Antegrade Anterior Column Screw Placement Bryce A. Cunningham, MD,* Ryan P. Ficco, MD,† Rachel E. Swafford, MPH,* and Peter J. Nowotarski, MD* J Orthop Trauma 2016;30:e325–e330 Is there a role for percutaneous pelvic and acetabular reconstruction? P.M. Rommens *Injury, Int. J. Care Injured (2007) 38, 463—477

Disclosure: No significant relationships.

P267

HELICOPTER EMERGENCY MEDICAL SERVICE FOR TRAUMA PATIENTS IN RURAL AREA

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Introduction: In Japan, helicopter emergency medical services are rapidly spread. There are 50 medical helicopters in 95% of all prefectures in Japan. In our prefecture, Tokushima places at Shikoku Island, we use medical helicopters (called " Doctor Heli") from October 2014.

Material and methods: To September 2016, Our Doctor Heli took off 1568 times. 80 cases were canceled before landing. In 1488 cases, we responded. 679 cases were trauma cases or other exogeneos diseases.

Results: In these cases, 245 cases were traffic accidents, 154 cases were trauma cases due to fall crash or slipping down. 81 cases were worker's compensation accidents. 11 cases were self-injurious behaviors. 17 cases were due to sports event.

Conclusion: Injuries are severe head trauma, chest trauma, abdominal hemorrhage, etc. 85% of our prefecture is mountainous are, so helicopter is useful tool for patient's transportation and doctor delivery.

References: We will report our efforts for rural area trauma patients and practical uses of helicopter emergency medical service.

Disclosure: No significant relationships.

P268

ULTRASOUND OF HANDS & WRIST IN TRAUMA

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Introduction: US is an inexpensive non-invasive dynamic examination that allows accurate evaluation of tendons joints and periarticular structures including ligaments and pulleys.Accurate knowledge of anatomy is essential prior to performing US examination. Acute and Chronic injuries can be assessed fairly quickly allowing prompt surgical and non-surgical treatment. US can also be useful for guided treatments

Material and methods: Pictorial review of normal US anatomy of the tendons, ligaments and pulleys in the hands and fingers. US demonstration of tendon and ligament pathology following acute and chronic trauma including repetitive injury such as tendon rupture, tenosynovitis, pulley injuries. Review of US guided interventions including treatments for tenosynovitis and pulley pathology. US demonstration of normal tendon anatomy of extensor and flexor tendons of the hand and wrist, anatomy of ligaments including finger pulleys and joint anatomy will be discussed. US technique for evaluation of tendons and ligaments along with pathology such as tenosynovitis, pulley injuries and extensor hood injuries will be discussed. Role of US guided interventions such as Injection of tendons and joints for tenosynovitis and synovitis. foreign body retrieval, pulley release will be discussed and demonstrated.

Results: US is a cheap inexpensive tool that allows accurate evaluation of soft tissue injuries in the hands and wrist allowing early and correct treatment.

Conclusion: US is a cheap inexpensive tool that allows accurate evaluation of soft tissue injuries in the hands and wrist allowing early and correct treatment. US is useful in guided interventions

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Disclosure: No significant relationships.

P269

VRINOR - THE WORLD'S FIRST VIRTUAL REALITY OPERATION

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Introduction: On Thursday 11th April 2016 we live-streamed the world's first virtual reality operation. It was a laparoscopic anterior resection from The Royal London Hospital, live in 360 degree video. The patient was consented appropriately and the procedure was a success. The event was named "VRinOR". The primary goal was to demonstrate the ability to deliver immersive surgical education anywhere in the world, with future developments including interactivity to further increase the educational value.
Material and methods: The event was a collaborative effort between Medical Realities, Barts Health NHS Trust and Mativision. The kit consisted of a multi-lens camera connected to a laptop that combined the various feeds into a single 360 degree video feed (a process called stitching) and this was live streamed via a web platform and a smartphone application. A sixty second delay was introduced so the stream could be interrupted if needed.
Results: The event was a success, with over 53,000 people viewing the stream from more than 140 countries and 4000 cities. There were also more than 4 million interactions on twitter. There were technical issues with the web platform intermittently crashing
Conclusion: The event was technically very successful with regards to reaching a large number of people, demonstrating a clear ability to educate efficiently on a global scale. There are improvements to be made for the future with regard to bandwith, camera position and integration of the laparoscopic feed.
References:
Disclosure: No significant relationships.

P270

LOW FIELD EXTREMITY MRI IN IMAGING OF MUSCULOSKELETAL SYSTEM IN TRAUMA

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Introduction: Low field dedicated extremity MRI units are cheaper and more advantageous for larger and claustrophobic patients, economise better on space and provide stress free imaging and motion studies of joints, which are impossible with closed units. Research into utilising low field MRI in imaging some extremities, rheumatoid arthritis, synovitis and acute knee injuries has been published however, there is little on its use in acute extremity injuries, particularly involving the ankle and wrist.
Material and methods: Pictorial review of various injuries that are confidently demonstrated using Low Field extremity MRI (0.3T). We aim to demonstrate Knee injuries including ACL/PCL/Meniscal tears, Wrist Injuries including Wrist and Carpal bone fractures, and tendon injuries, Ankle injuries including ligamentous injuries and osteochondral injuries as a pictorial review. Discuss how this can be delivered in a One Stop early imaging pathway allowing early diagnosis and management of acute injuries.
Results: Injuries including Scaphoid fractures. TFCC tear, ACL & PCL rupture, Meniscal tears, Ankle ligament and Osteochondral injuries will be demonstrated.
Conclusion: Low Field MRI is an inexpensive unit that can provide adequate information in a quick and easy way in all groups of patients avoiding claustrophobia and stress.
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Disclosure: No significant relationships.

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A WIDENED TIBIOFIBULAR SYNDEMOSIS AND FUNCTIONAL OUTCOME IN THE SYNDESMOTIC REDUCTION AFTER SYNDESMOTIC SCREW FIXATION FOR ANKLE MALLEOLAR FRACTURES: AO44-C3

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Introduction: To evaluate changes in the syndesmotic reduction after the screw removal for ankle malleolar fractures: AO44-C3, and assessed whether incidence of syndesmotic malreduction changes clinical outcomes.
Material and methods: We assessed six patients who underwent syndesmotic screw fixation for ankle malleolar fractures: AO44-C3.Syndesmotic reduction was assessed at the time of injury, after first operation and 6 months after the screw removal using the axial computer tomographic images. Clinical outcome was assessed at 6 months after the screw removal using the Japanese Society for Surgery of the Foot (JSSF).
Results: The mean tibiofibular distance was 4.5mm after syndesmotic fixation. It increased to 5.3mm at 6 months after screw removal. 4 patients' syndesmotic distance increased 0-1mm after the screw removal. 2 patients' syndesmotic distance increased 1-2mm after the screw removal. The average JSSF scale was 98±5 (range 96-100) points after 6 months of the screw removal. 4 patients had 100 points and 2 patients had more than 96 points. Injury pattern were ①with avulsion fracture with AITFL ②with avulsion fracture with PITFL ③with posterior malleolar fracture. There was no case of pure ligament injury. 2 cases "posterior malleolar fracture pattern " with no fixation of posterior fracture shows widening of distance of syndesmosis more than 1mm.
Conclusion: The tibiofibular distance had increased 6 months after syndesmotic screw removal in ankle malleolar fracture with syndesmotic screw fixation but clinical outcome had been good. We should consider the detention period of syndesmotic screw depending on injury pattern of fracture and ligament.

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Disclosure: No significant relationships.

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THE EVOLUTION OF DEATHS BY TRAUMA AT THE BEGINNING OF THE 21ST CENTURY IN ROMANIA - A SCIENTIFIC RESEARCH

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Introduction: The beginning of the 21st century came along with huge changes regarding technology and science globally. For medicine, it brought a change in how we perceive patients, diseases, diagnoses and management of different pathologies. Of these, some of the best results have been obtained in traumatic pathologies where a lowering mortality rate was observed across all types of trauma. It is important to assess and monitor the evolution of trauma patients throughout history in order to identify the elements and patterns that we can keep or improve for even more promising results in the future.
Material and methods: The present research is a retrospective analysis of all trauma related deaths in Romania. The study was conducted using data provided by the World Health Organization and covered the period 1990-2014. In order to have an overview, we compared data found about Romania with the rest of EU countries and data from the literature.
Results: The results were encouraging and showed a significant decrease in the number of deaths due to traumatic events in this period. Depending on the etiology of trauma, various values of mortality decline were recorded, sometimes with a surprising result of halving the number of deaths in a span of just 10 years.
Conclusion: In conclusion, the results of our study are encouraging and demonstrate that with the development of medicine at the beginning of the 21st century came along a better support management of trauma patients, leading to the survival of patients that would have had almost no chance during the past century.
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Disclosure: No significant relationships.

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INTERDISCIPLINNARY APPROACH FOR VOCATIONAL TRAINING IN ORTHOPEDIC SURGERY

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Introduction: Classical education of orthopedic surgeons involves lectures, self study, workshops an,d cadaver dissections, and supervised practical training, which quite seldom gives the young surgeons the feeling of being unable to apply what they have learned. The purpose of this paper is to present a different approach,enhancing the practical skills of the orthopedic trainees and prepare them for future practice.
Material and methods: The paper presents the content of the research project 2015-1-RO01-KA202-015230, ERASMUS+ VET "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery" which, using e learning as a basic tool, delivers to the trainees not only courses, but especially practical information through videos and case scenarios including gait analysis in order to build patient focused therapeutic plans, adapted to the characteristics of each patient.
Results: The outcome of this project is to enhance the practical skills in orthopedic surgery and the results are evaluated following the answers to the questionnaires, but especially the reactions within the case scenarios. The participants will thus follow the idea that any mistake within solving the cases might represent a failure of treating a real patient.
Conclusion: This modern approach, besides using interactivity to evaluate the theoretical and practical knowledge of the trainee, increases the sense of responsibility, as well as the ability to react properly in real cases. The authors intend to extend the results of this project to the training curricula in orthopaedics since it enhences the practical skills of the trainees, thus fulfilling one major objectiev of vocational training
References: Erasmus + project 2015-1-RO01-KA202-015230, ERASMUS+ VET "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery"
Disclosure: No significant relationships.

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EVALUATION OF SPLENIC AUTOTRANSPLANTION IN TRAUMA: SCINTIGRAFIC EXAMS VERSUS ECHOGRAPHY WITH SONOVUE

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Introduction: Between 2006 and 2015, we have performed splenic autotransplantion in more than 350 pacients to treat splenic trauma (of which 69 patients required splenic implants). The aim of the present study was to evaluate the survival and function of splenic implants using tow imaging methods: spleen imaging with Tc99m labeled heat-damaged erythrocytes and ultrasound with contrast (SONOVUE).
Material and methods: The spleen was totally removed. A slice of the spleen was cut in 20 fregments dimensions of the 1x1x2 cm and then sutured which were sutured on the greater omentum. This procedure was safely conducted with minor bleeding and no technical difficulties or complications. 30 patients with splenic rupture underwent spleen imaging with Tc99m labeled heat-damaged erythrocytes at one month after splenic autotransplantation (early scans). 93% of them was highlighted tracer 3 months after operation (follow-up scans). The same patients were performed with ultrasound contrast agent (SONO VUE) at the same time intervals and 6 monts after inplants.
Results: Splenic autotransplants were faintly showed on early scans, and the intensity of radioactivity in autotransplants was lower than the in liver. The increase of intensity of tracer accumulation in autotransplants was significant on follow-up scans. Analysing the relationship between scintigraphy and ultrasound SonoVue 3 months follows that splenic iplant unviewed ultrasound with SonoVue (6.67%) was highlighted scintigraphy. The most sensitive method for early detection of abdominal implants is spleen imaging with Tc99m labeled heat-damaged erythrocytes. Unviewed implants ultrasound at 3 months were detected after 6 monts with same method.
Conclusion: Strong correlation between echo Sono Vue and scintigraphy leads to the conclusion that patients with splenic implants can be evaluated with ultrasound methods that have a high sensitivity.
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Disclosure: No significant relationships.

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COMPARATIVE NEEDS ANALYSIS IN EDUCATING ORTHPAEDIC TRAINEES IN EUROPE

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Introduction: Educating orthpaedic residents is challenging due to challenges of modern traumatology, regarding the complexity of injuries and of the surgical techniques, as well. Enhancing the practical skills represents a major target for orthopedists, and methods for fulfilling this are continuously searched, based on needs analysis
Material and methods: The authors aimed to evaluate the differences in needs between different European countries, in order to establish the features of a modern educational approach, as targeted by the Erasmus + project "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery COR-skills". The same questionnaire including topics and methods of training orthopedic surgeons was addressed to residents from the partners countries- Romania, Bulgaria, Turkey, Greece and Denmark
Results: The answers confirmed the interest for modern educational tools (such as e-learning) and for interactive training; hip and knee traumatic and non-traumatic pathology were of highest interest in all the countries, due to their increasing frequency; the trainees expressed interest for modern methods of stabilization, with less invasive methods; differences appeared regarding the carrier issues, probably due to echonomic issues
Conclusion: This project revealed that a common training frame is suitable for European countries up to a certain extent; while the scientific issues of interest are the same, economical differences may affect the training priorities
References: Erasmus + project 2015-1-RO01-KA202-015230, ERASMUS+ VET "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery
Disclosure: No significant relationships.

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OPTIMIZING THE TREATMENT IN POSTERIOR ACETABULAR FRACTURES BY ENHANCING PRACTICAL SKILLS

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Introduction: Due to their functional impact upon the hip joint, treatment of posterior acetabular fractures require certain skills which must be exercised, regarding the pre-operative planning, as well as the execution of surgery.
Material and methods: The authors retrospectively analyze 36 cases operated using the posterior approach in our hospital between 01.06.2012-01.06.2014 with complete medical records ensure a follow up of 24 months, in order to establish the main causes of potential errors and to underline the methods for preventing them, as targeted by the Erasmus + project "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery COR-skills". This paper analyses the pitfalls revealed by these cases, and the measures necessary to enhance the practical skills of the surgeons performing acetabular surgery
Results: The main problems were: nervous complications - 3 cases (reversible) paralysis of the sciatic nerve, and in other 2 cases intra-articular position of the screws was demonstrated by post-operative CT scans, so secondary screw removal was necessary. Septic complications appeared in 3 cases, 2 superficial and 1 profound (requiring implant removal). The most important problems were fracture reduction and the positioning of the screws so as not to interfere with the articular space.
Conclusion: In posterior acetabular fractures, pre-op complex planning is important in order to achieve maximum treatment efficacy with minimum of risk; an optimal training of the surgeons insisting on the main points of potential mistakes ensure the success of the procedure, as well as a favorable outcome of the patient
References: Erasmus + project "Collaborative learning for enhancing practical skills for patient-focused interventions in gait rehabilitation after orthopedic surgery COR-skills".
Disclosure: No significant relationships.

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ACQUIRING COMPETENCE IN SHOULDER AND KNEE EXAMINATION: COMPARATIVE ANALYSIS OF THE EFFICIENCY OF DIFFERENT INSTRUCTIONAL APPROACHES

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Introduction: The instructional approach used to teach skills has substantial influence on what is memorized and what will become part of a doctor's regular examination repertoire. Teaching Associates (TA) are trained simulation patients, giving immediate feedback. The aim of the present study is the comparative analysis of the efficiency of 3 different teaching methods for shoulder and knee examination.
Material and methods: Fourth year medical students completed a 210-minute training module in knee and shoulder examination, allotted to three different teaching methods. Group one examined each other under professional supervision, whereas group two examined the TA, group three students were first examined by a professional tutor followed by mutual examinations under supervision. In every group, the theoretical backgrounds were illustrated by a standardized ppt. After the explanation and demonstration by the physician, the groups had a 50-minute practice time to learn every examination. Directly after the training, as well as 5-12 weeks after the training, the acquired competences in shoulder and knee examination were assessed in a 5-minute OSCE station each (shoulder/knee).
Results: 136 students participated in the study. Directly after the training, group 2 performed significantly better than group 1 (shoulder and knee $p < .001$). At point in time 2, group 2 performed significantly better than group 1 in shoulder examination ($p = 0.028$). There were no significant differences between the three groups in the knee examination.
Conclusion: The use of TA in shoulder and knee examination improves the acquired competence significantly. At the second point in time, those students practicing with TA had an enhanced longterm retention.
References: Disclosure: This study was funded by the German Federal Ministry of Education and Research (grant 01PL12038A) as part of the joint research project "Practical clinical competence—a joint program to improve training in surgery."

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INTRAMEDULLARY STABILIZATION OF PAEDIATRIC FEMORAL SHAFT FRACTURES BY RETROGRADE KIRSCHNER-WIRES: AN EFFECTIVE APPROACH TO SURGICAL FIXATION

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Introduction: Intramedullary (IM) nailing is the 'gold standard' for fixation of adult femoral shaft fracture. Titanium IM nails have been used by many authors for paediatric fixation without major complication. We review the literature and report on *stainless steel* K-wires as an effective alternative for operative fixation.
Material and methods: Flexible IM K-wire fixation for paediatric femoral shaft fracture has been used with relatively comparable results to titanium IM nails by Qidwai and Khattak[1], Chitgopkar[2] and Khan *et al* [3]. Our study was prompted after reviewing the results published in both local and international literature.
Results: 30 paediatric patients (83% male, 17% female) with femoral shaft fractures were treated with flexible, retrograde, intramedullary K-wires from 2006 to 2014 at Al-Rass General Hospital. Almost half (42%) of these injuries were due to 'fall from height' with 25% RTA, 25% 'fall < 2m' and 8% due to 'sports injury'. Median operative time was 55 minutes with no patient requiring open reduction. With a mean length of stay 5 [3 to 12] days and time to union 7.1 [5 to 12] weeks, K-wires were removal after 3.8 [3 to 6] months. No joint stiffness was reported following K-wire removal with equal instance of leg-length shortening compared to titanium IM nailing.
Conclusion: Our results compare favorably in terms of nonunion, limb-length discrepancy, joint stiffness, length of stay and cost-effectiveness when compared to the published literature. In conclusion, good results can be obtained with this *stainless steel*, retrograde K-wiring technique in situations where expensive titanium IM nails are not readily available.

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Disclosure: No significant relationships.

DISASTER PLANNING: MEDICAL PREPAREDNESS FOR HUMAN AND NATURAL DISASTERS (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

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DEDICATED MASS-CASUALTY INCIDENT HOSPITALS: AN OVERVIEW

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Introduction: Hospitals worldwide are preparing for mass casualty incidents (MCIs). The Major Incident Hospital in the Netherlands was constructed 25 years ago as a dedicated hospital for situations wherein a sudden increase in medical surge capacity is mandated to handle an MCI. Over the years, more initiatives of dedicated MCI hospitals have arisen. MCI facilities from three countries are compared, considering the reasons for construction and functionality.
Material and methods: Three dedicated MCI hospitals and one hospital with a largely fortified structure were compared. The centres were located in the Netherlands, Italy and Israel. Between August 2015 and January 2016, structured interviews were conducted with representatives of the hospitals. The interviews focussed on the need for MCI preparedness, likely threats, reasons for construction and experiences gained.
Results: All dedicated MCI hospitals had the common policy to create routine work circumstances for medical staff by using similar equipment and resources as in normal hospitals. The MCI hospitals' designs differed substantially, as determined by the threats faced. In Europe, these hospitals are designed as a solution to surge capacity and function as buffer hospitals offering readily available, short term, additional medical capacity to the local health care system. Israeli MCI hospitals are designed to be fortified structures offering shelter against conventional and non-conventional warfare and intended as a long-term solution during under-siege situations.
Conclusion: Several dedicated MCI hospitals are presently being constructed. During construction, the local circumstances should be taken into account to determine the functionality for both short-term solutions for surge capacity and as fortified structures to withstand under-siege situations.
References:
Disclosure: No significant relationships.

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TRIAGE AT MASS CASUALTY INCIDENTS AT SEA - A SYSTEMATIC LITERATURE REVIEW

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Introduction: "Triage" is a central element for coping with a mass casualty incident (MCI). The aim is to prioritize the treatment, transportation of the patients in order to harness existing medical, material and human resources efficiently. This study gives an overview of existing triage algorithms to identify suitable triage systems for mass casualty incidents at sea.
Material and methods: A systematic analysis had been carried out in Medline and EMBASE using the keywords [triage OR patient sorting OR treatment priority OR patient allocation] AND [mass casualty OR MCI OR multiple casualty OR major incidents OR disaster medicine OR catastrophic events OR Massenanfall von Verletzten OR MANV].
Results: 3120 articles were initially found; 691 studies were excluded due to duplication, 2196 for not addressing the topic and 215 for not fulfilling the criteria of relevance, whereas 118 studies were deemed suitable for this review. The included studies were categorized regarding "basic information" (N = 21), "triage-systems" (N = 55), "specific MCI-scenario" (N = 12), "training" (N = 9) and "comparative studies" (N = 22). 11 relevant triage systems were identified.
Conclusion: No direct comparison of the performance of various algorithms was possible due to a lack of empirical data on concurrent triage-algorithms. No identification of a single superior triage algorithm was possible. Most of them reduce the complexity of the medical status to a distinct number of triage-classes. Maritime MCI call for dynamic integration of transportation resources and patient status in addition to established traditional triage models. Unique or new approaches which utilize a continuous variable to prioritize treatment need to be established.
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Disclosure: No significant relationships.

RESCUE SURGERY (CLINICAL RESEARCH/BASIC SCIENTIFIC RESEARCH)

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THE PREHOSPITAL MANAGEMENT OF HYPOTHERMIA – AN OVERVIEW OF THE CURRENTLY AVAILABLE TREATMENT MODALITIES

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Introduction: The presence of accidental hypothermia can result in higher morbidity and mortality rates in trauma patients. The management of hypothermia in the prehospital phase should get more attention to optimize care for these patients. Literature concerning the prehospital management of hypothermia is scarce. The objective of this study was to provide an overview of the currently available treatment modalities for the prehospital management of hypothermia.
Material and methods: The databases PubMed, EMbase and MEDLINE were searched during August 2016. Used search terms include "prehospital", "hypothermia" and synonyms.
Results: Besides the standard strategies for hypothermia prevention (i.e. placing the patient in a warm and dry environment), additional passive and active rewarming equipment exist. Little is known about the effectiveness of the existent insulation materials, which include cotton blankets, woolen blankets, polyester blankets and reflective blankets. Active external rewarming interventions concern warming the ambulance, body-to-body rewarming, the use of heat packs, heated blankets and forced air. Active internal rewarming methods include the application of warmed and humidified air or oxygen, the administration of warmed intravenous fluids and offering a high carbohydrate drink. Effective and practical interventions seem to be the Blizzard blanket(1,2), which belongs to the category of reflective blankets, and a charcoal-burning heat pack(3). Also, warming the infusate shows to be helpful to reduce further heat loss.
Conclusion: Little evidence exists for the effectiveness of the existent treatment modalities for hypothermia, but the available evidence suggests that the Blizzard blanket and a charcoal heater are the most advantageous.
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Disclosure: No significant relationships.

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FACTORS AFFECTING SURVIVAL IN EMERGENCY DEPARTMENT THORACOTOMY: AN UPDATE

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Introduction: Emergency department thoracotomy (EDT) is a controversial, potentially life-saving procedure, performed on patients suffering traumatic cardiac arrest. Multiple indications for EDT have been reported but patient outcomes, assessed in terms of Overall Survival to Discharge (OSD), remain unclear. The objective of this systematic review and meta-analysis is to determine pooled OSD outcomes, stratified by indication, for patients undergoing EDT and to formulate a rationalised approach to patient selection.
Material and methods: A systematic review and meta-analysis was undertaken using PUBMED, OVID and EMBASE search engines. Studies published between August 2000 and August 2016 were considered for inclusion. All articles referring to pre-hospital or emergent (delayed) thoracotomy were excluded. Meta-analysis of Observational Studies guidelines were used to identify eligible articles. Only peer-reviewed published articles were considered. Review articles were excluded. Quantitative analysis was undertaken using GraphPad Prism 7th Edition.
Results: Thirty-seven articles, containing 3251 patients whom underwent EDT, were identified. There were 277 (8.5 %) all-comer survivors. Pooled Odds Ratio's for OSD demonstrate improved survival for; penetrating vs blunt indication (OR 1.91; p 0.0078); stab vs gunshot indication (OR 5.45; $p < 0.0001$); signs of life (SOL) on admission vs no SOL indication (OR 5.36; $p < 0.0001$). Surprisingly, equivalence of OSD was demonstrated between cardiothoracic vs non-cardiothoracic indication (OR 1.038; P 1.000). OSD was significantly worse for USA vs rest of the world patients (OR 1.59; p 0.0012).
Conclusion: Penetrating injuries producing cardiac arrest remains a robust indication for EDT. Non-cardiothoracic cause of arrest should not preclude EDT. No SOL on admission is a relative contraindication to EDT.
References:
Disclosure: No significant relationships.

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CLINICAL AND THERAPEUTIC ASPECTS INDUCED BY INGESTION OF FOREIGN BODIES

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Introduction: An ingested foreign body often passes the gastrointestinal tract without any complications.As foreign bodies such as dentures, chicken bones, fish bones and toothpicks to show that they can cause perforation of the gastrointestinal system. NOTES development can help intragastric foreign bodies or removal of the sigmoid colon or rectum.
Material and methods: We are presenting 4 cases: 2 cases of 27 years old male and 48 years old female with acute abdomen, diffuse purulent peritonitis, with ileum perforation, caused by accidentally ingesting a wire, 1 case 64 years old male with sigmoid perforation, caused by accidentally ingesting a toothpicks and 1 case 52 years old female presented with left buttock painful swelling for 1 week associated with fever, physical examination revealed an ischio-rectal abscess. During incision and drainage a 3 cm chicken bone was found inside abscesses cavity. Evolution was favorable in all 4 cases.
Results: Areas where perforations occurs more frequently by foreign bodies including ileo-cecale and rectosigmoidian regions because the intestinal lumen is narrowed at this level and and the digestive tract is angulated in these sites.
Conclusion: In conclusion ingestion of sharp foreign bodies may cause perforation of the gastrointestinal tract, digestive tract not only higher but also lower digestive tract and anal canal. High index of suspicion is needed in cases with history of foreign body ingestion presenting with ischio-rectal abscess, to aid diagnosis and prevent injury to the operating surgeon.
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Disclosure: No significant relationships.

P284

LATE VASCULAR COMPLICATIONS FOLLOWING LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction: Hemobilia is a rare, jeopardizing complication of laparoscopic cholecystectomy. Severe hemobilia complicating laparoscopic cholecystectomy (LC) is a rare, unpredictable, and life-threatening vascular complication commonly occurring after 4 weeks from surgery.
Material and methods: We describe the case history of three patients in which laparoscopic cholecystectomy was complicated 3 months, 7 months and 3 years later by massive hemobilia. The cause of haemorrhage was a pseudoaneurysm of a right hepatic artery in two cases; this complication was successfully managed by one-stage angiographic embolization with full recovery in one patient; in the second case it was necessary an open approach. In the third case it was a cystic artery pseudoaneurysm causing arterio-billiary fistula and selective embolization of it successfully controlled the bleeding.
Results: Pseudoaneurysms of the hepatic and cystic artery adjacent to cholecystectomy clips were demonstrated in all these patients at selective right hepatic angiography. Laparoscopic cholecystectomy-related iatrogenic pseudoaneurysms of right hepatic artery account for around 60% of cases, those of common hepatic artery for around 30% and those of cystic artery for around 10%. In more than 80% of cases, angiographic embolization is the first and definite treatment; in some cases, reembolization is necessary; the open surgery is indicated when the angiographic approach is not possible.
Conclusion: Hemobilia complicating laparoscopic cholecystectomy has become a well-known serious event reported in plenty of issues. Right hepatic artery pseudoaneurysm with associated hemobilia, following LC, is a rare, potentially life-threatening emergency. Hemobilia should be considered when managing patients with bleeding or jaundice even several months after laparoscopic cholecystectomy.
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Disclosure: No significant relationships.

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RISK FACTORS AND TREATMENT OF PLEURAL EMPYEMA AFTER TRAUMATIC HEMOTHORAX; A RETROSPECTIVE STUDY

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Introduction: Pleural empyema in patients with a traumatic hemothorax needs surgical intervention. Video-assisted thoracic surgery (VATS) can be successful in early phase empyema. However a thoracotomy, associated with higher rates of morbidity, is often necessary to achieve adequate decortication and total expansion of the lung. This retrospective study assesses the incidence and possible risk factors of pleural empyema after traumatic hemothorax. Secondly, the treatment options for this complication were analyzed.
Material and methods: All patients with a traumatic hemothorax, admitted to VU University Medical Center between 2012 and 2015, were analyzed retrospectively for possible risk factors of developing pleural empyema.
Results: In total 107 patients (mean age 48 years) were included, 78% was male. Initially 88% (n = 94) received chest tube drainage, for median six (range 1-39) days, resulting in 99% complete lung expansion. Fifteen of these patients (14%) developed empyema. In these patients a longer duration of chest tube drainage (mean 13 versus 7 days) (p = 0,012) and ICU stay (mean 17 versus 8 days) (p = 0,004) was found. Seven of these patients were treated by thoracotomy, two by VATS and six by VATS followed by thoracotomy because VATS was not sufficient. There was no mortality in this group.
Conclusion: The incidence of empyema in patients with traumatic hemothorax is 14% after initial chest tube drainage in this study. Risk factors are prolonged tube drainage and prolonged ICU stay. We propose a more aggressive policy to intervene with VATS in patients with risk factors or signs of empyema to prevent progression of empyema and the need for thoracotomy.
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Disclosure: No significant relationships.

P286

DELAYED MASSIVE HEMOTHORAX REQUIRING SURGERY AFTER BLUNT THORACIC TRAUMA OVER A FIVE-YEAR PERIOD: COMPLICATING RIB FRACTURE WITH SHARP EDGE ASSOCIATED WITH DIAPHRAGM INJURY

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Introduction: Delayed massive hemothorax requiring surgery is relatively uncommon and can potentially be life threatening. Here, we aimed to describe the nature of delayed massive hemothorax requiring immediate surgery and to identify the major cause.
Introduction: Delayed massive hemothorax requiring surgery is relatively uncommon and can potentially be life threatening. Here, we aimed to describe the nature of delayed massive hemothorax requiring immediate surgery and to identify the major cause.
Material and methods: From February 2011 to January 2015, 1278 consecutive patients were admitted to our hospital for blunt thoracic trauma. Delayed hemothorax was defined to present with a follow-up chest radiograph and CT showing blunting. A massive hemothorax was defined as blood drainage > 1500 mL after closed thoracostomy and continuous bleeding at 200 mL/h for at least four hours. The clinical characteristics and outcomes were analyzed.
Results: All patients required emergency surgery; three had concurrent extrathoracic injuries. The injury severity score was 22 ± 7.1, and delayed massive hemothorax presented 63.6 ± 21.3 h after blunt chest trauma. Before surgery, all patients had pleuritic chest pain after a coughing spell, with the mean preoperative chest tube drainage being 3126 ± 463 mL. All patients had superficial diaphragmatic lacerations caused by the sharp edge of a broken rib.
Conclusion: A broken rib with a sharp edge after blunt thoracic trauma can cause a diaphragmatic laceration and may result in delayed massive hemothorax after a coughing spell. Therefore, patients should be closely observed for delayed hemothorax, particularly if they have a prodrome of pleuritic chest pain.
References:
Disclosure: No significant relationships.

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PRE-HOSPITAL THORACOTOMY: 115 YEARS ON AND NO FURTHER FORWARD

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Introduction: Prehospital thoracotomy (PHT) may be performed on the arrested trauma patient. It was first performed in 1902 following a penetrating cardiac injury. The indications for PHT remain undefined, currently emergency department thoracotomy data is used to justify PHT. This paper reviews the literature of PHT, and discusses the future direction of this potentially life-saving procedure.
Material and methods: MEDLINE, PUBMED and EMBASE search engines were used to identify all relevant articles. Search terms employed included "emergency" "thoracotomy" "cardiac" "arrest" "resuscitation" "prehospital" "field" "roadside."
Results: 6 case reports from Europe and the USA detail survivors of PHT between 1994 and 2007. All patients had penetrating chest injury, and all survived with no neurological deficit. 3 British papers report survival rates of 9.7%, 18.3%, and 10.3% in 31, 71, and 39 patients respectively, all of whom also sustained penetrating chest injury and underwent PHT. 1 Japanese paper presents 34 cases of PHT following blunt trauma, 26.4% survived to ITU however none survived to discharge.
Conclusion: PHT is performed by European prehospital medical teams, who attend to a patient within 10 minutes of the onset of cardiac arrest following penetrating thoracic trauma, and in-hospital surgical intervention is further than 10 minutes away. Japanese prehospital teams perform PHT following blunt trauma, which has resulted in patients surviving to hospital. We believe PHT should be performed if a cardiac arrest is witnessed and transport time is more than 5 minutes, regardless of the mechanism of injury. This may result in a small number of survivors who would otherwise expire.
References:
Disclosure: No significant relationships.

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EMERGENCY PANCREATODUODENECTOMY: EXPERIENCE LEARNED FROM 6 CASES

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Introduction: Pancreaticoduodenectomy (PD) is one of the most complex surgical procedures, associated with substantial operative morbidity and mortality rates. Emergent pancreaticoduodenectomy (EPD) represents 1-2% of pancreatoduodenectomy indications and is an uncommon surgical procedure performed to treat patients with acute pancreaticoduodenal trauma, bleeding or perforation.
Material and methods: We report 6 cases presented in I-II Surgical Clinic between 2012-2015, with different pathologies, but the same surgical choice of treatment: emergent pancreaticoduodenectomy.
Results: There were 5 nontraumatic cases with sudden rupture of the PPA with active bleeding inside the PPC, bleeding diverticulum in the first jejunal loop, bleeding duodenal varices, obstructive metastatic tumor of the duodenum or with hemorrhagic gastric cancer with duodenum and pancreatic invasion and in one case we found post-traumatic devitalisation of parts II and III of the duodenum associated with complete isthmic pancreatic transaction. The posterior approach, with mesopancreas first dissection was chosen in two cases. We registered one postoperative death caused by multiple organ dysfunction syndrome and in the other patients the early postoperative outcomes were uneventful.
Conclusion: Emergency pancreaticoduodenectomy is a formidable procedure reserved to pancreatoduodenal trauma, perforations, and bleeding whenever local situation can not be handled by less invasive interventional measures, as well as when limited surgery seems

unsafe.due to its complexity implies an added challenge for the surgeon and requires trained surgical team.
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Disclosure: No significant relationships.

P289

HOW WE FEEL ABOUT RESCUE SURGERY: RESULTS FROM A SURVEY AMONG ITALIAN EMERGENCY SURGEONS

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Introduction: Rescue surgery is now considered the fourth pillar of emergency surgery. We have decided to conduct on behalf of the italian emergency surgery society (SICUT, società italiana di chirurgia d'urgenza e del trauma) a national survey to study how important italian emergency surgeons consider this part of their daily activity.
Material and methods: We have submitted a survey with 12 questions to all the members of the SICUT society. We have received 31 forms back. We have therefore analysed their answers both in general and divided into subgroups (type of hospital/size)
Results: The results show that rescue surgery is not considered to have much impact on daily average activity by most of the interviewed. There is a higher perception in bigger hospitals. The sites considered as source of worst complication are colon and appendix, pancreas and abdominal wall. The most important techniques in rescue surgery are the open abdomen and damage control surgery.
Conclusion: Despite the recent international evidences, it seems that rescue surgery is not considered to have much impact on the daily activity of italian emergency surgery units, especially in small/medium size hospitals.
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Disclosure: No significant relationships.

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RESCUE SURGERY IN INTENSIVE CARE UNIT INPATIENTS: ANALYSIS OF MORTALITY

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Introduction: The relationship between a hospital's complication rate and its mortality rate is not a linear one, and nowadays the quality of postoperative complication management is considered one of the determinant of outcome. Surgical rescue has been defined as pulling the patient from the fire after they have developed a complication form surgical or medical care, and failure to rescue is defined as the death of a patient following a complication.
Material and methods: A retrospective research of patients operated after admission in one of the intensive care units (ICU) of our hospital between October 2012 and August 2016 was conducted. A multivariate analysis was performed to assess the risk factors for mortality in this special population of patients.
Results: 7.412 emergency procedures were performed in our tertiary referral hospital between October 2012 and August 2015. We identified a cohort of patients coming form ICUs according with the criteria for abdominal rescue surgery. 369 rescue surgery procedures were performed in 216 patients, 91 female and 125 male. Mean age was 60 years (range 16-87). 152 patients were operated just once and 64 patients received multiple procedures (mean 1,7 with range 1-14). Mortality rate was 31,9%. At multivariate analysis we found previous emergency procedure (especially if cardiac and/or vascular procedures), multiple operations, late diagnosis of the complication and the need of multiple procedures (> 3) as risk factors for faliure to rescue.
Conclusion: Reducing variations in mortality will require strategies to improve the ability to manage postoperative complications.
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Disclosure: No significant relationships.

P291

PROGNOSTIC FACTORS FOR FAILURE OF NON-OPERATIVE TREATMENT IN GASTROINTESTINAL BLEEDING

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Introduction: Upper gastrointestinal hemorrhage is a potentially life-threatening abdominal emergency, being defined as bleeding from a source proximal to the ligament of Treitz. Due to the increased number of senior patients with multiple comorbidities or with anticoagulant treatment it is important to corectly evaluate the risk factors and to decide the corect treatment.
Material and methods: This is a retrospective study based on the data of patients hospitalized between 01.01.2015 and 01.01.2016 at the Bucharest Clinical Emergency Hospital for upper gastrointestinal bleeding.

Results: There were 94 cases of upper gastrointestinal bleeding, out of which 74.5% of patients were 56+ years old. Out of the 94 patients 59.5% had ulcer, 31.5% gastrointestinal cancer, 3.4% Mallory-Weiss tear, 2.3% hemorrhagic gastritis. In most cases (60%) the first attempt of treatment was the endoscopic treatment, the second attempt (in 80% of cases) was administration of gastrointestinal mucosal protective agents and, as the last attempt in most cases, was open surgery (47%). Anticoagulation was not found as a risk factor for upper gastrointestinal bleeding (Pearson Chi-Square p = 0.003). The type of the disease and the the type of treatment were factors that influenced the period of time in hospital (p>0.0001, and p = 0.005 respectively).
Conclusion: This study has attempted to describe the basic characteristics of our patients with upper gastrointestinal hemorrhage and their diseases, the treatment they got and the factors that for failure of the non-operative treatment which will nevertheless prolong the hospital stay.
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Disclosure: No significant relationships.

MILITARY SURGERY (CLINICAL RESEARCH/ BASIC SCIENTIFIC RESEARCH)

P292

MANAGEMENT OF SEVERE COMBAT INJURED MAXILLO-FACIAL SOLDIERS, THE FRENCH HEALTH SERVICE EXPERIENCE

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Introduction: Maxillofacial injuries consist of a considerable percentage (at least 20%) of overall wartime injuries, particularly in recent conflicts (Iraqi, Afghanistan, Africa). Initial treatment of severe maxillofacial injuries represents a real challenge for the medical team because it is an important source of combat mortality, especially by asphyxia and bleeding. Once this extreme emergency phase has passed, management generally consists to stabilize the wounded patient to prepare an evacuation in fair condition. The aim of this study is to describe and discuss current procedures of severe maxillofacial injured soldiers by French Military Health Service.
Material and methods: Based on our experience over recent conflicts, and on the current knowledge we would like to set actual concepts of seriously maxillofacial injured soldier management, especially prehospital airway management and bleeding control.
Results: Orotracheal intubation and cricothyroidotomy are most used procedures in prehospital airway management. Surgical tracheotomy is most often performed by the forward surgical team to prepare evacuation. Prehospital hemorrhage management most often requires the use of tactical dressing, oral or nasal packing, and sometimes Foley catheter. The use of tranexamic acid, topically or with intravenous administration seems to be a good option. External carotid artery ligation can be surgically done by the forward surgical team. Facial fractures stabilization must be done to prepare the evacuation, intermaxillary fixation and external fixation are the most used procedures.
Conclusion: It is essential that management should be operated by qualified practitioners, according a well thought-out plan, because care must be rapidly executed and must not jeopardize the evacuation of the injured patient.
References:
Disclosure: No significant relationships.

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MILITARY SURGERY IN THE ANTI-ACCESS AND AREA DENIAL (A2/AD) ZONES: BACK TO THE FUTURE?

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Introduction: Tactical evacuation in created during a modern hybrid war A2/AD "no-fly" zones is temporarily blocked that influences surgical capabilities. The aim of this study is to compare surgical care during the modern wars and the Soviet-Afghan war (1979-1989).
Material and methods: The study is based on our own experience in providing surgical care during the latest Russian military operations in Afghanistan and Chechnya (1994-2003).
Results: During the abovementioned military conflicts, medical evacuation by helicopters was often temporarily blocked due to enemy Surface-to-Air missile threat. Once no evacuation was permitted, the role of pre-hospital care was increased. Care should be taken while choosing a method of hemorrhage control. Tourniquets cannot be broadly used. If applied, another limb-sparing method should be planned to replace it. We noted every second tourniquet was not indicated during the Afghan war. Forward Surgical Teams (Role 2) staffed by experienced specialists. Surgical care is characterized by the extensive use of damage control surgery due to austere environments, poor diagnosis and limited resources. Surgery is usually done upon emergency indications. Wound drainage, systemic antibiotics, and limb splinting are crucial to prevent infection. Primary surgical debridement can be delayed until evacuation. "Walking blood bank" is widely used for blood donations. Critically unstable casualties are considered to be triaged to the "expectation group".
Conclusion: The modern hybrid wars shifts a paradigm of combat trauma management. Although, similarities to previous conflicts exist, surgical care in the A2/AD zone will be different from the World War II and other operations with delayed evacuation.
References:
Disclosure: No significant relationships.

P294

PRINCIPLES OF SURGERY ON A ROLE 2+ FORWARD MOBILE ARMY SURGICAL HOSPITAL(MASH)

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Introduction: To demonstrate the necessary principles of operations and management of Casualties in a Role 2+ Forward MASH in order to preserve their lives and having the best management and treatment.
Material and methods: Review of the literature and study of the experience taken during the last military operations that took place in Afghanistan, Libya and Syria. Analysis of the plan of Hellenic Armed Forces for the treatment of military casualties, incidents and cases during military events and medical crises.
Results: Triage of patients is of the most vital importance before proceeding in any management. Special measures regarding the extremely wounded and hospitalization of these patients should be taken. The effects in the order of the hospital should be serious taken in consideration during the decision making for treatment. Expectance of own casualties must be taken in great consideration and maintance of logistics pace is of vital importance. Life salvage is the ultimate principle.
Conclusion: Mass military casualties or civilian ones in special cases can be a serious problem for a role 2+ Forward MASH to handle, especilay when they exceed expectations. The knowledge of the essential principles for the treatment of such cases in accordance with the staff and material management can help and enhance vitality of patients who suffer such problems.
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Disclosure: No significant relationships.

ACUTE CARE SURGERY-ORGANIZATIONAL MODELS (CASE PRESENTATION)

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PRIMARY REPAIR OF A DELAYED PRESENTATION THORACIC OESOPHAGEAL GUNSHOT INJURY: A REPORT OF TWO CASES

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Case History: Case 1 A 21-year-old man with a gunshot wound to the left anterior chest wall was brought to our ED 4h after injury. Case 2 A 31-year-old man with a trajectory from the left supraclavicular area to the right thorax was transferred to our ED with bilateral intercostal drainage.
Clinical Findings: Case 1 The patient was clinically stable. Case2 The patient was in shock and low oxygen saturation.
Investigation/Results: Case1 X-ray revealed that the bullet remained in the right chest. The pulmonary contusion visualized by CTA revealed the bullet trajectory as a mediastinal traversing injury. We noted the presence of peri-oesophageal gas. Oesophagoscopy showed perforation of the posterior oesophageal wall. Case2 X-ray revealed bilateral haemopneumothorax and significant pulmonary contusions. CTA was performed after the patient was stabilized, showing peri-oesophageal gas. Oesophagoscopy revealed a near-circumferential deep ulceration.
Diagnosis: In both cases, we diagnosed thoracic oesophageal gunshot injuries.
Therapy and Progression: Case1 12h after injury, right thoracotomy was performed. An oesophagus perforation was treated with primary repair using a single-layer interrupted suture. While small oesophageal leak settled, he was discharged after 2 months. Case2 A right thoracotomy was performed at 36h after injury. A through-and-through injury was found in the oesophagus was treated same as Case1. Pulmonary laceration was found and closed using suture. Although the patient later developed mediastinitis, he was transferred to the rehabilitation service 2 months after injury.
Comments: We present two cases of thoracic oesophageal gunshot injury, both of whom were treated by primary repair and were successfully discharged.
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Disclosure: No significant relationships.

P296

SMALL BOWEL OBSTRUCTION IN A PREGNANT PATIENT WITH BLUE RUBBER BLEB NEVUS SYNDROME

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Case History: Twenty-five years-old female pregnant patient with prior diagnosis of Blue Rubber Bleb Nevus Syndrome and chronic intestinal bleeding presented with acute onset of colicky abdominal pain and vomit. She showed low amniotic fluid and a decision was made for early C-section. Symptoms persisted and a general surgery consult was requested
Clinical Findings: Multiple bluesh-colored lesions in face, neck, torso and extremities were present. Patient was pale with no signs of shock. Abdomen was distended and diffusely tender, but no signs of peritonitis were observed. Rectal exam was normal.
Investigation/Results: Computerized Tomography of abdomen and pelvis showed multiple gastrointestinal lesions compatible with history of hemagiomas and two jejunal segments showing the target-sign with minimum bowel distension. Patient had previous gastrointestinal endoscopic exames showing multiple hemangiomas through the small and large bowels.
Diagnosis: Partial small bowel obstruction secondary to small bowel Intussusception

Therapy and Progression: Videolaparoscopy was performed followed by mini-laparotomy and simple reduction of the intussuscepted segments, which showed a hamangioma as a lead point. Patient presented with disseminated intravascular coagulation (DIVC) postoperatively, with a large intraabdominal clot. She underwent reoperation and clot evacuation. She exhibited normalization of the coagulation status and recovered unneventfully.
Comments: Blue Rubber Bleb Nevus Syndrome is an extremely rare condition, being reported in aproximately 200 cases worldwide. Patients with diffuse gastrointestinal lesions are susceptible to complications such as bleeding and obstruction. Surgery might be necessary, with or without bowel resection. Postoperative complications and coagulation status should be under strict observation for early diagnosis and treatment.
References: Jin XL, Wang ZH, Xiao XB, Huang LS, Zhao XY. Blue rubber bleb nevus syndrome: A case report and literature review. World J Gastroenterol. 2014 Dec 7;20(45):17254-9 Choi KK, Kim JY, Kim MJ, Park H, Choi DW, Choi SH, Heo JS. Radical resection of intestinal blue rubber bleb nevus syndrome. J Korean Surg Soc. 2012 Nov;83(5):316-20 Rodrigues D, Bourroul MLM, Ferrer APS, Neto HM, Gonçalves MEP, Cardoso SR. Blue Rubber Bleb Nevus Syndrome. Rev. Hosp. Clin. Fac. Med. S. Paulo 55(1):29-34, 2000
Disclosure: No significant relationships.

P297

NAIL GUN PENETRATING INJURY OF THE THORACIC DESCENDING AORTA

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Case History: A 44-year-old man was sent to the emergency service for an accidental nail-gun shot injury of the chest.
Clinical Findings: His blood pressure was 90/60 mm Hg, heart rate was 110 bpm, and oxygen saturation was 97% on admission. There was an entry wound of the nail in the left anterior chest wall without an exit wound.
Investigation/Results: Computed tomography of the chest showed a foreign body had penetrated the anterior chest wall, left lung, anterior and posterior descending aortic wall and lodged into the thoracic vertebral body.
Diagnosis: Penetrating trans-thoracic aortic injury.
Therapy and Progression: Under partial cardiopulmonary bypass, the nail was removed, and the wounds of the descending aorta were repaired. The patient was discharged uneventfully 14 days after the accident.
Comments: Thoracic aortic traumas have high mortality rate and in 80–90% of cases are fatal. Mortality in aortic trauma depends on several factors such as severity of trauma, transit time to trauma center, and hemodynamic stability at admission. This case demonstrates an uncommon cause of penetrating injury of the thoracic descending aorta, and also emphasizes the necessity of taking a multidisciplinary approach to such patients so an immediate and life-saving intervention can be performed on time.
References: E. James Frick, M.D. Cipolle, M.D. Pasquale et al., "Outcome of blunt thoracic aortic injury in a level I trauma center: an 8-year review," Journal of Trauma, vol. 43, no. 5, pp. 844–851, 1997. D. L. Clarke, M. A. Quazi, K. Reddy, and S. R. Thomson, "Emergency operation for penetrating thoracic trauma in a metropolitan surgical service in South Africa," The Journal of Thoracic and Cardiovascular Surgery, vol. 142, pp. 563–568, 2011.
Disclosure: No significant relationships.

P298

EMERGENCY SURGERY IN A PATIENT WITH MAJOR COAGULATION PROBLEMS: USEFULNESS OF ROTEM – CASE REPORT

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Case History: An 84 year patient presented at the Fundeni Clinical Institute with an intestinal occlusion and had the indication of emergency surgery. The patient was known with cardiac failure NYHA II class, a history of ischemic stroke, Parkinson disease and had surgery for rectal cancer.
Clinical Findings: In the ICU, the patient had a bad condition, hemodynamic instability and a painfull abdomen, increased in volume. He was confused and agitated.
Investigation/Results: Basic laboratory tests were performed. The standard coagulation tests showed: INR=10, PT= 81 sec, APTT= 64 sec. In the same time ROTEM showed a procoagulant status (MCF, CFT, alpha angle with normal values).
Diagnosis: Despite the modified standard coagulation tests and guided by the ROTEM figures, the emergency surgery was performed. It lasted for 240 minutes and included a segmental enterectomy and colectomy. The bleeding was minimal, without the need for transfusion, minimal vasopressor support. The ROTEM showed the same status and signs of DIC: coagulation factors $< 10\%$, D-dimer >18000 mcg/dl, strong increase of fibrin degradation products.
Therapy and Progression: For the reasons above, we chose to treat the patient with Heparin. The outcome was good and the patient left the ICU after 5 days.
Comments: The classical coagulation tests detect only the time of coagulation, whereas ROTEM detects all the changes in all the phases of coagulation and fibrinolysis. ROTEM measures the formation, stabilization and eventual lysis of the clot, the platelet function and the fibrin polymerization. The ROTEM has superior results in determining the coagulation status and allows a better and quicker therapeutic approach.
References: 1. Practical Use of Thromboelastometry in the Management of Perioperative Coagulopathy and Bleeding BrittneyWilliams a, John McNeil b, AndrewCrabbe c, Kenichi A. Tanaka a, a Department of Anesthesiology, University of Maryland School of Medicine, Baltimore, MD
b Department of Anesthesiology, University of Virginia School of Medicine, Charlottesville, VA
c St. Anthony Hospital, Oklahoma City, OK 2) Rotational thromboelastometry predicts thromboembolic complications after major non-cardiac surgery Alexander Hincker, Justin Feit, Robert N Sladen and Gebhard Wagener, Hincker et al. Critical Care 2014, 18:549 http://ccforum.com/content/18/5/549

Disclosure: No significant relationships.

P299

POSTPARTUM LIFE-THREATENING COMPLICATIONS IN A PRIMIPAROUS PATIENT WITH SEVERE PREECLAMPSIA

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Case History: We report the case of a 19-year-old 30 weeks pregnant woman who was admitted in our hospital for severe preeclampsia (280/160 mmHg). She tried to commit suicide at the begining of her pregnancy.
Clinical Findings: At the emergency room she presented important edema, she gained 25 kg in weight during the pregnancy.
Investigation/Results: HELLP syndrome was taken into consideration and laboratory exams were performed, however no significant alterations have been detected. Abdominal ultrasonography was performed. Intrauterine growth restriction was present, with a delay of two weeks. The fetal cerebro-placentar ratio was inverted, umbilical resistive index was 0.70 and middle cerebral artery resistive index was 0.60.
Diagnosis: We established the diagnosis of severe preeclampsia and fetal distress.
Therapy and Progression: The emergency treatment was C-section with the extraction of the fetus. The new born weighted 1000 g and the Apgar score at 2/5/5. He was transferred in the Neonatal ICU. Intraoperative we detected a medium quantity of ascites.After 12 hours, the patient presented oliguria and affirmed phosphenes. Psychiatry exam and RMI were performed, but they were normal. Fundus examination revealed bilateral retinal detachment due to important edema. The patient was transferred in the Intensive Care Unit, where she received alpha methyldopa and magnesium sulphate in order to control the persistent hypertension and enoxaparinum SC/4000 IU/SC. Three weeks postpartum, ocular symptoms disappeared and the fundus examination was normal. The evolution was favorable for both mother and newborn.
Comments: We report the case of a primiparous young women with severe preeclampsia, with no obstetrical history who had life-threating complications postpartum
References:
Disclosure: No significant relationships.

P300

SPONTANEOUS PNEUMOPERITONEUM

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Case History: First case, 78-year-old women who underwent cardiopulmonary resuscitation in private clinic due to respiratory arrest and transfer to our hospital for post CPR care. Second case, 45-year-old man had a traffic accident with a blunt abdominal injury. Third care, 78-year-old women who underwent colonoscopy with polypectomy in private clinic.
Clinical Findings: First case had no peritoneal sign but her mental status was semi-coma. Second and third patients had abdominal tenderness and rebound tenderness
Investigation/Results: All patients were performed abdominal CT scan. First and third patients CT scan demonstrated intra & extra peritoneal free air. Second patient CT scan demonstrated that there were a right retroperitoneal hematoma involving right adrenal gland and perirenal space, and scanty amount of intraperitoneal air along right perihepatic area.
Diagnosis: Generalized peritonitis was suspected in all patients.
Therapy and Progression: All patients underwent emergency surgery but there was no hollow viscus perforation. In conclusion, patients were discharged within a few days without any complications.
Comments: Pneumoperitoneum usual finding in perforated hollow viscus, but some cases pneumoperitoneum without any perforation of hollow viscus are termed spontaneous pneumoperitoneum. Spontaneous pneumoperitoneum is a surgical dilemma, which requires proper assessment by thorough history and physical examination.
References: NMA Williams, DFL Watkin. Spontaneous pneumoperitoneum and other nonsurgical causes of intraperitoneal free gas. Postgrad Med 1997; 73: 531 – 537 Richard A. Mularski, Jeffrey M. Sippel, Molly L. Osborne, Pneumoperitoneum: A review of nonsurgical causes. Crit Care Med 2000; 28: 2638–2644 FILIP C. OTAKAR S. ZDENÌK Š. How to distinguish between surgical and non-surgical pneumoperitoneum?. *SIGNA VITAE 2014; 9(1): 9 - 15*
Disclosure: No significant relationships.

P301

PELVIC ACTINOMICOSIS: A RARE CAUSE OF INTESTINAL OBSTRUCTION

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Case History: We present a 40-years-old female admitted in the ER for low abdominal and rectal pain, fever, obstipation for 5 days, but for she described decreasing stool caliber and weight loss in the last 2 months.
Clinical Findings: The vital signs was normal, and she was febrile (38.1°C). On physical examination the abdomen was normal. Proctologic examination revealed severe stenosis of the rectum at 5 cm from anal verge with edema of the mucosa. The gynecological examination and endovaginal ultrasound showed no pathology.
Investigation/Results: Laboratory: moderate leucocitosis. Abdomino-pelvin CT scan showed a pelvic mass including the cervix and the low rectum with local limph nodes (perirectal, inghuinal, external and internal iliac); intrauterine device. Colonoscopy revealed a narrowing of the lumen at 5 cm with important edema of the rectal mucosa (a mass in the rectal wall or extrinsic lesion). MRI showed a mass measuring 75x48x62mm attached to the lower rectum, posterior to the uterus; regional limph nodes.
Diagnosis: We decided to perform a transrectal biopsy and the histopathology showed Gram positive filamentous bacteria – Actinomycosis Israelii.
Therapy and Progression: The patient received high-dose Penicillin for 6 months without any complication. After an year she was well and the MRI showed no reccurence.

Comments: Any pelvic abscess occurring in a woman with a history of long-term use of an intrauterine device should be considered as possible pelvic actinomycosis.
References: 1.Simsek et al (2011): Pelvic actinomycosis presenting as malignant pelvic mass: a case report. Journal of Medical Cases Reports 5:40 2.Cintron et al (1996): Abdominal Actinomycosis: report of two cases and review of Literature. Dis Colon Rectum 39(1): 105-108 3. Meyer et al (2000): Rare Presentation of Actinomycosis as an Abdominal Mass. Dis Colon Rectum 43(6): 872-875
Disclosure: No significant relationships.

P302

NECROTIZING FASCIITIS – THERAPEUTICALLY AND CLINICAL ASPECTS

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Case History: We describe six cases of necrotizing fasciitis occur in the following circumstances: rectal surgery (amputation of the rectum), neglected wounds abdominal wall, thigh amputation of the lower limb acute ischemia, phlegmon ischiorectal operated hysterectomy.
Clinical Findings: The initial phase with a predominant horizontal rapid dissemination to the fascia giving the impression of a seemingly normal skin.
Investigation/Results: Postoperative mortality for necrotizing fasciitis was 3 cases of the 6 presented. Death was produced by MODS 3, 5 and 15 days after surgery.
Diagnosis: The diagnosis of necrotizing fasciitis is a clinical diagnosis in conjunction with intraoperative findings. Intraoperative findings in necrotizing fasciitis include: the presence of necrotic fascia, demonstrating adherence loss of strength normal superficial fascia of blunt dissection, the lack of bleeding during dissection fascia and the presence of purulent secretions.
Therapy and Progression: It has taken a clear and focused approach in the management of necrotizing fasceiitis. Surgical debridement early goal was decreased mortality and early diagnosis, ideally within 24 hours of hospitalization.
Comments: Ethiopatogenic aspects, clinical and therapeutic distinguishes the two main types of severe soft tissue infections: cellulitis and necrotizing fasciitis with anaerobic germs, with 22-50% mortality, and cellulitis and necrotizing fasciitis with aerobic plate count (streptococcus), with 50% mortality. Necrotizing fasciitis are rare (2.5 ‰ in our statistics) but extremely serious, with a mortality that can exceed 50%.
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Arslan A, Pierre-Jerome C, Borthne A. Necrotizing fasciitis: unreliable MRI findings in the preoperative diagnosis. Eur J Radiol 2000; 36:139– 143.

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Disclosure: No significant relationships.

P303

A RARE CASE OF UPPER DIGESTIVE HEMORRHAGE DUE TO BLEEDING DUODENAL TUMOR

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Case History: We present the case of a 48-year-old patient with no medical history, who presents himself to the emergency room with severe anemia (Hb = 4,8g/dL). The patient is admitted in the Gastroenterology ward.
Clinical Findings: At presentation the patient complains of upper abdominal pain and asthenia. The rectal examination showed melena.
Investigation/Results: A superior digestive endoscopy is performed which shows a duodenal bleeding tumor (duodenum II) of 7 cm in length. After the administration of red blood cells mass, plasma and haemostatic agents the level of the hemoglobin increases. The abdominal CT scan reveals a 3/5 tumor localized in the second and third duodenum. The superior digestive endoscopy is repeated and haemostasis of the bleeding tumor is accomplished.
Diagnosis: After the investigations the presumtive diagnosis is ulcerated duodenal tumor (dudodenum III - IV). The histopathological exam diagnosed the duodenal tumor as a gastrointestinal stromal tumor (GIST).
Therapy and Progression: The surgical exploration of the peritoneal cavity discovered a partial stenosing, ulcerated duodenal tumor (duodenum III – IV) and duodenectomy (duodenum III – IV), segmental enterectomy (first loop of the jejunum), end to end duodenum – jejunum anastomosis, transgastric closure of the pylorus, gastro – enteric anastomosis on Omega loop with Braun fistula was performed. The postoperative evolution was favorable.
Comments: The particularity of this case is the rare etiology of the upper gastrointestinal hemorrhage and its severity. Key words: hemorrhage, duodenal tumor, endoscopy, GIST
References:
Disclosure: No significant relationships.

P304

RAPUNZELL SYNDROME

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Case History: Rapunzell syndrome is a rare variant of tricobezoar. It is the syndrome derived from the formation of a gastric bezoar with a tail extending into the small intestine or colon. The most common presentation is a case of abdominal pain, vomiting, anorexia, weight loss, diarrhea and hematemesis. We have to investigate prior psychiatric history, as the basis of the disease. The current Gold Standard to diagnose it is the endoscopy.The characteristics of the undigestible condition of tricobezoars lead us to a predominantly surgical treatment.

Clinical Findings: We describe a 14 years old woman case who presented a gastric bezoar and a tail that reached to half ileal loop, requiring urgent surgical treatment. The patient had come to the emergency room numerous times for abdominal pain. This time she presented abdominal pain, fever and vomiting, and no any psychiatic disorder collected.
Investigation/Results: We performed an exhausted clinical and radiology investigation,.
Diagnosis: Due to the unspecific clinic and basics tests, abdominal CT was performed. It showed two bezoars, gastric one and another in the middle ileal loop.
Therapy and Progression: Emergency surgery was decided. Midline supraumbilical laparotomy was performed, and the surgery consisted in two parts: a gastrostomy and an enterostomy, both of them closed by a transverse closure. The patient had a favorable postoperative period and was discharged on the 8 day hospitalized.
Comments: Despite its low incidence, if we perform a correct handling of the patient who comes to the emergency room with an acute abdomen, we can carry out an accurate diagnosis and perform appropriate surgical treatment.
References: W. M.West CT appearances of the Rapunzel syndrome: an unusual form of bezoar and gastreointestinal obstruccion. Pediatr RAdiol 1998; 28: 315-6 Varma A, Sudhindra BK. Trichobezoar with small bowel obstruction. INdian J Pediatr 1998; 65: 761-3
Disclosure: No significant relationships.

P305

MULTIVISCERAL RESECTION FOR ADVANCED GASTRIC CARCINOMA - CASE PRESENTATION

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Case History: We present the case of a 70 year old male patient admitted for nausea, vomiting, weight loss and anemia. Symptoms developed in the past 4 months. No major risk factors for gastric cancer were found.
Clinical Findings: Clinical examination revealed a palpable mass in epigastrium and right hypochondrium, apparently adherent to profound anatomical structures, non-mobile, painfull at deep palpation. Digital rectal examination was normal.
Investigation/Results: Upper digestive endoscopy revealed a gastric tumor 6/6 cm, ulcero-vegetant type, almost stenosing the pylorus. Biopsies were taken - signet ring cell carcinoma. CT scan with contrast substance shows tumor located in the antrum, limited to the mucosa and submucosa, with no regional lymphnodes or distance metastasis evidenced by imaging. Elevated levels of CEA and CA 19.9 were found.
Diagnosis: Signet ring cell antral carcinoma T2N0M0 stage II. Anemia.
Therapy and Progression: Introperative we found major discordance with the paraclinical tests. Tumor invaded the gastric serosa and the transvers mesocolon involving the middle colic vessels and the pancreatic capsula. Adenopathies with signet ring cells found interaorticocaval and in the celiac trunk. D2 total gastrectomy en bloc with splenectomy and transverse colectomy was performed. Postoperative course uneventful, discharge 13 postoperative day. Patient currently is under neo-adjuvant treatment.
Comments: Contrary to general increased morbidity associated with, judicious use of additional organ resection for the treatment of advanced gastric cancer when finding of actual T4b disease must be emphasized. Additional organ resection can be performed with minimal morbidity and can improve the chance of overall survival in patients with advanced T-stage disease.
References: 1. Brar SS, Coburn NG. Multivisceral resection for gastric cancer: a systematic review. Gastric Cancer 2012 September.
Disclosure: No significant relationships.

P306

ANEURYSMAL BONE CYST. A NEW THERAPEUTIC ALTERNATIVE

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Case History: Aneurysmal bone cyst (ABC) is a rare benign lytic bone tumor, with a rapid growth phase and is sometimes complex surgical treatment because of the risk of operative bleeding and the consequences resulting from deep resections. Present the case of a boy of 8 years, with a diagnosis of ABC treated by percutaneous embolization followed by sclerosis with doxycycline with ultrasound-guided as an effective therapeutic alternative in the management of complex ABC.
Clinical Findings: On physical examination, the patient has a 100°flexion, 45°abduction, 5°internal rotation and 35°external rotation. No flexo or adduction contracture.
Investigation/Results: Rx requested where a lytic to the femoral neck injury, approximately 5cm in diameter, indistinct borders intermediate evidenced aggressiveness. A RMN revealed a lytic, geographic lesion, approximately 5x2x2cm of major axes, located in the region of the femoral shaft and proximal femoral neck, comprising several cystic lesions.
Diagnosis: To Complete the study, ultrasound guided biopsy was performed. It was analyzed pathologically diagnosed with fibrohistocitario tumor with osteoclast-like giant-cells and deposition of osteoid, consistent first with ABC.
Therapy and Progression: 3 weeks later, we decided to start treatment by percutaneous embolization followed by ultrasound-guided sclerosis with foam doxycycline (5cc). A 3 months after, a second session was performed. Currently, the patient has improved significamente pain. It has yet to make a final session at 3 months after the second session
Comments: The Embolization followed by sclerosis with Doxycycline may be an appropriate therapeutic alternative in selected cases of ABC complex, with an increased risk of morbidity should be resolved through surgery.
References: Rosenberg AE, NielsenGP. Aneurysmal bone cyst.Fletcher CDM, F. WHO Classification of tumors: pathology and genetics of tumors of soft tissue and bone. Lyon; 2005. p.338-9.

Cottalorda J, BourelleS.Modern concepts of primary aneurysmal bone cyst. Arch Orthop Trauma Surg. 2007;127:105. J.E. Martinez,J.A. Pagán El quiste óseo aneurismático en niños y adolescentes Rev Esp Cir Osteoart., 34 (1999), pp. 181-183 Balach T, Stacy GS, Peabody TD. The clinical evaluation of bone tumors. Radiol Clin North Am. 2011; 49: 1079-93. Guibaud L, Herbreteau D, Dubois J, et al. Aneurysmal bone cysts: percutaneous embolization with an alcoholic solution of zein: series of 18 cases.1998;208:36
Disclosure: No significant relationships.

P307

HYPERTHENSIVE PNEUMOTHORAX WITH EMPYEMA DUE TO PERFORATED INTRAPLEURAL GASTRIC ULCER

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Case History: Women, 74 years old, with a n hypertensive pneumothorax with empyema in pleural space, due to a perforated gastric ulcer. Anterior pathology of patient was a diaphragma posttraumatic hernia. The patient was admitted with dispnoea, hemodynamics disorders, septic status, due to empyema of a pleural left cavity. Surgical treatment was with thoracic and abdominal access. The suture of gastric perforation was performed and frenorafia was performed with laparotomy access. Postoperative evolution was difficult, due to age of patient, due to two cavities affected in surgical procedures.
Clinical Findings: Dispnoea, hemodynamics disorders, thoracic paine nousea, vomiting, pneumothorax.
Investigation/Results: CT scan, Echographia, biochemical, blood tests CT scan: Gastric transdiaphragmatic hernia with empyema in left pleural cavity, pneumothorax Chest X ray: hydropneumothorax Hyperleucocitosis
Diagnosis: Pneumothorax and empyema of left pleural cavity due to a perforated gastric ulcer with diafragmatic hernia.
Therapy and Progression: Double ways for this case(thoracic and abdominal access), suture transthoracic way of a gastric perforated ulcer, frenorafia, transabdominal access, thoracic drainage.
Comments: This case is a double " surgery" thoracic and abdominal. It was a complication in an evolution of a posttraumatic diafragmatic trauma, old diafragmatic trauma. Surgical technique was in cross treatment: gastric suture in thoracic way, and frenorafia in abdominal way. Pulmonary, pericardial and hemodinamical disorders are present
References: British Journal of Diseases of the Chest volume 78, 1985 pages 196 -199
Disclosure: No significant relationships.

P307A

EFFUSIVE CONSTRICTIVE PERICARDITIS: REPORT OF A PEDIATRIC CASE REQUIRING ACUTE SURGICAL TREATMENT

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Case History: Effusive constrictive pericarditis secondary to methicillin-resistant staphylococcus aureus systemic infection is a rare clinical entity nowadays as a result of the antibiotic usage. Only a few cases involving children, with no risk factors, are reported in literature in recent years. We report a pediatric case of a previous healthy child that developed pericardial effusion, cardiac tamponade and constrictive pericarditis in the frame of systemic MRSA infection, from the pediatric cardiosurgery point of view requiring an urgent treatment.
Clinical Findings: A 5 year old, previously healthy little girl was admitted to hospital because of a three day course of high fever and bad clinical condition. Fifteen days ago, parents report a bone fracture with no concominant lesion of skin.
Investigation/Results: The third day of nursing, she was admitted to PICU in the spectrum of rapid clinical deterioration, severe shock and multiorgan failure. Pericarditis occured that was treated with pericardiocentesis, drainage and formation of pericardial window. The child was also treated with intravenous antibiotics because of MRSA strain that was isolated in blood cultures.
Diagnosis: The following days a new echocardiogram revealed a recurrent accumulation of the fluid in the pericardium, cardiac tamponade and existence of cystic lesions along and around the superior vena cava, the right atrium and ventricule.
Therapy and Progression: Therefore, an additional surgical procedure was performed by an experienced pediatric cardiothoracic team involving pericardiectomy, drainage and excision of the cystic formations, pericardial tissue resection up to the level of phrenic levels, cavity washing and placement of draining tubes. Postoperationally, the child was transferred to PICU in a stable clinical-hemodynamic condition with no need for inotropes. She was discharged from the unit after a few days.
Comments: The use of antibiotic medication has led to an important decline of effusive pericarditis, tamponade or constrictive pericarditis in children with no risk factors such as invasive thoracic procedure, traumatic injury malignancy or immunosuppression. It is estimated that incidence of the disease is rather low in healthy children and adult population. However, the clinicians should always take into consideration that even rarely community acquired MRSA may be etiologically associated with the course of effusive constrictive pericarditis and shock. It is an uncommon condition in childhood though that should be diagnosed in time. Curative surgical therapy should be initiated promptly.
References: Talwar S., Nair W., Choudhary S., et al. Pericardiectomy in children below 15 years of age. Cardiol Young. 2014 Aug;24(4): 616-22.
Disclosure: No significant relationships.

P308

WHEN THE ADRENAL BLEEDS - A RARE CASE OF EMERGENCY ADRENALECTOMY

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Case History: We present the case of a 56years old male patient with no relevant medical history. He was admitted in our department with lack of appetite and 10 kilos weight loss in the last 3 months for clinical evaluation.

Clinical Findings: Three days after admission the patient experienced sudden right flank pain and blood tests showed thatHb decreased from 11 to 9mg/dl. An abdominal ultrasound was performed showing a 7/8cm fluid collection of under the right diaphragm.
Investigation/Results: An abdominal CTscan showed a 4cm liver tumor in segment 8 a 8cm tumor in the right adrenal gland and multiple infracentimetric nodules in the right lung.
Diagnosis: Retroperitoneal hematoma due to adrenal metastase rupture
Therapy and Progression: Emergency laparoscopy revealed a superior retroperitoneum hematoma with no hemoperitoneum present. Due to bleeding during the peritoneum incision that expose the right adrenal gland, a conversion via the right subcostal incision was performed.An emergency adrenalectomy was performed because of a rupture in a tumoral right suprarenal gland. The postoperative evolution was incident free, the patient recovered well, but the histopathology report revealed a cholangiocarcinoma metastasis in the adrenal gland. The patient was referred for oncological treatment. But he left the chemotherapy programme and died 9 month after the surgical procedure.
Comments: To our knowledge this is the first case of emergency adrenalectomy for asuprarenal metastases reported in literature
References: 1. Mahmodlou R, Valizadeh N.Spontaneous rupture and hemorrhage of adrenal pseudochyst presening with acute abdomen and shock, Iran J Med Sci. 2011 Dec;36(4):311-4. 2. Egaña Zunzunegui N, Yoldi Arrieta A, García Delgado C, Aramburu Calafell M, Goena Iglesias M.: Adrenal endothelial cyst with a preoperative image suggesting malignancy Endocrinol Nutr. 2012 Mar;59(3):215-7
Disclosure: No significant relationships.

P309

SIMPLE PNEUMOTHORAX OR BIRT-HOGG-DUBé (BHD) SYNDROME? - A CASE REPORT

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Case History: Birt-Hogg-Dubé (BHD) syndrome is represented by a rare autosomal dominant mutation in the folliculin (FLCN) tumor suppressor gene, that clinically manifests with skin fibrofolliculomas, lung cysts, spontaneous pneumothorax and renal cell cancer. We describe you the case of a 39 years old woman admitted in our hospital with recurrent right pneumothorax. From her medical history we found that she suffered 9 pneumothorax episodes on the left side. She was treated with pleurotomy for the first 2 episodes, mechanical pleurodesis with autologous blood pleurodesis for one episode and conservatory treatment for the rest of them.
Clinical Findings: At the admission, the patient presented acute dyspnea, severe right-sided stabbing chest pain, tachypnea and tachycardia. The inspection revealed facial fibrofolliculomas, with no other pathological findings. The palpation and percussion of the thorax suggested a right pneumothorax.
Investigation/Results: We performed an anteroposterior chest radiography that confirmed the right total pneumothorax. The CT scans showed generalised emphisematos bullae in both lungs and bilateral renal tumors. The routine kidney function test showed a normal renal function.
Diagnosis: Our diagnosis was total right pneumothorax, taking in consideration the Birt-Hogg-Dubé syndrome.
Therapy and Progression: We decided to performed a right minithoracotomy with partial bullectomy, total pleurectomy and talc poudrage. Anti-inflammatory medication was avoided and suction was used for 5 days. Her evolution was good, leaving the hospital 8 days postoperatory.
Comments: This syndrome should be considered in patients with spontaneous pneumothorax, because the underrecognition of it may lead to inappropriate surgical treatment and significant risk of renal neoplasm for the patient and their relatives.
References: Albolnik IZ, Lossos IS, Zlotogora J. On the inheritance of primary spontaneous pneumothorax. Am J Med Genet. 1991;40(2):155-8. Menko FH et al. Birt-Hogg-Dubé syndrome: diagnosis and management. Lancet Oncol. 2009;10(12):1199-206. Houweling AC, Gijezen LM, Jonker MA, et al. Renal cancer and pneumothorax risk in BHD syndrome; an analysis of 115 FLCN mutation carriers. Br J Cancer 2011;105:1912-19. Toro JR, et al. Lung cysts, spontaneous pneumothorax, and genetic associations in 8 families with Birt-Hogg-Dubé syndrome. Am J Respir Crit Care Med. 2007;175(10):1044-53
Disclosure: No significant relationships.

P310

CRYPTOGENIC LIVER ABSCESS WITH METASTATIC DISTANCE DETERMINATION. A PARTICULAR CASE

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Case History: We report the case of a 44 years old patient admitted in emergency to the IIIrd Surgical Clinic Iaşi. The symptomatology started 3 weeks ago with fever and chills. In the last 48 hours he develops joundice, important abdominal pain and general state alteration.
Clinical Findings: Obesity (BMI=41), fever (40 Celsius degrees), jaundice, low blood pressure, tachycardia, tachypneea, confusion. Important abdominal pain with the maximum intensity in the right upper abdominal quadrant, irradiating to the back and right shoulder.
Investigation/Results: Biological tests: leucocytosis, high PCR, hepatic cytolysis, cholestasis, hyperglycemia, ketoacidosis. Computer tomography: Right pleurisy. Hepatic liver abscess situated in the VI-VII segments, of 91/93/111 cm diameters. Intraperitoneal liquid.
Diagnosis: Liver abscess ruptured in the peritoneal cavity. Peritonitis. Diabetus mellitus complicated with ketoacidosis. Obesity. Septic shock.
Therapy and Progression: Diagnostic laparoscopy followed by subcostal right laparotomy. Drainage of the liver abscess. Lavage and drainage of peritoneal cavity. Liver abscess culture isolated Klebsiella pneumoniae. Hospitalization period was 53 days long, of which 25 days in the intensive care unit, during which there were 2 reinterventions for repositioning the drain tubes. The evolution was slow, sustained in intensive care unit, mechanically ventilated for 14 days; the prolonged febrile syndrome(19 days),shock lung, liver and kidney failure and endogenous endophthalmitis marked his medical evolution.
Comments: Klebsiella pneumoniae liver abscess is associated with uncontrolled diabetes; it has increased risk for distance septic determinations, as endogenous endophtalmitis. The evolution of intensive care (antibiotics with broad-spectrum cytokine hemofiltration), the possibility of serial imaging scan and the multidisciplinary approach are important in the management of septic shock.
References: 1. Moore PP, McGowan GF, Sandhu SS, Allen PJ.Med J Aust. 2015;203(7):300-1.
Disclosure: No significant relationships.

P311

EARLY POSTOPERATIVE SEVERE ACUTE PANCREATITIS AFTER WHIPPLE PROCEDURE

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Case History: A 76-year old male patient with BMI of 35 was admitted in the third surgery unit, Iasi for upper abdominal pain and progressive jaundice.
Clinical Findings: On physical examination was noticed obvious jaundice and mild tenderness in the right hypochondrium.
Investigation/Results: Laboratory tests were positive for obstructive jaundice, tumour marker CA 19-9 of 468 (n 0-33U/ml). Abdominal MRI showed thickening of the CBD with duodenal invasion, dilatation of the biliary ducts above stenosis. No liver metastases. no ascites, no lymphadenopathy.
Diagnosis: After symptoms and signs,positive cholestatic tests, increased CA 19-9 and MRI aspect the diagnosis of distal cholangiocarcinoma was suspected.
Therapy and Progression: Exploratory laparotomy revealed 15 mm distension of the CBD due to a palpable periampullary tumour of 1.5 cm. A pancreaticoduodenectomy Whipple type was performed without difficulty. In the first postoperative day the patient presented a severe bleeding for which he was reoperated, surgical hemostasis being achieved by multiple sutures at the pancreatico-jejunal anastomosis. In the second postoperative day the patient presented recurrent bleeding requiring exploratory laparotomy which revealed lesions of severe acute pancreatitis. A new pancreatico-jejunal anastomosis was performed. No signs of bleeding after this operation but the course of the acute pancreatitis was aggravating with multiple organ failure. The patient died in the 6 th postop. day inspite of maximal resuscitation.
Comments: Postoperative severe acute pancreatitis might be a lethal complication after Whipple procedure and in spite of controlling hemorrhagic complication the patient died due to multiple organ failure.
References: Patel T Increasing incidence and mortality of primary cholangiocarcinoma in the United States.Hepatology 2001;33(6):1353-7 Lim JM,Park CK Pathology of cholangiocarcinoma:modern advances in understanding a deadly old disease.J.Hepatol.2006;4596) 856-67Epub 2006 sept 25
Disclosure: No significant relationships.

PERITONITIS (CASE PRESENTATION)

P312

INJURY OF THE ISOLATED EXTRAHEPATIC BILIARY TRACT CAUSED BY BLUNT ABDOMINAL TRAUMA

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Case History: Isolated extrahepatic bile duct injury from blunt abdominal trauma is rare. Herein, we report a case of bile peritonitis due to extrahepatic bile duct injury after blunt trauma.
Clinical Findings: A 50-year-old man was admitted to the emergency department of a local hospital after falling from a breakwater. He was hemodynamically stable. He presented with chest pain and mild abdominal pain. He was admitted to the ward with a conservative treatment plan.
Investigation/Results: His abdominal pain persisted, and laboratory tests revealed jaundice. Hence, he was referred to our hospital emergency department. Owing to the aggravation of his abdominal pain, we performed follow-up CT after 3 days of admission.
Diagnosis: Computed tomography (CT) revealed mild hemoperitoneum without active bleeding. Follow up CT showed an increased amount of fluid collection which indicating bile peritonitis
Therapy and Progression: We decided to perform an emergency operation. The abdomen was opened through a midline incision, which was found to have large amounts of bile contents. After adhesiolysis, cholecystectomy, and choledochotomy, we found a 1.5-cm longitudinal laceration of the common hepatic duct. We primarily repaired the CHD and inserted a T-tube and drain insertion was done. On postoperative day (POD) 28, endoscopic retrograde biliary drainage were performed. On POD40 and POD45, we removed the t-tube and drains.
Comments: Isolated injuries of the extrahepatic bile duct after blunt abdominal trauma are rare, and diagnosis is usually delayed. Therefore, a higher level of suspicion is necessary to identify injuries in the hepatic ducts, as delayed diagnosis is generally related with poor prognosis.
References: 1.Blunt trauma to the extrahepatic biliary tract. A multicenter study. -Ann Ital Chir. 2006 Jul-Aug;77(4):319-22. 2.Endoscopic management of bile duct injury after hepatobiliary tract surgery: a comprehensive review. -Minerva Chir. 2016 Sep 2.
Disclosure: No significant relationships.

P313

WHAT GOES IN, MUST COME OUT: WHEN SHOULD WE OPERATE ON DELIBERATELY INGESTED FOREIGN BODIES?

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Case History: A now 26 year-old female with a background of unstable personality disorder presents recurrently complaining of abdominal pain following deliberate self-ingestion of foreign bodies. She has attended the emergency department 64 times over a 22 month period with 18 surgical admissions.
Clinical Findings: She is usually clinically well but has presented peritonitic on one occasion.
Investigation/Results: She has received 30 abdominal X-rays, 22 chest X-rays and 6 CTs of the abdomen/pelvis.
Diagnosis: At least 6 confirmed foreign bodies requiring medical intervention have been identified including a single episode of perforation with generalised peritonitis.
Therapy and Progression: Endoscopic retrieval from the stomach has been successful twice. She has undergone 4 laparotomies - two with uncomplicated retrieval, one for perforation & peritonitis requiring small bowel resection, and one exploratory laparotomy at which the foreign body was not found. Her recovery after laparotomy is often complicated e.g. by purposeful wound dehiscence.
Comments: It is thought that most ingested objects will pass spontaneously with only 1% requiring surgical intervention. However, the

literature focusses on oesophago-gastric foreign bodies with little documented about those beyond the duodenum. In the psychiatric population, foreign body ingestion is rarely a one-off event, with a tendency toward larger, sharper objects and delayed presentations. Patients are seen repeatedly in emergency departments, subjected to high levels of radiation and undergo multiple endoscopic and surgical interventions. Should surgery be reserved for complications? Does conservative management cause unacceptable radiation exposure or is this balanced by the risks of recurrent surgery? We use this case to discuss the optimum management strategy for these patients.

References: 1.Birk et al. Removal of foreign bodies in the upper gastrointestinal tract in adults: ESGE Clinical Guideline.Endoscopy.2016. 2.Dalal et al. Intentional foreign object ingestions: need for endoscopy and surgery. JSurgRes.2013. 3.Grassi et al. Application of imaging guidelines in patients with foreign body ingestion or inhalation: literature review. SeminUltrasoundCTMR.2015. 4.Norelli, Coates, Kovasznay. Cancer risk from diagnostic radiology in a deliberate self-harm patient. ActaPsychiatrScand.2010. 5.Palese, Al-Kawas. Repeat intentional foreign body ingestion: the importance of a multidisciplinary approach. GastroenterolHepatol(NY).2012. 6.Petrea, Brezean. Self-ingested intraduodenal foreign bodies–expectancy or surgical sanction? JMedLife.2014. 7.Poynter, et al. Hard to swallow: a systematic review of deliberate foreign body ingestion.GenHospPsychiatry.2011

Disclosure: No significant relationships.

P314

HENOCH SCHOENLEIN PURPURA PRESENTING AS AN ACUTE ABDOMEN IN AN ADULT

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Case History: 59 year-old man with two days of abdominal pain, vomiting, bloody diarrhea, and rash.

Clinical Findings: An ill-appearing man with a distended, diffusely tender abdomen and macular rash covering his trunk and extremities. He was afebrile. Vitals were normal.

Investigation/Results: Labs: Normal complete blood count, lactic acid of 2.1, and occult blood in the stool. On CT, pneumatosis of the ileum, cecum, and ascending colon was demonstrated. Following imaging, the patient's abdominal exam deteriorated with development of rebound tenderness suggesting peritonitis. An exploratory laparotomy was performed. Findings included 300 mL of ascites. The stomach, small, and large bowel were diffusely dilated and edematous and nearly completely covered by hemorrhagic serositis. A decision was made for a planned second look operation to evaluate for progression to bowel perforation, ischemia, or bleeding.

Diagnosis: A skin biopsy was performed confirming Henoch Schoenlein purpura (HSP).

Therapy and Progression: Following resuscitation, re-exploration revealed resolving hemorrhagic serositis and associated edema and distension.

Comments: This case demonstrates an unsual presentation of HSP as an acute surgical abdomen. HSP is an immunoglobulin A mediated luekocytoclastic vasculitis of the small vessels described in 1837 as an arthritis associated with purpura. Colicky abdominal pain and nephritis were later added to the spectrum of manifestations. Annual incidence is 14 cases per 100,000. Only 25% are adults who experience a more severe disease course compared to children. GI manifestations are ominous with perforation, massive bleeding, and death reported. Diagnosis is made by tissue immunohistochemistry, and treatment consists of resuscitation, steroids and supportive care. Close monitoring and prompt operative intervention are essential to avoid mortality.

References: 1. Schönlein JL: Allgemeine und Specielle Pathologie und Therapie. Vol. 2. Third edition. Wurzburg, Herisau,1837 2. Henoch EH: Uber ein eigenthumliche Form von Purpura. Berl Klin Wochenschr 11:641-643, 1874 3. Shema Hammeed,Sascha Dua, Hugo W Taylor, Henoch-Schonlein purpura with ischemic bowel, The Royal College of Surgeons of England 4. Blanco R, Martinez-Taboada V M, Rodriguez-Valverde V, Garcia-Fuentes M & GonzalezGay M (1997) Henoch-Schönlein purpura in adulthood and childhood; two different expressions of the same syndrome. Arthritis Rheum 40: 859–864. 5. Clark C V & Hunter J A (1983) Anaphylactoid purpura presenting as a medical and surgical emergency. BMJ 287: 22–23.

Disclosure: No significant relationships.

P315

THREE VISCOUS FISTULA FORMATION FOLLOWING INGESTION OF MAGNETIC FOREIGN BODIES IN AN ASYMPTOMATIC CHILD

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Case History: A 30 month old male presented four days after swallowing four magnetic objects. Multiple times the local district general hospital (DGH) had assured the parents the magnets would pass naturally. The child was asymptomatic, except one episode of vomiting.

Clinical Findings: The child was not in distress, observations were unremarkable and his abdomen was soft.

Investigation/Results: An abdominal film revealed four spherical objects aligned vertically on the right at the level of L1 vertebral body. This showed no change from a film taken 48 hours earlier at the DGH.

Diagnosis: Non-progression of ingested magnetic foreign bodies.

Therapy and Progression: Although the child was clinically well, repeat films revealed no movement so the child proceeded to theatre. Gastroscopy revealed one metallic foreign body in the greater curvature of the stomach. With no other foreign bodies visible a laparotomy was performed. A fistula was found between the stomach, a mid-ileal loop, the colonic mesentery and the transverse colon. There was no free gas or faecal soiling. A small area of non-viable small bowel was resected with a primary anastomosis. Other perforations were closed and all foreign objects were retrieved. Recovery was uncomplicated.

Comments: If the history suggests multiple magnet ingestion a child should be observed, if symptoms develop or radiographs suggest non-progression they should undergo retrieval. Whilst surgery is warranted in less then 1% of ingested foreign bodies,[1] ingestion of multiple magnets is a surgical emergency as serious bowel damage

can occur.[2] Manufacturers of magnetic toys should be encouraged to warn about the high risk of injury on accidental ingestion.
References: [1] James Butterworth & Brad Feltis. Toy management ingestion in children:revising the algorithm. Journal of pediatric surgery 2007;42:E3-E5 [2] Alan E. Oestreich. Danger of multiple magnets beyond the stomach in children. J Natl Med Assoc 2006;98:277-2
Disclosure: No significant relationships.

P316

ILEOCECAL INTUSSUSCEPTION DUE TO SUBMUCOSAL LIPOMA IN A PREGNANT WOMAN

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Case History: A 30-year-old, 8-weeks-pregnant, woman presented with a two-day history of colic pain in the abdomen. Medical history consisted of rheumatoid-arthritis and unexplained transient abdominal pains with nausea.
Clinical Findings: She suffered from nausea and vomiting, attributed to her pregnancy (+/-8 weeks).
Investigation/Results: Laboratory results were normal and showed only a positive pregnancy test. The gynaecologist performed an ultrasound, which showed an empty womb, leading to the diagnosis of an ectopic pregnancy. During the laparoscopy by the gynaecologist, there were no signs of an ectopic pregnancy. As the abdominal cramps remained, the next day an ultrasound was repeated by the radiologist, which showed an intussusception of terminal ileum in the cecum.
Diagnosis: Ileocecal intussusception in a pregnant woman.
Therapy and Progression: An ileocecal resection with end-side anastomosis was performed. The resected ileum showed some submucosal lipoma, which acted as leading point. Post-operative, a second ultrasound was made by the gynaecologist, showing intact intrauterine pregnancy. Four weeks later, a new ultrasound was made, showing an amnion without signs of heart action. The missed abortion was treated with a vacuum curettage.
Comments: Ileal-cecal intussusception is a rare condition, often presenting with abdominal pain, nausea & vomiting.[1,2] However 20% of the intussusceptions may present without symptoms.[2] This case underlines that physicians on the emergency department should remain suspicious of an intussusception as cause of abdominal tenderness, even when a pregnancy test is positive, and signs of infection in blood-results are absent. It's very plausible, that the past history of unexplained abdominal cramps with vomiting were due to partial intussusceptions of the lipoma.
References: 1. Wani I, Muzafar I. Ileo-ileal intussusception in an adult by lipoma. World J Gastroenterol. 2007. 2. Lindor RA, Bellolio MF, Sadosty AT, Earnest F, Cabrera D. Adult intussusception: presentation, management, and outcomes of 148 patients. J Emerg Med. 2012 Jul;43(1):1–6.
Disclosure: No significant relationships.

P317

INCARCERATED SPIGELIAN HERNIA - CASE REPORT

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Case History: Spigelian hernias are rare (1-2% of all abdominal wall hernias) and difficult to diagnose clinically, since they often are intraparietal, passing through the transversus and the internal oblique aponeuroses and then spreading out beneath the intact aponeurosis of the external oblique. They occur along the semilunar or Spigelian line, usually, bellow the umbilicus, where the posterior sheath is deficient. These hernias are more frequent in women (69 %), on the left side (56 %), and can be congenital or acquired. The risk of incarceration is as high as 17% at the time of diagnosis. They can be repaired by both conventional and laparoscopic approach. 86 year-old, female patient, presented to our emergency department, with severe abdominal pain and vomits for 2 days.
Clinical Findings: The abdomen was tender, especially over the left-inferior quadrant. No masses or lumps were palpable.
Investigation/Results: The abdominal X-ray showed multiple air fluid levels and dilated small bowel loops, followed by and abdominal US, which showed an incarcerated spigelian hernia.
Diagnosis: Incarcerated Spigelian hernia.
Therapy and Progression: Open surgery was performed, using a self-expanding polypropylene and ePTFE patch.
Comments: Spigelian hernias are difficult to diagnose based on clinical fidings, therefor, they must be kept in mind when dealing with lateral abdominal wall pathologies. Imaging should be used to aid the diagnosis. Once diagnosed, they must be promptly repaired due to a high risk of incarceration.
References: Mittal T, Kumar V, Khullar R, et al. Diagnosis and management of Spigelian hernia: A review of literature and our experience. Journal of Minimal Access Surgery. 2008;4(4):95-98. Griffin AS, Schaefer NR, Jeyarajan E, Cross T. Concurrent Spigelian hernia and falciform ligament hernia in a 67-year- old female. International Journal of Surgery Case Reports. 2015;13:27-29. doi:10.1016/j.ijscr.2015.05.035. Srivastava KN, Agarwal A. Spigelian Hernia: a Diagnostic Dilemma and Laparoscopic Management. The Indian Journal of Surgery. 2015;77(Suppl 1):35- 37. doi:10.1007/ s12262-014- 1085-7.
Disclosure: No significant relationships.

P318

"AMYAND'S HERNIA" - A CASE REPORT

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Case History: Both acute appendicitis and incarcerated inguinal hernias are frequent surgical conditions. However, the presence of the ileocecal appendix within an inguinal hernia sac is a rare condition (approximately 1% of all hernias), and a perforated appendicitis by strangulated hernia is even rarer, with an incidence of about 0,13% of all acute appendicitis. A 85 years old female, with known right inguinal hernia, was referred to the emergency by the attending physician because of a painful inguinal swelling in progressive worsening.
Clinical Findings: On admission she had groin inflammation associated with tender, irreducible right inguinal swelling. No tenderness found on abdominal palpation.
Investigation/Results: The CT described "an inguinal abscess without apparent communication with the abdominal cavity."
Diagnosis: Incarcerated right inguinal hernia with suspected perfuration.
Therapy and Progression: Intraoperatively no changes were found in the peritoneal cavity except that the tip of the appendix was not visible due to its location: introduced along the right inguinal canal, with distal perforation and abscess within hernia sac. The procedure consisted of appendicectomy, inguinal abscess drainage and herniorraphy. During the post-operative period the patient had large-spectrum antibiotic. No complications were detected.
Comments: "Amyand's hernia" is a rare entity, very difficult to diagnose pre-operatively, even by CT. Although it can be life threatening, once the surgeon is aware of it, the outcomes are good after a relatively simple surgical intervention.
References: - "Amyand's Hernia" – Pathophysiology, Role of Investigations and Treatment, Maedica (Buchar). 2011 Oct; 6(4): 321-327. - Complicated acute appendicitis within a right inguinal hernia sac (Amyand's hernia): report of a case, Hippokratia. 2014 Jan-Mar; 18 (1): 74-76. - Amyand's hernia-a vermiform appendix presenting in an inguinal hernia: a case series. Psarras et al. Journal of Medical Case Reports 2011, 5:463
Disclosure: No significant relationships.

P319

GASTRIC PERFORATION DUE TO FOREIGN BODY INGESTION MIMICKING ACUTE CHOLECYSTITIS

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Case History: An 82-year old male presented with abdominal pain in the right-upper-quadrant since one week.
Clinical Findings: He had good appetite and no symptoms of nausea or vomiting. On abdominal examination there was a gallbladder positive Murphy's sign.
Investigation/Results: CRP was 300 mg/L & WBC was 14.0 $x10^9$/Liter. A chest X-ray showed no sign of free air under the diaphragm. An ultrasound revealed a slightly hydropic gallbladder with a non-compressible fundus, which was tender.
Diagnosis: Acute cholecystitis
Therapy and Progression: During a laparoscopic cholecystectomy, a piece of infiltrated omentum was attached to the falciform ligament. Some pus evacuated from the gastric antrum region when the omentum was peeled off. The inflamed gallbladder was then dissected and excised from the gallbladder bed without problems. A woody structure of 4 centimeters was noted where the omentum was attached to the liver. Given the location it appeared plausible that it migrated through the pylorus to the abdomen. However, no clear gastric perforation was witnessed, not even when the abdomen was filled with saline and air was driven in the stomach. A drain was inserted and patient was treated with intravenous antibiotics and PPI's. Postoperatively, the patient declared that since stopping with smoking 46 years ago, he chewed on liquoricewood and on matchsticks.
Comments: Gastric perforation secondary to ingestion of a sharp foreign body is uncommon but has been described.[1,2] Classically, patients present with signs of peritonitis but patients may be asymptomatic.[2]Denture-wearing elderly patients, such as ours, are especially at risk for ingestion of foreign bodies,[2,3] due to loss of sensation in the palate.
References: Steenvoorde P, Moues CM, Viersma JH. Gastric perforation due to the ingestion of a hollow toothpick: report of a case. Surg Today 2002;32(8):731-3
Porcu A, Dessanti A, Feo CF, Dettori G. Asymptomatic gastric perforation by a toothpick. Dig Surg 1999;16(5):437-438.
Velitchkov NG, Grigorov GI, Losanoff JE, Kjossev KT. Ingested foreign bodies of the gastrointestinal tract: retrospective analysis of 542 cases. World J Surg 1996;20(8):1001-5.
Disclosure: No significant relationships.

P320

ABDOMINAL MILIARY TUBERCULOSIS DISGUISED AS ACUTE APPENDICITIS

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Case History: A 48-years-old Somalian patient was admitted with progressive abdominal pain with nausea and vomiting since two weeks. The patient's medical record showed COPD, which required inhalation therapy. One year before, patient was admitted with pleural effusion, with additional research showing no cause.
Clinical Findings: The abdomen was painful in all quadrants and there was active muscular defence.
Investigation/Results: Blood infection parameters were elevated and the abdominal CT-scan showed intra-abdominal fluid surrounding the appendix.
Diagnosis: Perforated appendicitis.
Therapy and Progression: A McBurney's incision was performed to drain the appendicular abscess. However, numerous granulomata and faecal contamination were found among the intestines due to a perforation of the coecum and a necrotic part of the distal ileum. The coecal perforation was primarily closed using a mechanical stapler and the necrotic ileum-part was resected and a terminal ileostomy was made. The performed Ziehl-Neelsen colouring was negative, but the Koch-culture showed Mycobacterium Tuberculosis, leading tot he diagnosis of perforated abdominal Tuberculosis. The patient was treated with quadruple therapy for the tuberculosis during six months. After 10 months the continuity of the bowel was restored
Comments: Abdominal pain caused by TBC is becoming a rare disease in developed countries,[1,2] however it should always be part of the differential diagnosis, especially with patients originally from third-world-countries. Abdominal tuberculosis can be found in the gastrointestinal-tract, peritoneum, mesentery, liver, spleen and

pancreas. Current case shows that the diagnosis can be easily missed, leading to a suboptimal operative approach. If intra-operatively, abdominal TBC is suspected, the diseased section of bowel should be resected[3] and a temporary ileostomy should be considered.
References: 1. Stump E, Erkens CGM, van Hunen R, Schimmel HJ, van Soolingen D, de Vries G. Tuberculose in Nederland 2013 [Internet]. Bilthoven, the Netherlands; 2014 Dec pp. 1–74. Available from: http://www.rivm.nl/Documenten_en_publicaties/Wetenschappelijk/Rapporten/2014/december/Tuberculose_in_Nederland_2013_Surveillancerapport 2. World Health Organization. Global tuberculosis report 2013. 2013. 3. Ara C, Sogutlu G, Yildiz R, Kocak O, Isik B, Yilmaz S, et al. Spontaneous small bowel perforations due to intestinal tuberculosis should not be repaired by simple closure. J Gastrointest Surg. 2005 Apr;9(4):514–7.
Disclosure: No significant relationships.

P320A

AMNIOTIC MEMBRANE COVERAGE IN OPEN ABDOMINAL WALL WITH ENTEROATMOSPHERIC FISTULA

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Case History: 67 year old female, allergic to ß-lactams and NSAIDs; DM2; morbid obesity; giant incisional infraumbilical hernia (antecedent of cesarean and bowel obstruction surgery) On July 28th 2015 she was admitted at the ER.
Clinical Findings: She presented abdominal pain and bowel obstruction symptoms.
Investigation/Results: Lab test: elevated CRP. Abdominal X-ray: dilated small bowel loops.
Diagnosis: Septic shock due to strangulated hernia, needing early surgical management.
Therapy and Progression: Laparotomy: strangulated incisional hernia, jejunum and ileum necrosis. An ileocecal resection and two L-L mechanical anastomosis were performed. Abdominal wall closure was not possible. A negative pressure device was placed (ABThera™). She was admitted in postoperative ICU. Further surgeries were needed due to dehiscence of both sutures that were repaired. New fistula in distal anastomosis was found, causing important protein loss. We placed Goretex® mesh and Vacuum Assisted Closure (VAC), and we manufactured a device to create an enteroatmospheric fistula. After 60 days in postoperative ICU, she was discharged to surgical department. We continued with VAC therapy and treatment for short bowel syndrome. In December 2015, plastic surgery was attempted: advancement flap (failure after 5days). In May 2016, amniotic membrane transplantation was performed. Granulation tissue made possible to place an ostomy bag. Nowadays, the patient is waiting for definitive reconstruction.
Comments: Management of enteroatmospheric fistula is a challenge for the surgical team. Keeping the nutritional status, creating a "floating stoma" and healing the open wound by secondary intention with VAC therapy are the main goals. The amniotic membrane transplantation is a feasible method of coverage, giving a good tissue granulation.
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Disclosure: No significant relationships.

P321

AXIAL TORSION AND GANGRENE OF MECKEL'S DIVERTICULUM IN THE THIRD TRIMESTER OF PREGNANCY - CASE REPORT

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Case History: This case is about a 31-year-old 32 weeks pregnant female admitted in one obstetrics hospital, who sended to our emergency department for examination with 3 days history of abdominal pain, and discrete distention. Another surgical consult 1 day before did not show acute surgical abdomen.
Clinical Findings: Clinical examination: afebrile and hemodynamic stable. Abdomen was distended but nonspecific because of pregnancy, with peritonitis signs including guarding. There were no surgical scars or hernil orifices.
Investigation/Results: Blood counts and biochemical values were within the normal limits, excepting leukocytosis (16000/mm3). Plain X-ray abdomen did not show perforation signs. Ultrasound abdomen showed nothing specific.
Diagnosis: The clinical criteria was used for deciding surgical indication, because the other investigations was unspecific.
Therapy and Progression: Our surgical team was transferred in the obstetrics hospital for immediate surgery. The fetus was considered viable and the obstetrician was performed caesarean section delivering female fetus 1710 g APGAR 8. After the closure of the uterus, the surgical team was find an axially torted 270 degrees, gangrenous Meckel diverticulum with imminence of perforation. We was performed stapled diverticulectomy. Postoperative evolution was simple, without any complication regarding the mother and the fetus.
Comments: We report here a rare and unusual complication of a Meckel diverticulum. The association with the pregnancy is extremely rare. The surgical decision was difficult because of the pregnancy, the age of fetus, nonspecific results of imaging investigation and blood tests. The clinical examination was difficult because of the dimension of the uterus. Clinical findings, peritonitis signs, are good criteria for the surgical decision
References: Cullen JJ, Kelly KA (1996) Current management of Meckel's diverticulum. Adv Surg 29:207–214 Sidhu G, Newman E.

Gangrene of Meckel's diverticulum secondary to axial torsion: A rare complication. Am J Gastroenterol 1998;93:1373-5. 7. Udo Rudloff, Sanjay Jobanputra, Michelle Smith-Levitin, Edmund Kessler, Meckel's diverticulum complicating pregnancy, Archives of Gynecology and Obstetrics, January 2005, Volume 271, Issue 1, pp 89–93 Chanrachakul B, Tangtrakul S, Herabutya Y, Chakkaphak S, Hamontri S (2001) Meckel's diverticulitis: an uncommon complication during pregnancy. BJOG 108:1199–1200 Clark KH, Lawson EA (1992) Meckel's diverticulum and pregnancy. J Tenn Med Assoc 85:367–368

Disclosure: No significant relationships.

P322

NON OPERATIVE MANAGEMENT AND ULTRASOUND DIAGNOSTIC IN FOUR YOUNG PATIENTS WITH SIGMOID DIVERTICULITIS

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Case History: We present four cases of acute diverticulitis, two females and two males, between 25 and 36 years of age. Pain in left iliac fossa pain (LIF), from 12 hours to a few days, was the main worsening symptom, with associated fever in two of cases. There were no changes in bowel habits, no rectal bleeding and no urinary symptoms noted.
Clinical Findings: The patients were hemodynamicall stable, with soft abdomen, symmetrical with respiratory movements, but tender at rest and on palpation in the LIF with no peritoneal signs. Digital rectal exam was unremarkable.
Investigation/Results: Patients had elevated inflammatory markers and negative pregnancy tests (in the female cases). The urine analysis was normal. Bedside Ultrasound raised the suspicion of uncomplicated diverticulitis and patients were admitted for CT evaluation and further management.
Diagnosis: Final diagnosis was uncomplicated sigmoid diverticulitis confirmed by CT scan, with stages between 1a-1b on modified Hinchey scale.
Therapy and Progression: All patients were managed conservatively with intravenous antibiotic therapy during admission, regular analgesia and diet. They were discharged within 2-4 days with documented decrease in inflammatory markers and clinical improvement. Colonoscopy follow-up was planned for 6 to 8 weeks time.
Comments: Acute diverticulitis has been traditionally considered a disease of patients older than 50. Our cases examples demonstrate that it is important to consider diverticulitis as a differential diagnosis for acute LIF pain even in younger patients.
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Disclosure: No significant relationships.

P323

MESENTERIC VENOUS THROMBOSIS (MVT): A CASE OF IDIOPATHIC MVT PRESENTING AS ACUTE APPENDICITIS

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Case History: 79 year old male - chief complaint: RIF pain, vomitting, loss of transit for 1 day - Pain: Sudden onset, fixed in the RIF without any irradiation - Past medical history: Biliary lithiasis, High Blood pressure, Diverticulosis - No surgical history
Clinical Findings: Muscular Guarding in RIF Surgical signs positive for: Mcburney Blumberg Psoas Rovsign Douglas
Investigation/Results: FBC and Imagistic WBC: 14 x 10^3 IMAGISTIC: PLAIN ABDOMINAL X-RAY: - Difussed aerocolie US ABDOMINAL: BILIARY LITHIASIS, FREE FLUIDS IN MINIMAL QUANTITY IN THE RIGHT FLANK AND DOUGLAS POUCH
Diagnosis: Acute Surgical Abdomen - Most probably perforated apendix
Therapy and Progression: Preoperative managemet - fluids, antibiotherapy, antialgics and thromboprophylaxics Intraoperative - Mcburney incision - 500 ml of serohematic fluid evacuated - bluish discolouration of the small bowel - Midline laparotomy - 70 cm of ileum ischemic with bluish discoloration, intramural hemoraghe and the mesenteric as well as mucosa of the ileum was edematous - Enteral resection with end to end anastamosis - Evolution - favourable - patient discharge o postoperative day 7
Comments: Abdominal pain is still a challenge to the most even experienced physician. Idiopathic MVT is a rare clinical entity which is not thought in first instance as a diagnosis and requires high clinical suspicion. MVT can have insidious presentation with almost no paraclinical modifications. However, MVT has to be considered in patients with acute abdominal pain especially in the geriatric population.
References: 1. Mock JN, Orsay EM. Primary mesenteric venous thrombosis: an unusual cause of abdominal pain in a young, healthy woman. Ann Emerg Med. 1994;23:352–5. [] 2. Chang YS, Min SY, Joo SH, Lee SH. Septic thrombophlebitis of the porto-mesenteric veins as a complication of acute appendicitis. World J Gastroenterol. 2008;14(28):4580–4582. doi:10.3748/wjg.14.4580 3. Fukutomi S, Yasutomi J, Kusashio K, Suzuki M, Fukao K, Miyazaki M. A case of acute appendicitis complicated with superior mesenteric vein thrombosis (in Japanese with English abstract) Jpn J Surg Assoc.2008;69(3):581–585. doi:10.3919/jjsa.69.581.
Disclosure: No significant relationships.

P324

UMBILICAL HERNIA: LEAKING HERNIA DUE TO AN ENTEROCUTANEOUS FISTULA IN A CIRRHOTIC PATIENT BY FOREIGN BODY (CHICKEN BONE)

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Case History: 64 year old male with child C hepatitis induced liver cirrhosis admitted in the internal medicine department for: jaundice, increasing abdominal girth, ascites 4th day of hospitalisation - pain in the umbilical region, vomiting, loss of transit, skin necrosis with leaking fluid Past medical history - Hepatits C, High blood pressure, Past surgical history - none
Clinical Findings: Periumbilical pain and erythema Distended abdomen Non reductible Umbilical hernia with tegumentary necrosis and leaking fluid - brownish Loss of bowel sounds
Investigation/Results: FBC with LFT's and PT
Diagnosis: Incarcerated Umbilical Hernia with enterocutaneous fistula
Therapy and Progression: - Preoperative management with: fluids, antiobiotics, plasma - Intraoperative - perforated loop of small bowel by foreign body (chicken bone) in the hernia sac - Treatment: Segemental resection with end to end anastamosis, resection of hernial sac and closure of parietal defect with interupted sutures - Postoperative day 5 - Closed evisceration which required a relaparatomy and closure - Evolution - favourable
Comments: Umbilical hernia (UH) is the third most common hernia in the general population after inguinal and incisional hernia. However, the prevalence of UH is as high as up to 20% in patients with cirrhotic ascites. Emergency umbilical hernia repair is indicated when complications arise in the cirrhotic patients. Control of ascites play a major factor in the outcome of the operation. Complicated UH demand prompt surgical intervention despite known morbidity and mortality associated with it. There has been very few case report in literature regarding perforation of umbilical hernia due to foreign bodies in the cirrhotic patient.
References: 1. Carbonell AM, Wolfe LG, DeMaria EJ. Poor outcomes in cirrhosis-associated hernia repair: A nationwide cohort study of 32,033 patients. Hernia. 2005;9:353–357. doi:10.1007/s10029-005-0022-x. [PubMed][Cross Ref] 2. Eker HH, van Ramshorst GH, de Goede B, Tilanus HW, Metselaar HJ, de Man RA,Lange JF, Kazemier G: A prospective study on elective umbilical hernia repair in patients with liver cirrhosis and ascites. Surgery; 2011 Sep; 150(3): 542-6. 3. McKay A, Dixon E, Bathe O, Sutherland F: Umbilical hernia repair in the presence of cirrhosis and ascites: results of a survey and review of the literature. Hernia; 2009; 13: 461-8. 4. Marsman HA, Heisterkamp J, Halm JA, Tilanus HW, Metselaar HJ, Kazemier G: Management in patients with liver cirrhosis and an umbilical hernia. Surgery; 2007; 142: 372-5.
Disclosure: No significant relationships.

P325

DELAYED SIGMOID PERFORATION AFTER BLUNT TRAUMA – CASE REPORT

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Case History: Injuries to the sigmoid occur either as acute or protracted events. Enteral contents discharge into the abdominal cavity and a generalized life-threatening peritonitis with a bad prognosis develops; in the protracted form, the rupture is covered by peritoneum and adherent organs before perforation so the abdominal cavity will not be contaminated. We present a case of 62 years old male patient admitted in Bucharest Emergency Hospital due to head-on car collision
Clinical Findings: The patient was front seat restrained and requires extrication. At admission the patient was hemodynamically stable and had no signs of peritonitis but a seat-belt sign in inferior part of the abdomen was founded.
Investigation/Results: The abdominal CT revealed no pathological findings. After 48 hours the patients develop abdominal pain with peritoneal signs, and the CT showed massive pneumoperitoneum.
Diagnosis: After all the results were analyzed we consider that a cavitary organ was injured.
Therapy and Progression: An emergency laparotomy was performed and revealed a sigmoid perforation with minimal abdominal contamination. It was performed suture of the perforation and abdominal drainage. The postoperative evolution was simple with no complication.
Comments: The presence of a seatbelt sign should raise the possibility of a bowel injury and closer observation of the patient may come with better outcome.
References:
Disclosure: No significant relationships.

P326

CASE OF MALIGNANT ATROPHIC PAPULOSIS (KöHLMEIER-DEGOS DISEASE) CAUSE OF NONTRAUMATIC PERFORATIONS OF THE SMALL BOWEL

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Case History: A 32-year-old man was admitted on the surgical ward of our hospital with acute generalized abdominal pain and multiple skin lesions. Recently the patient underwent appendectomy for presumed acute appendicitis, two weeks after the onset of the skin lesions (diffuse skin rush with small, red, raised papules, 2-5 mm in diameter

with umbilicated porcelain white centers and surrounding erythematouse rim)
Clinical Findings: On admission – abdominal pain with guarding and rebound tenderness, diplopia, intense fatigue, paresthesia of both lower limbs, palpebral ptosis, fever, chills, anorexia, nausea, vomiting.
Investigation/Results: Laboratory findings: L–21.300/mm3, biochemistry, coagulation, antinuclear antibodies and tumor markers were negative. CT scan: peritoneal fluid, bowel wall thickening, multiple air fluid levels. MRI of the brain: focal lesions involving parieto-occipital regions.
Diagnosis: Histologic findings: skin biopsy showed thrombosis in the small dermal vessels and intimal hyperplasia, wedge – shaped area of cutaneous ischemia extending into the deep dermis with focal necrosis in the dermis (infarction secondary to vessel occlusion). Hyperkeratosis, epidermal atrophy, perivascular lymphocytic infiltrate, myxomatous degeneration were also observed. Small bowel specimen – bland infarcts of the intestine and perforation, mucosal lymphocytic infiltrate, submucosal interstitial haemorrhage.
Therapy and Progression: Intraoperative findings: generalized fecal peritonitis, two intestinal perforations 3-4 mm in diameter, multiple white plaques with red borders on the serosal surface of the small bowel. The patient's postoperative course: reccurent abdominal pain, tenderness and guarding afer a week. Reoperations: after 7,9, 45 days respectively, from first surgical intervention, with similar findings.
Comments: The pathogenesis of malignant atrophic papulosis is unclear.In a patient with acute abdominal pain and typical atrophic papules, clinicians should retain a level of suspicion for Degos disease with gastrointestinal involvement, even though it is rare.
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Disclosure: No significant relationships.

P327

VACUUM ASSISTED CLOSURE THERAPY IN A PATIENT WITH INFECTED DUAL MESH AFTER GRAFT EXCISION

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Case History: The use of mesh prosthesis to repair incisional hernias has superiority to suture repair in preventing recurrence.
Clinical Findings: But the management of mesh infection after incisional hernia repair is a difficult clinical problem in surgical practice.
Investigation/Results: We report the use of vacuum assisted closure (VAC) therapy in a patient with infected dual mesh after graft excision.
Diagnosis: the patient presented with a discharge abdominal wall and wound without closure. the patient history has umblical herni, two times recurrent herni operation.
Therapy and Progression: the patient was hospitalized.a microbiologic examination show pseudomonas aurigonase grown in her wound;piperacillinplustazobactam started. in the operation the wound was debrided. vac is applied to the wound. drainage volume is about 300cc in a day. then wound is became smaller than vicryl mesh was apllied to the wound. the patient was discharged in po day 28.
Comments: it is difficult to treat the mesh infection that arise after incisional herni repair with prostetic mesh.we think that vac is a treatment modality that an effective to use to treat a mesh enfection.
References: 1.Bucknall TE Cox PJ Ellis H.Burst abdomen and incisional hernia:a prospective study of 1129 major laparotomies.Br Med J 1982;284:931-933.2.Millikan KW.Incisional hernia repair.Surg Clin North Am 2003;83:1223-1234.3.Santora TA Roslyn JJ.Incisional hernia.Surg Clin North Am 1993;73:557-570.4.Bauer JJ Salky BA Gelernt IM Kreel I.Repair of large abdominal wall defects with (PTFE). Ann Surg 1987;206:765-769.5.Paton BL Novitsky YW Zerey M Sing RF Kercher KW Heniford BT.Management of infections of polytetrafluoroethylene based mesh.Surg Infect 2007; 8:337-341.6.Chung L Tse GH O'Dwyer PJ.Outcome of patients with chronic mesh infection following abdominal wall hernia repair. Hernia 2014;18:701-704.7.Petersen S Henke G Freitag M Faulhaber A Ludwig K.Deep prosthesis infection in incisional hernia repair:predictive factors and clinical outcome.Eur J Surg 2001;167:453-457.8.Meagher H Clarke Moloney M Grace PA.Conservative management of mesh-site infection in hernia repair surgery: a case series. Hernia 2013 doi:10.1007/s10029-013-1069
Disclosure: No significant relationships.

P328

BE CAREFUL OF YOUR "SUSHI!"

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Case History: A 53-year-old male patient who had past history of gastric ulcer saw a doctor. He had acute abdominal pain without nausea, vomiting and diarrhea. He was diagnosed as gastric ulcer and went back to home after he was prescribed the Scoporamine Butylbromide.
Clinical Findings: However, the pain became much worse even if he took the medicine. He was transferred to an emergency department at our hospital. Physical examination of abdomen revealed the rebound tenderness in the left lower quadrant
Investigation/Results: His laboratory data revealed a little increase in white blood cell count of 10,100 /mm^3 and C-reactive protein concentration of 0.08 mg/dL. Abdominal computed tomography (CT) showed a closed loop obstruction with inflammation sings of small intestine, without any signs of ischemic appearance and perforation.
Diagnosis: Small bowel obstruction
Therapy and Progression: The laparoscopic surgery was performed. The operation finding was the internal hernia with band obstruction. The mesointestinal nodule which adhered the mesentery proper was found. Gastro intestinal stromal tumor (GIST) and lymphoma were suspected, so we resected. Intestinal resection was not required. Pathological findings showed an anisakis infection and acute necrotic inflammation. He discharged to home on postoperative days of 7 without any complications.

Comments: Anisakiasis is a parasitosis caused by the eating of raw fish, for example, sushi and sashimi with anisakis. It is almost unknown in several countries. It is better to consider the anisakis infection, if the patients complain abdominal pain after eating law fish in Japan.
References:
Disclosure: No significant relationships.

P329

A RARE CASE OF TUBERCULOUS PERITONITIS ASSOCIATED WITH PERITONEAL CARCINOMATOSIS

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Case History: A 48-year-old was woman admitted in our clinic with a three months history of abdominal pain, weight loss, fatigue, alterning diarrhoea and constipation.The patient was recently tested positive for mycobacterium tuberculosis infection by Quantiferon test and PCR assay. In the last 24 hours the abdominal pain increased in severity and the bowel transit stopped.
Clinical Findings: The patient had moderate abdominal pain with a maximum intensity in the right lower quadrant where a immobile mass of 8-10 cm could be palpated. There was decresed peristaltic sounds no clear abdominal guarding.
Investigation/Results: Thoracic and abdominal CT scan highlights bilateral apical accentuated interstitial markings associated with nodular lesions, left apical fibro-nodular sequelae lesions;less then 1 cm, two focal hypodense hepatic lesions; perihepatic, perigastric and mesenteric lymphadenopathy; circumferential wall thickening of the terminal ileum and ileocecal valve; free fluid present in the recto-uterine pouch of Douglas. Blood tests: Leucocytosis, mild elevations in CEA and CA 19-99 levels.
Diagnosis: The exploratory laparotomy revealed an inflamatoy block formed by terminal ileum, cecum and appendix, multiple nodular lessions 0.5 to 2 cm in diameter, located in the great omentum, intestinal mesenter, sigmoid mesenter, latter histologically described as inflammatory in origin. Peritoneal carcinomatosis cells were identified on the appendix and cecum wall.
Therapy and Progression: Right hemicolectomy with primary ilio-transversal anastomosis was followed by immediate start of antituberculosis treatment and chemotherapy after completion.
Comments: Peritoneal carcinomatosis associated with peritoneal and intestinal tuberculosis was a rare and surprisingly disccovery which raised difficulties in postoperative therapeutic decisions, due to impossibility of simultaneous treatment of both diseases.
References: Abdominal CT findings to distinguish between tuberculous peritonitis and peritoneal carcinomatosis. Charoensak A1, Nantavithya P, Apisarnthanarak P., J Med Assoc Thai. 2012 Nov;95(11):1449-56.Rev Med Chir Soc Med Nat Iasi. 2016 Apr-Jun;120(2):388-92. ADENOCARCINOMA AND TUBERCULOSIS OF THE SIGMOID COLON AND FALLOPIAN TUBE–A RARE ASSOCIATION. A CASE REPORT AND REVIEW OF THE LITERATURE.Ionescu L, Dănilă R, Ciobanu D, Ciortescu I, Livadariu R, Timofte, D.Rev Med Chir Soc Med Nat Iasi. 2016 Apr-Jun;120(2):388-92. Peritoneal carcinomatosis mimicking a peritoneal tuberculosis.Jung EY1, Hur YJ2, Lee YJ2, Han HS3, Sang JH3, Kim YS3.Obstet Gynecol Sci. 2015 Jan;58(1):69-72. doi:10.5468/ogs.2015.58.1.69. Epub 2015 Jan 16.
Disclosure: No significant relationships.

P330

ILEAL PERFORATION AND PERITONITIS SECONDARY TO INTESTINAL LYMPHOMA – CASE PRESENTATION

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Case History: The nontraumatic small intestine perforation is a particular pathological entity due to a nonspecific clinical expression of the peritonitis syndrome and the multitude of posibilities of diagnosis: inflammatory diseases, foreign bodies, tumors, infectious diseases. Small bowel lymphomas remains very rare although in the last decades were observe a slight increase of their incidence.
Clinical Findings: We report the case of a 46 years' old man, presented with hemiscrotal imflamation, followed by abdominal pain and signs of peritonitis.
Investigation/Results: Laboratory test identified a mild anemia, leucocytosis and electrolyte imbalance. Computed tomography confirmed the presense on multiple abdominal collections, enlarged lymph nodes and free liquid into the peritoneum.
Diagnosis: Laparotomy performed in emergency identified multiple peritoneal abscesses and a perforation in the ileon, which required segmental enterectomy with ileostomy. The nonspecific clinical manifestations of intestinal lymphomas and an uncertain first histological result make from diagnosis a difficult procedure. The definitive diagnostic was obtain after the next surgical intervention which consisted in restoring digestive continuity by enterocolostomy and mesenteric lymph node biopsy.
Therapy and Progression: After diagnosis confirmation, the patient was directed to the hemato-oncologist and started chemotherapy.
Comments: In the treatment of the small intestinal lymphomas surgery does not have a definitive place. The prognosis is define by the possibilities of adjuvant therapy in order to control the systemic disease through.
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Disclosure: No significant relationships.

P331

ACUTE PERITONITIS IN PLURIPATHOLOGICAL ELDERLY PATIENT

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Case History: Faecal peritonitis secondary to perforation of hollow viscera.

Clinical Findings: 72-yo-woman with a history of obesity, arterial-hypertension, hyperlipidemia, endometrial-carcinoma intervened with laparotomy hernia, breast-carcinoma with pulmonary metastases (not intervened). It is proposed to urgent surgical intervention due to suspicion of intestinal perforation. ASA IVe. POSSUM morbidity 99.74% and mortality 93.93%. APACHE-II mortality 86%.
Investigation/Results: Despite predictors obtained, immediate surgery is decided. Following the Sepsis Surviving Campaign Guidelines, we began with goal-directed therapy since her arrival to operation-room. Invasive monitoring and aggressive resuscitation with crystalloids. Antibiotic treatment with Meropenem+Caspofungin. Lung protective ventilation. Very unstable, required high-dose vasoactives.
Diagnosis: Intestinal perforation and generalized faecal peritonitis. Resection of about 170 cm of small-bowel loop incarcerated in laparotomy hernia.
Therapy and Progression: Patient got into Reanimation Unit with RAMSAY -5, intubated and connected to mechanical ventilation. Severe respiratory distress, hemodynamically unstable, severe metabolic acidosis, hyperlactatemia and oliguria. SOFA 15. All recovery measures were continued: aggressive fluid therapy, increasing doses of vasoactive+inotropic, correction of metabolic acidosis and diuretic therapy. Instability got worse, and multiple organ failure (haemodynamic, respiratory, metabolic, renal and liver) was established; with exitus within 24-hours after surgery.
Comments: The aim of this case is to review the management of those patients, we find very often in emergency surgery units in our midst. Strong management in the early hours may be the key for a better outcome, but morbidity and mortality are still very high. To review the usefulness of the predictors of perioperative morbidity and mortality. To discuss between immediate surgery versus preoperative optimization in order to obtain better results.
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Disclosure: No significant relationships.

P332

UROPERITONEUM AFTER UNILATERAL KIDNEY TRANSPLANT

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Case History: A 52 year-old male, suffering from acute abdominal pain with recent onset, was admitted into the Emergency Unit. The patient underwent a unilateral heterotopic kidney transplant 1 month prior to admittance and had a Double-J catheter inserted through the ureter of the transplanted kidney. The abdominal pain began around 24-48 hours prior to admittance, and around 24 hours after the catheter was removed.
Clinical Findings: When consulted, the patient was initiallty found in an antalgic position. The abdomen was rigid and barely took part in respiratory movements. Palpation was painful and revealed intense muscle guarding on the entire abdominal area. Blumberg maneuver was positive in the lower abdomen.
Investigation/Results: The patient had normal white cell count (5400/uL) and mild anemia (12.4 g/dl) and trombocitopenitis (122000/uL), but had elevated levels of serum creatinine (2.64 mg/dl) and serum urea (77 mg/dl). Abdominal X-ray revealed a few hydro-aeric levels in the middle-right abdominal quadrant, but no signs of pneumoperitoneum.
Diagnosis: The preliminary diagnosis was that of acute surgical abdomen, and the patient was taken to the opperating room. During surgery we found a medium quantity of urine in the abdominal cavity which got there by means of ureter fistula of the transplanted kidney. The fistula was several centimeters above the anastomosys site and was probably made during organ harvesting.
Therapy and Progression: The abdominal cavity was cleansed, the ureter fistula sutured and a new Double-J catheter was placed. The patient's evolution was favorable.
Comments: Special care is needed during organ harvesting. Organ integrity checks might be required in the future.
References:
Disclosure: No significant relationships.

P333

SIGMOID PERFORATION BY AN UNUSUAL SUSPECT

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Case History: Colon and rectal perforation is a common reason for emergency abdominal surgery. The most frequent etiologies are diverticulitis, neoplasm, and iatrogenic and noniatrogenic traumatic mechanisms, mainly surgery or colonoscopy. We present a case of a 61 year old woman with a history of complicated choledocholithiasis treated with an endoscopic stent placement, that presents to the emergency department complaining of intense right iliac fossa pain, that has progressed over 4 days, accompanied by fever
Clinical Findings: Abdominal examination revealed localized guarding and rebound tenderness
Investigation/Results: Laboratory evaluation showed leucocytosis, neutrophilia and C-Reactive protein elevation. She underwent a computed tomography scan which showed an intra-abdominal abscess secondary to a sigmoid perforation by a biliary stent
Diagnosis: Intra abdominal abscess secondary to sigmoid perfuration by biliary stent.
Therapy and Progression: The patient was submitted to an urgent Hartmann Procedure and antibiotic coverage. The postoperative evolution was uneventful and 4 months later the bowel was reconstructed and the gallbladder removed
Comments: In conclusion, biliary stent migration complicated by visceral perforation is rare but should be included in the differential diagnosis of selected patients

References: Cahalane, M.J, MD; Overview of gastrointestinal tract perforation; Uptodate; 2016 Issa, H.; *et al*; Migration of a biliary stent causing duodenal perforation and biliary peritonitis; World J Gastrointest Endosc. 2013 Oct 16.
Disclosure: No significant relationships.

P334

INCARCERATED INGUINOSCROTAL HERNIA - EXPECT THE UNEXPECTED

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Case History: 90 year-old male patient admitted in the ER with abdominal pain, fever and vomiting for 6 days, associated with swelling of the right groin.
Clinical Findings: Hemodinamic stability, with no fever, mild abdominal pain and distension. Visible incarcerated right inguinoscrotal hernia with mild inflamatory skin signs.
Clinical Findings: Hemodinamic stability, with no fever, mild abdominal pain and distension. Visible incarcerated right inguinoscrotal hernia with mild inflamatory skin signs.
Investigation/Results: The inflammatory markers were raised, abdominal X-ray did not showed any features of bowel obstruction or free air. US demonstrated a voluminous inguinoscrotal hernia with multiple intestinal contents, but one was particularly distended and with thickened wall, causing atrophy and deviation of the right testicle.
Diagnosis: Clinical diagnosis of incarcerated right inguinoscrotal hernia and urgent operation was undertaken
Therapy and Progression: Initial right inguinal incision, indirect inguinal hernia was confirmed and a sigmoid segment with perfurated diverticula with small faecal contamination was found in the hernia sac. An Hartmann's procedure was performed, as well as right orquidectomy. Thorough lavage of the abdominal cavity and large pelvic drain was inserted. The hernia was repaired primarily using the Bassini technique. Inicial gastric stasis improved, and oral nutricion tolerated after 3 days of the surgery, colostomy well-functioning. He was discharged 10 days after surgery.
Comments: The most common contents of an inguinal hernia sac include a small portion of omentum or small intestine. This patient presented a rare condition, the literature on this matter is scarce. Surgical management, the Hartmann's procedure was the key treatment. For contaminated hernia site, non-mesh methods are recommended.
References: "M. L. A. Tufnell et al. A perforated diverticulum of the sigmoid colon found within a strangulated inguinal hernia; Hernia (2008)"; "Kajese, T et al.; Acute Sigmoid Diverticulitis within an Incarcerated Inguinal Hernia in an Adult: A First Report; **The American Surgeon** (Apr 2013):E147-8"; "Bali C et al. An unusual case of a strangulated right inguinal hernia containing the sigmoid colon; International Journal of Surgery Case Reports 2 (2011) 53–55"; "Kouraklis G, et al, Perforation of a solitary diverticulum of sigmoid colon in an incarcerated scrotal hernia 20 cm segmental resection of sigmoid colon. Diges Dis Sci 49:883–884"
Disclosure: No significant relationships.

MANAGEMENT OF PANCREATIC INJURY (CASE PRESENTATION)

P335

NON-OPERATIVE MANAGEMENT OF PENETRATING LIVER INJURY: THE ROLE OF INTEGRATED IMAGING

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Case History: A 50 yr-old man reports to the ED of a Level 3 trauma center, declaring an accidental self-inflicted epigastric wound with a common kitchen knife after a fall in his garden, three hours ago. He agreed to have a medical advice only because his wife was in panic.
Clinical Findings: The patient is alert, with normal vital signs. The 2 cm long wound is high in the epigastrium, near to the left costal margin. Clinical exam and lab values are normal.
Investigation/Results: No pneumothorax or hemopericardium at the EFAST. Free fluid is detected around the left liver lobe, in the Morrison pouch, the perisplenic area, and in the Douglas space. A bedside surgeon-performed complete abdominal assessment rules out free peritoneal air (negative Zenith sign). A hypoechoic half-moon shaped area (60x17mm) is detected in the left liver lobe, with its apex at around 10 cm from the skin plane, consistent with the knife blade. A surgeon-performed contrast enhanced US (CEUS) confirms this lesion as unique, without extravasation of echographic contrast. A CECT, specifically aimed to exclude minimal hollow viscus injuries, confirmed all findings. Pictures and links to video-clips are shown.
Diagnosis: An OIS3 liver lesion of segments 2 and 3, without hemodynamic impairment, is the final diagnosis.
Therapy and Progression: Admitted for observation, hemodynamically stable and normal, discharged on day 2.
Comments: An integrated imaging use, including surgeon-performed US in both basic and advanced applications, allows to successfully managing penetrating liver injuries in hemodynamically normal patients.
References: Rozycki GS, Knudson MM, Shackford SR, Dicker R. Surgeon-performed bedside organ assessment with sonography after trauma (BOAST): a pilot study from the WTA Multicenter Group. J Trauma. 2005 Dec;59(6):1356-64. Valentino M, Barozzi L, Rossi C. CEUS: What Is It?. In: M. Zago (Ed.), Essential US for Trauma: E-FAST, Ultrasound for Acute Care Surgeons, doi:10.1007/978-88-470-5274-1_2, © Springer-Verlag, Berlin, 2014 (91-100)
Disclosure: No significant relationships.

LAPAROSCOPY IN EMERGENCY SURGERY (CASE PRESENTATION)

P336

DIAGNOSTIC LAPAROSCOPY AND INTRAOPERATIVE INDOCYANINE GREEN FLUORESCENCE ANGIOGRAPHY FOR THE EARLY DETECTION OF INTESTINAL ISCHEMIA

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Case History: A 68-year-old patient presented in the Emergency Department with a type-B aortic dissection and was treated with a Thoracic Endovascular Aortic Repair procedure.
Clinical Findings: The day following the TEVAR procedure, the patient complained about pain in the abdomen, with the onset of melena
Investigation/Results: Intra-abdominal pressure was 17 mmHg and laboratory tests showed an increase in lactates. At CT scan no signs of intestinal ischemia were present and the celiac artery and superior mesenteric artery were pervious. After 2 h the abdomen appeared distended, the diuresis stopped and lactates increased.
Diagnosis: We performed a diagnostic laparoscopy with the support of intra-operative near-infrared indocyanine green fluorescence angiography, in order to detect an initial intestinal ischemia.
Therapy and Progression: At exploratory laparoscopy the serosa surface color of the bowel was normal. After the administration of 25 mg of ICG, the fluorescence system demonstrated an hypo-perfused area at the level of the ascending colon. An ileocolic resection was thus performed. Opening the operatory specimen, the mucosa of the colon appeared totally ischemic, whilst the serosa was normal.
Comments: The recognition of acute mesenteric ischemia often occurs too late due to the presence of unspecific symptoms and lack of reliable exams. Diagnostic laparoscopy is an invaluable tool but it has unfortunately a reduced sensitivity in the early stages of intestinal ischemia, due to the fact that the mucosa can be extensively ischemic while the bowel might still appear normal at external inspection. This drawback can be overcome by using fluorescein-assisted laparoscopy, with which even early stages of ischemia can be identified.
References: Shiiya N. et al., Percutaneous mesenteric stenting followed by laparoscopic exploration for visceral malperfusion in acute type B aortic dissection. Ann. Vasc. Surg.2006;20:521–524. Kisu I. et al., Indocyanine green fluorescence imaging for evaluation of uterine blood flow in cynomolgus macaque. PLoS One. 2012;7:e35124. Boni L. et al., Indocyanine green-enhanced fluorescence to assess bowel perfusion during laparoscopic colorectal resection. Surg. Endosc. 2015 Paral J. et al., Laparoscopic diagnostics of acute bowel ischemia using ultraviolet light and fluorescein dye: an experimental study. Surg. Laparosc. Endosc. Percutan. Tech.2007;17:291–29
Disclosure: No significant relationships.

P337

EMERGENCY LAPAROSCOPIC REDUCTION AND MESH REPAIR FOR INCARCERATED HIATAL HERNIA

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Case History: A 74-year-old woman with hypertension, kidney diseases, no previous abdominal surgery, normal BMI, non-smoker
Clinical Findings: The patient presented at the emergency department complaining hematemesis, melena, dysphagia, epigastric and thoracic pain, irregular heart beats
Investigation/Results: The ECG confirmed a tachyarrhythmia, cardiac enzymes were negatives. The full blood count also revealed a leukocytosis (WBC 14 x 10^9/L) and anemia (Hgb 90 g/L). The patient underwent a thoracic and abdominal contrast enhanced CT-scan that reveal a massive hiatal hernia through which the stomach was completely shifted in the chest cavity. Furthermore the CT image was consistent with ischemic damage of the stomach wall.
Diagnosis: Hiatal hernia with acute incarceration and vascular insufficiency of the stomach
Therapy and Progression: Position of a NGtube to decompress the stomach. We performed an emergency laparoscopy and we reduced the herniated stomach into the abdomen. The gastric wall showed small areas of ischemia on the greater curvature that promptly recovered whereas a small portion of necrotic omentum necrotic,was resected. Then we proceeded to simple non-absorbable sutures for hiatal closure, apposition of absorbable mesh around the abdominal esophagus fixed to the diaphragm crura with fibrin glue. Afterwards it has been realized a Nissen fundoplication with floppy valve of 2,5 cm. In the postoperative day one it has been done a gastrografin swallow test and in the postoperative day two the patient began a soft-food diet following the nutrition recommendation. The postoperative course was regular.
Comments: Emergency laparoscopic reduction and repair of incarcerated hiatal hernia is a safe and minimally invasive option to the open approach
References: 1 - D.Light, D.Links; The threatened stomach: management of the acute gastric volvulus; Surg Endosc (2016) 30:1847–1852 2 - S. Di Saverio, N. Smerieri; Laparoscopic reduction and repair of a large incarcerated paraesophageal hernia; CMAJ, July 8, 2014, 186(10) 3 - D. M. Parker, A. A. Rambhajan; Laparoscopic paraesophageal hernia repair is safe in elderly patients
Disclosure: No significant relationships.

P338

LAPAROSCOPIC REPAIR OF SMALL BOWEL INJURY SECONDARY TO PENETRATING TRAUMA WITH A KNIFE AFTER NEGATIVE CT FINDINGS. A CASE REPORT

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Case History: A 46 yo female, suffering from an anterior abdominal stab wound (AASW), was transferred to A&E Department after attempting to suicide with a knife.
Clinical Findings: During transfer and on arrival at A&E, patient was haemodynamically stable. Primary survey (ABCDE) revealed no concerning findings and abdominal examination revealed a 3cm horizontal wound 4cm above umbilicus. Abdomen was soft, mildly tender.
Investigation/Results: Resuscitation and basic investigations were performed according to ATLS principles. Decision was to proceed with CT scan abdomen pelvis (CTAP) and review. After CTAP, patient became haemodynamically unstable and was resuscitated with 1 unit of RBCs and tranexamic acid. Hgb was 126 prior and 133 after transfusion. CTAP showed no intraperitoneal injury with no free intraperitoneal gas or fluid.
Diagnosis: Patient was reviewed and as she was stable, decision was made to proceed with Diagnostic Laparoscopy. Laparoscopy revealed peritoneal penetration, abdominal muscle haematoma with haemorhagic fluid in pelvis and sero-muscular tear of the proximal ileum.
Therapy and Progression: Sero-muscular tear was repaired laparoscopically with an uneventful post-operative period.

Comments: Use of CT scan in AASW is controversial as studies present it as a tool for visceral injuries' identification but others as unreliable in detection of bowel injury. Furthermore, a laparoscopy is an accepted sensitive approach in stable AAWS patients. In our case it is shown that a negative CTAP cannot exclude intrabdominal injuries leading to undiagnosed small bowel injury. Detailed clinical examination and experienced surgeon with advanced laparoscopic skills can result to a successful management of stable AAWS patients, faster recovery and avoidance of unnecessary CT scans and laparotomies.

References: Salim et al. Use of computed tomography in anterior abdominal stab wounds: results of a prospective study. Arch Surg. 2006 Aug;141(8):745-50; Inaba et al. Prospective evaluation of the role of computed tomography in the assessment of abdominal stab wounds.JAMA Surg. 2013 Sep;148(9):810-6 Matsevych et al. The role of laparoscopy in management of stable patients with penetrating abdominal trauma and organ evisceration. J Trauma Acute Care Surg. 2016 Aug;81(2):307-11 Koto et al. The Role of Laparoscopy in Penetrating Abdominal Trauma: Our Initial Experience. J Laparoendosc Adv Surg Tech A. 2015 Sep;25(9):730-6.

Disclosure: No significant relationships.

P339

LIKE A ROLLING STONE

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Case History: Gallstone ileus remains a rare but important cause of bowel obstruction. It occurs in elderly patients in up to 25% of the cases and represents a serious geriatric emergency.

Clinical Findings: We report the case of a 79 years-old female admitted in our hospital with symptoms and signs of acute intestinal obstruction.

Investigation/Results: Abdominal CT with intravenous contrast revealed pneumobilia and an ectopic gallstone in the ileum. The occurrence of subsequent pneumobilia provides a strong clue to the diagnosis of gallstone ileus; helical-single detector and MDCT may improve the diagnosis of gallstone ileus providing informations regarding the number, size and location of ectopic stones and the site of intestinal obstruction or visualization of a biliary-enteric fistula.

Diagnosis: The final diagnosis was gallstone ileus.

Therapy and Progression: We use four trocars in a conventionnal manner to laparoscopic cholecistectomy. Diagnostic laparoscopy was performed through a 10-mm port at the umbilical site after creation of a pneumoperitoneum with a Veress needle. At surgical inspection we observed dilated small intestine and the impacted stone (localised in the distal ileum); we performed an assisted laparoscopic enterolithotomy. The post-operative course was favourable. The patient was discharged on the 6th post-operative day. Follow-up at 6 months demonstrated that she was asymptomatic.

Comments: Small bowel obstruction due to gallstone ileus may be safely managed using minimally invasive surgery with suggested benefits in these elderly patients. Laparoscopy is a powerful diagnostic and therapeutic tool that can be effectively used to treat gallstone ileus.

References: Brandariz Gil L, Fernández de Miguel T, Perea J. Rigler triad in gallstone ileus. Rev Esp Enferm Dig. 2016 Sep;108(9):581-2. Sánchez-Pérez EA, Álvarez-Álvarez S, Madrigal-Téllez MA, Gutiérrez-Uvalle GE, Ramírez-Velásquez JE, Hurtado-López LM. Gallstone ileus, experience in the Dr. Eduardo Liceaga General Hospital of Mexico. Cir Cir. 2016 Aug 23. pii: S0009-7411(16)30052-4. doi:10.1016/j.circir.2016.05.018. Artioli G, Muri M, Praticò FE, Marcantoni EA, Gazzani SE, Lana S, Bacchini E, Capretti G, Muri M, Torri T. Gallstone ileus: literature review.Acta Biomed. 2016 Jul 28;87 Suppl 3:40-4. Coisy M, Bourgouin S, Chevance J, Balandraud P.Laparoscopic Management of Gallstone Ileus. J Gastrointest Surg. 2016 Feb;20(2):476-8. doi:10.1007/s11605-015-3019-5

Disclosure: No significant relationships.

P340

TRAUMATIC ENTIRE SECTION OF THE COMMON BILE DUCT

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Case History: An 19-year-old woman was admitted to the emergency unit after a car crash accident. She was located in the back seat and wearing a seat belt.

Clinical Findings: Tenderness over the right flank and epigastrium, no peritoneal reaction was found.

Investigation/Results: Chest -x- Ray: pneumoperitoneum image on the right subphrenic space Abdominal CT: free intraperitoneal fluid distributed to the perihepatic level, right flank and pelvis. It is associated with the presence of ectopic gas bubbles close to the gallbladder and gastroduodenal intersection. Radiographic signs suggest duodenal perforation as the first possibility.

Diagnosis: Traumatic duodenal perforation

Therapy and Progression: Emergency surgery, laparoscopic approach: Findings: duodenal perforation of about 1 cm diameter located in the duodenal knee. Surgical technique: laparoscopic review of the 4 quadrants was performed with, no evidence of active bleeding. Suture of duodenal perforation and epiploplasty. A drain is left near the area of the perforation. Postoperative course: satisfactory evolution until the fourth postoperative day. The patient developed them fever and biliary fluid output by drainage (200 cubic cm per day for the following 48 hours) Second emergency surgery: it was found biliary liquid in pelvis. We checked that duodenal suture was closed and sealed. There was certain amount of bile in hepatoduodenal recess. Cholecystectomy was performed with intraoperative cholangiography, showing outflow of contrast at the mouth of the common bile duct into the duodenum. It evidenced a complete section of the common bile duct. Roux-en-Y choledochojejunostomy was the method of choice for biliary reconstruction. Subsequent postoperative course was satisfactory.

Comments: Inadvertent injury in first emergency surgery.

References: Thomson BN, Nardino B, Gumm K, Robertson AJ, Knowles BP, Collier NA, et al. Management of blunt and penetrating biliary tract trauma. *J Trauma Acute Care Surg*. 2012 Jun. 72(6):1620-5. Sharma P, Kumar R, Das KJ, Singh H, Pal S, Parshad R, et al. Detection and localization of post-operative and post-traumatic bile leak: hybrid SPECT-CT with 99mTc-Mebrofenin. *Abdom*

Imaging. 2012 Feb 1 Stewart L, Way LW. Laparoscopic bile duct injuries: timing of surgical repair does not influence success rate. A multivariate analysis of factors influencing surgical outcomes. *HPB (Oxford)*. 2009 Sep. 11(6):516-22.
Disclosure: No significant relationships.

P341

A FLANK HERNIA REPAIRED WITH A URINARY BAG

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Case History: 54,Y, F,who has renal cell ca,lap nephrectomy from iraq has incisional hernia repaired in 2 times with two meshes firstly 6, then 4months later;the old mesh was extracted,a new mesh was placed,she has a purrulent drainage from the wound for 8 months
Clinical Findings: the patient was in 2016 july,hospitalized,has minimal degree cardiac failure hypoproteinemia anemia.
Investigation/Results: a culture was obtained from the wound and the bacterium was isolated from the culture. ct scan of the abdomen and ultrosonography showed a foreign body in abdominal wall some purullent material in lateral, inferior of the lliver.
Diagnosis: in laparoscopy a purullent material some brid and a foreign body was shown.
Therapy and Progression: a diagnostic laparoscopy was made; showed a urinary bag inside of right abdominal wall, the urinary bag was take out. the discharge was not continued from the wound after 15 days the patient has no complaint for 4 months
Comments: if a surgeon confronted a patient with nephrectomy,herniorapy with mesh,discharged wound history.he/she should bring to his/her mind,a foreign body in the abdominal wall. this is a unique case who is not reported before in english literature.
References: 1.Pérez-K, Bayon, Yc,Bellón, JM.Mesh infection and hernia repair:A review (Review) Surgical Infections Volume 17, Issue 2, 1 April 2016, Pages 124-137 2.Sarah E Smith, Matthew J Cozad, David A Grant,Bruce J Ramshaw and Sheila A Grant Materials characterization of explanted polypropylene hernia mesh: Patient factor correlation Soft Tissues and Materials Journal of Biomaterials Applications 2016, Vol. 30(7) 1026–1035 3. Jasper J. Atema, Fleur E. E. de Vries,, Marja A. Boermeester, Systematic review and meta-analysis of the repair of potentially contaminated and contaminated abdominal wall defects. The American Journal of Surgery (2016) 212, 982–99
Disclosure: No significant relationships.

DAMAGE CONTROL PRINCIPLES IN ABDOMINAL TRAUMA & PERITONITIS (CASE PRESENTATION)

P342

INTERVENTIONAL RADIOLOGIC APPROACH WITH DAMAGE CONTROL SURGERY IN PATIENT WITH RETROPERITONEAL HEMORRHAGE

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Case History: Traumatic retroperitoneal hemorrhage often leads to critical results and its management is complex and evolving area.-Here, we report a case of retroperitoneal hemorrhage with hemodynamic unstable patient successfully managed through endovascular treatment with damage control laparotomy.
Clinical Findings: 50-year-old man neck was brought to the emergency department after suffered multiple stab wounds on his back and neck. At the left lower part of his back, there was a 4cm sized regualr oblique deep wound was found.Besides posterior neck and both lower schpular area, multiple laceration wound were found.
Investigation/Results: Immediately, pateint received a angiography and it showed active bleeding at left lumbar artery. Consequently superselective catheterization and embilization was performed.Due to large amount of hemaperitoneum and for explaration of other organs planned exploratory laparotomy was conducted.
Diagnosis: Abdominal computed tomography(CT) revealed large amout of hemoperitoneum and hematoma around left retroperotoneum. Also showed contrst extravasation from left retroperitoneal cavity and left back muscle.
Therapy and Progression: After laparotomy,there was about 3000ml of blood in the abdominal cavity and we found active bleeding from injuried left psoas muscle which connected with lower back wound.Major hemorrhage control was done after vessel ligation but diffuse oozing was seen as a result of disseminated intravascular coagulation.Therefore, pad packing and abdominal wall temprorary colsure was done.Two days later, pad removal and fasical colsure was done.After 27days initial surgery he was dicharged and follow-up abdomen CT shows absortion of retroperitoneal hemorrhage.
Comments: Fatal retroperitoneal hemorrhage with hemodynamically unstable patient could be successfully managed with an endovascular management and following damage control surgery
References: 1.The role of interventional radiology in patients requiring damage control laparotomy.:J Trauma. 2003 Jan;54(1):171-6. 2.Traumatic lumbar artery rupture after lumbar spinal fracture dislocation causing hypovolemic shock: An endovascular treatment.:Br J Neurosurg. 2015;29(5):742-4
Disclosure: No significant relationships.

P343

ASSESSING THE RISKS OF REBLEEDING AND ABDOMINAL COMPARTMENT SYNDROME AFTER TREATMENT OF INTRAPERITONEAL HEMORRHAGE

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Case History: A 74-year-old man was admitted to our hospital due to infective endocarditis (IE) with treatment of antibiotics. He had surgical history of the aortic valve replacement and took warfarin. The treatment was favorable. But on hospital day 13, he suddenly presented shock vital signs and unconsciousness that made a call of emergency code at the hospital.
Clinical Findings: He complained abdominal pain, his abdomen appeared gradually swelling. His blood pressure was 80 mmHg; his pulse was 140 beats per minute.
Investigation/Results: Laboratory results suggested progressive anemia and coagulopathy. His contrast enhanced CT showed extravasation from the right hepatic and mesenteric aneurysms.

Diagnosis: He was diagnosed with hemorrhagic shock due to hepatic and mesenteric aneurysms rupture. Infectious aneurysms were suspected.
Therapy and Progression: We performed transcatheter arterial embolization (TAE) with preparing standby laparotomy. The right hepatic artery was successfully coiled, but we were not able to confirm mesenterium aneurysms probably because bleeding was stopped. After TAE, his abdominal swelling seemed getting worse and his intravesical pressure increased up to 28mmH_2O though his vital signs were stable. We concerned abdominal compartment syndrome (ACS),so we continued strict monitoring of intravesical pressure and laboratory. Finally he was prevented from ACS. In 4 days after the TAE, he was extubated.We confirmed thrombus of aneurysms and reduction of hematoma by follow up CT and angiography.
Comments: We did conservative treatment, expecting tamponade effect by hematoma and high intraperitoneal pressure.We can apply such management to trauma patients.Few studies suggest the appropriate timing of surgery for ACS.We considered how to assess the risk of ACS.
References: Starkopf J, et al. Should we measure intra-abdominal pressures in every intensive care patient? Ann Intensive Care 2012; 2: S9. Ingrid Anne Mandy Schierz. Amer J Perinatol 2014 Jan;31(1):49-54 Meldrum DR, et al. Prospective characterization and selective management of the abdominal compartment syndrome. Am J Surg. 1997 Dec;174(6):667-72; discussion 672-3. Malbrain ML, et al. Incidence and prognosis of intraabdominal hypertension in a mixed population of critically ill patients: a multiple-center epidemiological study. Crit Care Med. 2005 Feb;33(2):315-22.
Disclosure: No significant relationships.

P344

POLITRAUMA-WOUNDED SURGICAL SOUL -MALE POSTER SESSION

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Case History: Conscious patient, involved in MVA in AM, presents at 13:25 in traumatic shock, hemodinamically unstable
Clinical Findings: Admitted with diagnosis of traumatic shock, acute abdomen due to trauma, confirmed clinically and by lab studies.
Investigation/Results: Echo FAST positive, spleen without laceration, segment VI lesion
Diagnosis: Traumatic shock, sepsis due to ¾ suprapapillary circumferential laceration of duodenum II- 4/5 laceration of hepatic angle, complete laceration of proximal ileum X2, double perforation of jejunum- 1 cm, perforated ileum - mesenteric side, perforated cecal diverticulum, hemoperitoneum.
Therapy and Progression: Damage control:jenunoileal perforation repair, proximal ileum resection, proximal end externalized in a left jejunostomy, distal end in a blind loop left for future anastomosis with L-L D II duodenostomy. Right hemicolectomy with transverse colon loop. Papilla visualized 1 cm below D II ¼ cirmumferential bridge. duodenoileostomy L-L externalizing terminal ileum as right ileostomy.
Sigmoid avulsion suturing. No renal hematoma noted. peritoneal lavage with more than 5 L normal salin. Drain placed right subdiaphragmatic, right retrohepatic around anastomosis site, left subdiaphragmatic. Treated with Meropenem 2d, Normal saline total 6500 cc, Voluven, blood transfusion, analgesics, bilateral packing for epistaxis nasal lacertation suture. Serosanguin drainage noted, Urine clear, afebrile, wound clean, dressings dry. Airlifted at 20:00 to tertiary center for cranial and pelvic fracture management. stable hemodynamically. CGS 3. BP 120/73, HR 89
Comments: Wounded surgical soul complex duodenopancreatic lesion damage control with internal derivation
References: TOP KNIFE: The Art & Craft of Trauma SurgeryDe Asher Hirshberg,,Kenneth L Mattox,
Disclosure: No significant relationships.

P345

PARTIAL SPLENECTOMY FOR BLUNT ABDOMINAL TRAUMA IN A YOUNG PATIENT. POSTER SESSION

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Case History: A 10 year-old boy was referred to the Emergency Department for a bicycle handlebar injury.
Clinical Findings: Physical examination showed abdominal pain and left abdominal guarding at palpation, slight skin paleness, stable hypotension.
Investigation/Results: E-FAST revealed free fluid in the abdominal cavity (750-1000ml). Vital signs were stable and an abdominal CT scan was performed(1). It revealed splenic deep lacerations with multiple arterial contrast blush (III° AAST-OIS,1995,),(2) and left mesenteric hematoma.
Diagnosis: III° blunt splenic trauma and mesenteric hematoma.
Therapy and Progression: Because of haemodynamic unstability after CT and of other abdominal injuries, an emergency laparotomy was performed. Intra-operative findings confirmed a splenic parenchyma disruption with a large fracture involving the upper two third of the spleen (the lower pole was intact:) and a contusion of transverse mesocolon. We decided to perform a partial splenectomy preserving the splenic lower pole (30%). The spleen was resected at the demarcation line. Stitches with pledgets were applied. Splenorenal ligament was partially preserved. Fibrin glue was applied. The postoperative stay was uneventful. Patient was discharged on the 8th postoperative day. An ultrasound showed no signs of ischaemia. The platelets count two months later was 515.000/mmc.
Comments: Partial splenectomy can be an option in selected cases, especially when interventional angiography is not available, when other associated abdominal injury are present or when the NOM fails. The patient's hemodinamic stability is required to perform partial splenectomy. Technical feasibility is easier in children and young patients where the capsule is thicker and parenchyma is firmer in consistency. The saved spleen should be not less than 30%(2,3,4).
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Disclosure: No significant relationships.

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COMPLEX ABDOMINAL WALL INJURIES - THE CLOSING DRAMA

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Case History: A 78-year old man admitted to our emergency department with a self-inflicted penetrating abdominal trauma with a shotgun.
Clinical Findings: Initial evaluation in the emergency room revealed a conscious and alert patient, with a penetrating abdominal injury by gunshot, with a single orifice in the anterior abdominal wall. A complete evaluation according to ATLS was performed. Airway, breathing and circulation were secured and the patient was then evaluated with imaging studies.
Investigation/Results: CT scanning revealed multiple small metallic projectiles located in the subcutaneous layer and some intra-abdominal, an abdominal and thoracic haematoma and some image findings that made us suspect of intestinal perforation. Clinically the haematoma was expanding, so we propose urgent exploratory laparotomy.
Diagnosis: Penetrating abdominal trauma by a shotgun.
Therapy and Progression: Exploratory laparotomy: destruction of the cellular subcutaneous tissue, vascular compromise of the skin of the superior abdominal wall, destruction of the anterior sheath of the rectus muscle with traumatic evisceration. Multiple metallic foreign bodies were removed. Intra-abdominally there was a small haemoperitoneum, small lacerations of the mesentery, with no evidence of major vascular or intra-abdominal organs injury. Postoperative period was longstanding, with the abdominal cavity left open to heal by granulation, with vacuum therapy. Multiple hospital-acquired infections occurred increasing the hospital stay.
Comments: Comments Gunshot wounds are the most common cause of penetrating abdominal trauma, followed by stab and shotgun wounds. Homicide and accidental injury are the most common causes of abdominal injury, while the suicide is uncommon. Intra-abdominal injuries are frequent in gunshot wounds and most of the times an exploratory laparotomy is mandatory for damage-control.
References: Walter L. Biffl and Ernest E. Moore. Management guidelines for penetrating abdominal trauma. Curr Opin Crit Care (2010) 16: 609-617. Muhammad U Butt, Nikolaos Zacharias and George C Velmahos. Penetrating abdominal injuries: management controversies. Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine 2009, 17: 19. Offner P. et al. Penetrating Abdominal Trauma. Updated: Apr 27, 2014. Available at. Accessed: Oct 19, 2016.
Disclosure: No significant relationships.

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ADJUVANT USE OF A RADIOFREQUENCY ABLATION DEVICE FOR CONTROLLING HEMORRHAGE IN LIVER TRAUMA

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Case History: We report the case of 32 years old male patient, admitted in emergency with multiple thoracic stabbed wounds.
Clinical Findings: The patient, haemodinamically stable, presented with 5 stabbed wounds. Two of them, located in the right lateral thoracic wall on the VIII and IXth intercostal spaces appeared to be penetrating when explored under local anesthesia.
Investigation/Results: Laboratory tests showed a mild anemia with 9.8 g/dl hemoglobin. A chest X-ray showed a minimal right pneumothorax but massive pleurisy. The FAST discovered a hemoperitoneum, with a 700 cc of perihepatic free liquid collection. During the evalution period Hb dropped to 7.8g/dl.
Diagnosis: The patient was diagnosed with hemoperitoneum and right hemothorax by penetrating stabbed wound.
Therapy and Progression: Laparotomy followed was performed in emergency. We found a penetrating wound of the right diaphragm, while the parenchyma of the VIIth liver segment presented a wound of 5 cm in length and 3 cm in depth with a transected branch of the right hepatic vein within. This lesion was closed with Prolene 5/0 stiches. Since the bleeding was still important we used the Habib Sealer 4x device with Rita 1500X radiofrequency generator. The device was placed on the two sides of the hepatic wound and the generator set at 50W power allowing hemostasis completion. Phrenoraphy and pleural drainage completed the operation. The 3rd postoperative day, a CT scan showed efficient hemostasis without any lesions of the vascular or biliary structures. The patient had an uneventful recovery being discharged on the 9thpostoperative day.
Comments: Radiofrequency is effective for achieving hemostasis in patients with active liver hemorrhage
References: Recordare A, Bruno GT, Callegari P et al. Bleeding control by radiofrequency in penetrating trauma of the liver. G Chir. 2011;32(4):203-5. Maroulis I, Spyropoulos C, Kalogeropoulou C et al. Use of radiofrequency ablation for controlling liver hemorrhage in the emergency setting; report of two cases and review of the literature. Ulus Travma Acil Cerrahi Derg. 2013;19(2):167-72. Yekuo L, Shasha W, Feng H. Multipolar radiofrequency ablation in controllinghemorrhage from blunt liver trauma. Am J Emerg Med. 2009;27(2):197-201 Seicean R, Binţinţan V, Seicean A et al. Emergency laparoscopy combined with radiofrequency ablation for hemostasis after percutaneous liver biopsy. Chirurgia (Bucur). 2011;106(2):247-9.
Disclosure: No significant relationships.

P348

ENDOVASCULAR TREATMENT OF BLUNT TRAUMATIC INJURY TO THE SUPERIOR MESENTERIC ARTERY

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Case History: We report superior mesenteric artery pseudoaneurysm after blunt abdominal trauma, in a hemodynamically unstable patient, damage control was made, no active bleeding was observed intraoperatively, at the postoperative, endovascular treatment was made with complete resolution without complications.
Clinical Findings: A 42 years old man fell from height of 11meters while he was working, at the emergency room he had Glasgow 15, SBP: 90mmhg, HR: of 110, oxygen saturation was 90%, he reported

general abdominal pain and physical examination of the abdomen revealed tender epigastrium, FAST was positive, hematuria was present. He was resuscitated with intravenous fluids and blood, body Computed Tomography (CT) was made.
Investigation/Results: (CT) Revealed free peritoneal fluid, retroperitoneal right hematoma, contrast extravasation on the superior mesenteric artery and right renal vein After(CT) was made the patient suddenly lose consciousness and became hemodynamically unstable a laparotomy was indicated. On opening the abdomen there was a massive hemoperitoneum, Cattell and Kocker maneuver was made with findings of extensive retroperitoneal right hematoma, avulsion of the renal vein, and hematoma on the posterior wall of the duodenum and pancreas not expansive, attempted vein repair unsuccessfully opted for nephrectomy in a hemodynamically unstable patient, small bowel were normal, patient was send to surgical intensive care unit.
Diagnosis: On day 3 after trauma patient develop cholestasis, nuclear magnetic resonance demonstrated 3.5cm Superior mesenteric vein pseudoaneurisma, endovascular stent was placed.
Therapy and Progression: The patient was discharged after 20 days. At follow-up, the patient had made a full recovery and there were no complications, control arteriography without evidence of pseudoaneurisma.
Comments: not comments
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Disclosure: No significant relationships.

P349

A CASE OF PEDIATRIC LIVER INJURY THAT HAS BROUGHT THE BILE DUCT STENOSIS AS A LATE COMPLICATION

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Case History: Traumatic bile duct stenosis is a relatively rare disease. Nothing is yet clear even the pathogenesis and treatment.
Clinical Findings: The patient was 3-year-old boy. He crashed to the ground of asphalt from the home balcony of the third floor apartment, it was found lying on the street. He was brought to the emergency center after 31 minutes from perception.
Investigation/Results: GCS was E3V4M5, had exhibited tachypnea and tachycardia blood pressure was maintained. Rise of transaminase was observed in the blood test. Obvious traumatic change in the chest X-ray and pelvis X-ray was not pointed out. Head CT showed skull fractures, but the obvious intracranial hemorrhage was not observed.
Diagnosis: Abdominal contrast CT showed a traumatic GradeI-V(AAST) liver injury.
Therapy and Progression: Abdominal angiography was performed, and the right hepatic artery embolization was performed. Since the general condition was stabilized, it became ambulatory discharged on the 40th postoperative day.
Comments: From 3 months after hospital discharge, fever of 37 ~ 38 °C appeared. From 4 months after discharge, itching of the whole body appeared. Abdominal CT showed the intrahepatic bile duct stones and gallstones, which occur frequently. Also the right hepatic lobe is atrophy, it was observed hypertrophy of relatively left hepatic lobe.
References: We have experienced a case that has brought the bile duct stenosis after TAE as a late complication. We will report this case with some bibliographic consideration.
Disclosure: No significant relationships.

P350

THE MANAGEMENT OF TRAUMATIC ABDOMINAL WALL HERNIAS - CASE SERIES

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Case History: We present three cases that were admitted in our department following blunt abdominal trauma resulting in traumatic abdominal wall hernias and associated injuries. The cases involved male patients, two presented abdominal handlebar injuries and one was struck with a blunt object over the abdomen. All cases presented within 12 hours after injury.
Clinical Findings: All patients were stable at admission, presented traumatic marks on their abdomen, in two cases the classical bullseye pattern following handlebar injuries and in one case a round echimosis that continuesd to the flank. Pain was present in all cases and two cases presented with peritoneal signs. Clinical examination showed a bulging of the abdominal content and a parietal defect was palpated.
Investigation/Results: In one case a CT (computed tomography) was performed that showed the abdominal wall defect and the herniating content and a large fluid collection in the peritoneum. In the remaining cases ultrasound was performed and revealed fluid in the abdominal cavity. Plain abdominal x-rays were unremarkable and negative for pneumoperitoneum.
Diagnosis: The diagnosis of TAWH (traumatic abdominal wall hernia) was straightforward. In all cases a bowel lesion was suspected. The diagnosis of associated lesions remained incomplete until surgical exploration.
Therapy and Progression: Lesions found during laparotomy: mesentery laceration and bleeding, mesentery and bowel laceration and in one case no injuries. Bowel resection was performed in one case and hemostasis was achieved in all cases. The parietal defect was repaired primarily with simple sutures.
Comments: TAWHs pose significant challenges in trauma. They are often overlooked because of associated injuries and the best approach (ie mesh placement) may not be available in contaminated fields.
References: 1. Brett, D., Seybold, D., Michalski, S., & Muhr, G. (2008). Acute traumatic abdominal wall hernia after blunt abdominal trauma. Der Unfallchirurg, 111(5), 361–364. 2. Yaylaci, S., Ercelik,

H., Seyit, M., Kocyigit, A., & Serinken, M. (2014). Handlebar trauma causing small bowel hernia with jejunal perforation. The Western Journal of Emergency Medicine, 15(4), 367–8. 3. Singal, R., Gupta, R., Mittal, A., Gupta, A., Singal, R. P., Singh, B. Mittal, G. (2012). Delayed Presentation of the Traumatic Abdominal Wall Hernia; Dilemma in the Management - Review of Literature. Indian Journal of Surgery, 74(2), 149–156.
Disclosure: No significant relationships.

P350A

RECTO-SIGMOID DISRUPTION RESULTING FROM SEATBELT RELATED TRAUMA

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Case History: A 35-year-old man driver was referred to the emergency department following a high velocity head–on collision.
Clinical Findings: On admission he was alert, tachycardic and complained of severe abdominal pain. On abdominal examination, a seatbelt sign was noticed and he was peritonitic. Laboratory studies revealed a white blood cell count of 17,170/μL.
Investigation/Results: Computed tomography (CT) revealed pneumoperitoneum and fractures of the vertebral body of L4. Moreover there was also a disruption of the left anterior abdominal wall muscles associated to left colon herniation (Fig.1).
Diagnosis: *Rectal-sigmoid disruption,* left abdominal wall muscle laceration with traumatic hernia
Therapy and Progression: An exploratory laparotomy revealed a 30 cm ischaemic terminal-ileum segment with avulsed mesentery and a near-total transection of the recto-sigmoid junction (Fig.2). A disconnection of left anterior abdominal muscles wall, from pubis and left ilium bones, was associated to a retraction of the external and internal left oblique muscles. Hartmann's procedure together with small bowel resection and primary anastomosis were performed. The left abdominal wall defect was reconstituted by suture and the abdomen was closed. He was well and discharged home after fifteen day.
Comments: Rectal injury following blunt abdominal trauma is rare: in civilian population is reported an incidence of 0.1-0.5% [1]. The association of seatbelt sign, lumbar spine fracture and bowel perforation is recognized as "seatbelt syndrome"[2]. According to Chandler CF et al, seatbelt sign can be predictive of visceral injury in over 60% of cases [3]. Abdominal pain, seatbelt sign and concomitant musculoskeletal injury following blunt abdominal trauma, might be considered strongly indicative of exploratory laparotomy.
References: J El Kafsi, R Kraus, R Guy. A report of three cases and review of the literature on rectal disruption following abdominal seatbelt trauma. Ann R Coll Surg Engl 2016; 98: 86–90
Garrett JW, Braunstein PW. The seat belt syndrome. J Trauma 1962; 2: 220–238
Chandler CF, Lane JS, Waxman KS. Seatbelt sign following blunt trauma is associated with increased incidence of abdominal injury. Am Surg 1997; 63: 885–888.
Disclosure: No significant relationships.

P351

ALCOHOL AND BULLS DON'T MIX: EVISCERATION BY BULL HORN - A CASE REPORT

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Case History: A 56-year-old-man was brought to the Emergency department, apparently alcohol-intoxicated. The patient was victim of bull gore during a festivity which resulted in blunt abdominal trauma complicated of evisceration. The patient was unable to provide any information. No medical history, usual medication or allergies were known.
Clinical Findings: On admission the patient was sleepy responsive to painful stimuli, PERRLA. Pale skin and mucosas Polypneic at rest with oxygen suppl,blood pressure 154/86 mmHg, heart frequency: 70 bpm. Several facial chest and abdominal grazes. Abdomen: penetrating wound with evisceration on the right upper quadrant
Investigation/Results: Due to the urgent indication for surgery, only blood grouping was preformed before entering the operating room.
Diagnosis: Intraoperatively, besides the eviscerated small intestine through the abdominal upper right quadrant, ischemic jejunal segment due to a lacerated meso and the laceration of the ileum cecal meso was found
Therapy and Progression: A small intestine and ileocecal ressection with ileal anastomosis was performed. The immediate postoperative was held in the UCI. The patient was transfered to the ward at 5th PO day. The patient was discharged at 9th PO day clinically improved. At the present, the patient is well with no significant complaints.
Comments: Festivities with bulls are fairly common in Southern Portugal. Bull goring occurs seldom usually causing limb injuries. Abdominal injury is less common, being evisceration a rarity. This case report exemplifies the complexity of trauma caused by bull goring and the need of thorough and careful surgical exploration and treatment.
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Maske An et Al., Traumatic Abdominal Injuries: Our Experience At Rural Tertiary Care Center, Int Surg J. 2016 May;3(2):543-548
B. Raj Siddharth et Al, Penetrating Injuries To The Abdomen: A Single Institutional Experience With Review Of Literature, Indian J Surg 2016 Feb; online
Disclosure: No significant relationships.

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"DEATH BY A THREAD"-WHEN THE PATIENT'S LIFE IS ALL DEPENDENT ON THREAD BETWEEN SPECIALTIES

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Case History: we report a clinical case of an 80 years-old patient presented with a transtrocahanteric fracture after a fall.Osteosynthesis with DHS was done without any misadventure during the procedure.During post operative period the patient complained of regarded as inspecific chronic pain.Two days after discharge the patient returned to the emergency department with the same complaints and was prescribed analgesics without any diagnosis been made.four weeks later the patient returned with increasing pain,hidroelectrolytic imbalance and sepsis.He was admitted to the Surgery Department.
Clinical Findings: An acute abdomen was diagnosed.blood analyses reveled leukocytosis and elevated C-reactive protein and DHL.He underwent to operating room.
Investigation/Results: During surgery it was found a scar in the right trochanteric region;abdominal cavity with purulent colletion with faecal matter associated with peritoneal reaction and bacterial peritonitis;abdominal adhesions with cecum perforation near the ileocecal valve.Contiguous to this lesion there was a bladder wall haemorragic infiltration associated with a small single path puncture injury-these findings allowed the distinction between traumatic and spontaneous intestinal perforation.He died.
Diagnosis: Generalized faecal peritonitis caused by previous fracture stabilization.
Therapy and Progression: The most frequent DHS ASSOCIATED COMPLICATIONS ARE OSTEOSYNTHESIS FAILURE BY LOST OR INADEQUATE fracture reduction,sliding screw cut out or its migration to pelvic space,non-union and infection.
Comments: All surgical techniques have associated risks.hollow viscera perforation is possible,even in a procedure as simple as DHS or cannulated screw placement.Careful observation of every sugical steps is essential.The patient doesn t belong to one exclusive speciality and needs multidisciplpinary view and intervention because post operative abdominal pain after hip,pelvic or spinal surgery required a carefull look.
References: T.M Gedebon, R.A Wong, W.D.Rappaport et al, Clinical presentation and management of iatrogenic colon perforations. Am.J.surg 172 (5) (1996) 454-457 P. Mishra et al, Intrapelvic protrusion of guide wire during fixation of fracture neck of femur, Injury 33 (2002) 839-841 H.Kesmezacar et al, Predictors of mortality in eldery patients with an intertrochanteric or a femoral neck fracture. j. trauma 68 (January (1) (2010) 153-158. M Feeney, Risk of pelvic injury from femoral neck guidewires, Arch. Orthop. Trauma Surg, 116 (1997) 227-228 S Kottmeir et al, Laparoscopic retrieval of a migration intrapelvic pin: case report and rivew of literature, J.Trauma (1993)
Disclosure: No significant relationships.

P353

SEQUENTIAL TREATMENT IN SEVERE HEPATIC TRAUMA (LEVEL 5)

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Case History: A 25 year-old, male patient with multiple injuries after precipitation from 6 m was transported to Emergency County Hospital Targoviste, where the following diagnosis was established: polytrauma, severe traumatic brain injury, thoracic - abdominal trauma with hepatic rupture and open fractures of the distal parts of the radius. The patient was operated and evacuation of the hematomas found and packing of the abdominal cavity was performed.
Clinical Findings: At admission, the patient was mechanical ventilated, tachycardic, hypotensive on positive vasopressor support, with no peripheral pulse, mydriasis and the trauma score was 2.
Investigation/Results: Laboratory analysis and the ultrasonography confirmed the hemorrhagic and traumatic shock and the severe hepatic lesion. The computer tomography scan pointed out: vast lesion of the right liver lobe with active bleeding and hemoperitoneum, renal contusion and subcapsular right hematoma.
Diagnosis: The diagnosis established was: lesion of the right liver lobe with active bleeding and hemoperitoneum, renal contusion and subcapsular right hematoma without intracranial lesions (level 5) and lesion of superior vena cava.
Therapy and Progression: Atypical hepatectomy, ligation of the suprahepatic right vein, suture of the superior vena cava, autotransfusion with Cell Saver and packing of the peritoneal cavity were performed. After 36 hours the patient was reopened and the abdominal packs were extracted. The patient was reoperated for a suspected abscess but a hematoma in evolution without pus was discovered. A severe form of sepsis with fungus appeared which was succesfully treated with Caspofungin.
Comments: The surgical treatment and the intensive care may guarantee the survival of the patient with severe hepatic trauma.
References:
Disclosure: No significant relationships.

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SMALL BOWEL TRANSPLANT AFTER GUNSHOT INJURY TO THE SUPERIOR MESENTERIC VEIN

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Case History: A 41 year old man presented with five abdominal gunshot wounds and underwent damage control laparotomy.
Clinical Findings: Intraoperatively he was found to have injuries to the duodenum and proximal superior mesenteric vein, as well as the head of the pancreas and multiple colonic injuries. In the face of life threatening exsanguination, damage control laparotomy with control of spillage and ligation of the superior mesenteric vein was performed. After resuscitation and correction of coagulopathy, he returned to the operating room for extended right hemicolectomy, resection of third and fourth portions of duodenum, retrograde duodenostomy, gastrostomy and repair of superior mesenteric vein with saphenous vein interposition graft.
Investigation/Results: Forty-eight hours later, his small bowel was congested and ischemic. At this point, a transplant center with expertise in small bowel transplant was contacted and after discussion with the family, decision was made to resect the entire ischemic small bowel and pursue small bowel transplantation after recovery from his trauma.
Diagnosis: The patient had a protracted hospital course and was discharged on hospital day 71 with a stapled-off foregut drained via gastrostomy, and on total parenteral nutrition.
Therapy and Progression: Further challenges arose in finding a suitable donor for the patient, but he eventually underwent small

bowel transplant eight months after the initial trauma and is currently recovering well from transplant with good allograft function.
Comments: This case illustrates that as the field of transplant surgery evolves, early multidisciplinary coordination may allow the salvage of patients with abdominal injuries that have long been considered non-viable.
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Disclosure: No significant relationships.

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AN ACCIDENT AND A SURVIVOR - A BLUNT TRAUMA CASE REPORT

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Case History: A 43-year-old man, high speed motor vehicle collision victim, with incarceration, was brought to the Emergency department with thoracic, abdominal and lower back injuries.
Past medical history of lymphoma 18 years ago, with 3 relapses (last cycle of chemotherapy 3 months before the event) and splenectomy 10 years ago.
Clinical Findings: On admission, GCS 15, BP 88/61 mm Hg, HF 70 bpm, O2 Sat 98% on 5L, amnesia for the event, eupneic, symmetrical auscultation, Lap belt marks, distended tender abdomen with guarding
Investigation/Results: Abdominal-pelvic CT scan revealed "L4 right transverse process fracture. air in the anterior peritoneum, due to possible rupture of hollow viscera hemopneumoperitoneum"
Diagnosis: Intraoperatively, hemoperitoneum was confirmed,with laceration of an ileum loop and respective mesenterium 20 cm from the ileocecal valve, as well as a sigmoid colon rupture.
Therapy and Progression: Segmental resections of small intestine and sigmoid with primary anastomosis were performed. The patient was admitted to the ICU for the immediate P.O uneventfully. After being transferred to the ward, a surgical site infection with intraabdominal abcess was diagnosed, which resolved with antibiotics and support treatment. He was discharged on the 17th day.
Comments: Blunt abdominal trauma after MVC are a major cause of abdominal injury observed in the ED. The most affected intra-abdominal organs are the spleen the small intestine and the colon. One of the most common MOI is the sudden and sharp increase in intra-abdominal pressure after deceleration. This case exemplifies a timely diagnosis and early treatment contributed to increase survival and decrease morbidity.
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Disclosure: No significant relationships.

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SPLENIC INJURY AFTER COLONOSCOPY. COULD THAT HAPPEN TWICE? AN UNUSUAL CASE REPORT

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Case History: Iatrogenic splenic injury is a known but rare complication of colonoscopic procedures. We describe un unusual case of the same complication that occurred twice on the same patient.The patient had an elective colonoscopy for microcytic anemia and shortly after the endoscopic procedure she developed excessive abdominal pain and had a syncope episode. She gradually became hemodynamically unstable and needed proper resuscitation. An abdominal CT scan performed which surprisingly demonstrated active intra-abdominal bleeding pointing a ruptured spleen as the source of the hemorrhage. This finding surprised us given the fact that her past surgical history included a previous splenectomy for the same complication 14 years ago.
Clinical Findings: After the colonoscopy the patient had unremitting left upper quadrant pain and had symptoms of syncope and hypotension. The patient was admitted to the hospital directly from the endoscopy unit. Hemoglobin (Hb) on admission from 91 g/L to 67 g/L.
Investigation/Results: An urgent CT abdomen/pelvis scan was arranged. The scan revealed a large perisplenic haematoma with active splenic extravasation of contrast. Images demonstrated also large amount of free blood in the abdomen and the pelvis
Diagnosis: splenic injury
Therapy and Progression: Subsequently we performed a splenectomy. Thorough investigation of the abdominal cavity was negative for residual splenic tissue. Histology confirmed normal ruptured splenic tissue with hematoma.The patient had an uneventful post-surgical course and discharged four days after.
Comments: We postulate that there was either a splenosis or a splenunculus. To the best of our knowledge this is the first reported case of the same rare complication that happened twice to the same patient.
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Disclosure: No significant relationships.

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BLUNT SPLENIC INJURY PRESENTING WITH SYMPTOMS OF A PULMONARY EMBOLISM

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Case History: Spleen remains the most commonly affected organ in blunt injury to the abdomen in all age groups. We present a case of a young patient who presented to the A&E department two weeks after an accident. He presented with sortness of breath, tachypnea and left sided chest pain. He also had left knee heamarthrosis.
Clinical Findings: On examination the patient was tachypnoeic, dyspnoeic and his oxygen saturation was remarkably low. No significant visible trauma markings on chest/abdomen, although left knee injury noted.
Investigation/Results: Basic blood screening revealed elevated D-dimers. The clinical presentation and the laboratory tests set the diagnosis of pulmonary embolism (PE) and the patient was treated according to the PE protocol with LMWH. Afterwards, the patient had an urgent computed tomography-PA which did not show pulmonaty embolism. On the contrary, was suggestive for haemoperitoneum.
Diagnosis: The patient had an abdominal CT which demonstrated extensive splenic laceration with large intra-abdominal haematoma. The images were suggesting of splenic injury.
Therapy and Progression: Initially, the patient decided to be managed conservatively. But serial Hb monitoring showing significant drop from 133 mg/dl to 92 then 73 set the diagnosis of acute splenic bleeding on subacute splenic injury and the decision was made to take the patient to theatre for an emergency laparotomy. Damage control principles applied and splenectomy and drainage of the peritoeal cavity performed. Uncomplicated recovery.
Comments: The clinical presentation of splenic injury is highly variable. In the history of blunt trauma on an ill patient, any thoracic or abdominal organ injury should be excluded before anticoagulation treatment applied.
References: 1. Shah M, Muquit S, Azam B. Infective splenic rupture presenting with symptoms of a pulmonary embolism. Emerg Surg J 2008 Dec;25(12):855-6. 2. Karen A MacKenzie and Roy L Soiza. Spontaneous splenic rupture mimicking pneumonia: a case report. Cases Journal 2008, **1**:35.
Disclosure: No significant relationships.

P358

FATAL EVOLUTION IN ABDOMINAL TRAUMA. LATE DIAGNOSIS AND MISMANAGEMENT

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Case History: A 44-years old female patient was hospitalised for 3 days in a nonsurgical outcare unit, as she was diagnosed with liver cirrhosis and infected ascites. The 3-rd day she underwent an abdominal ultrasound showing splenic hemathoma, hepatic rupture, intraperitoneal liquid; the paracentesis extracted blood. On repeated the anamnesis, she admitted she felt off the wagon with straw 2 weeks ago. She was operated in emergency: laparotomy, splenectomy, hepatic packing, abdominal drainage. The important postoperative bleeding recquired reintervention for hemostasis. After 72 hours the meshes were removed and multiple abdominal drainage was installed. Due to the respitratory failure, she was transferred on a pneumological care unit the 11-th day. The CT scan showed besides bronchopneumonia, an important quantity of intraperitoneal liquid. She was then transferred in our intensive care unit.
Clinical Findings: The patient was intubated and mechanically ventilated, with high fever, oligoanuria. The local examination showed the necrosis of the tissues around the postoperative wound and purulent secretion on the drainage tubes.
Investigation/Results: Leucocytosis, high CRP, amylasemia.
Diagnosis: Thoracicoabdominal trauma, posttraumatic severe pancreatitis, multiple organ failure.
Therapy and Progression: Laparotomy: lavage of the peritoneum, necrosectomy, multiple peritoneal drainage, vacum laparostomy. Unfavorable rapid evolution with fatal outcome.
Comments: The admission to an improper medical service for the patient's pathology and the delayed diagnosis are factors that have contributed to the unfavorable evolution of the patient. The principles in traditional medicine (anamnesis, careful clinical examination) easily applicable to any medical service, remain very important despite the progress of medicine. Simple diagnostic maneuvers, applicable in any hospital unit can slice diagnosis.
References: 1. Singh H, Giardina TD, Meyer AND et al. Types and Origins of Diagnostic Errors in Primary Care Settings. JAMA Intern Med. 2013;173(6):418-425. 2. Yang F, Bai XJ, Li ZF. Analysis of misdiagnosis in patients with multiple trauma. Chinese Journal of Traumatology. 2011. 14(1): 20-24
Disclosure: No significant relationships.

P359

DELAYED DIAGNOSIS OF CERVICAL ABSCESS AFTER ESOPHAGEAL RUPTURE DUE TO BICYCLE ACCIDENT

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Case History: Patient C.I. aged 57, without medical history, victim of a bicycle accident 1 week prior to admission.
Clinical Findings: Clinical examination showed left thoracic pain, dorsum nasi, menton and zygomatic bruises
Investigation/Results: Thoracic X-ray, FAST ultrasound and complete blood work showed fracture of the 5-th left rib with no intraabdominal lesions modifications, and anemia with Hb=9g/dL. 48 hours prior to the admission the patient presented cervical tumefaction and productive caughing. The patient underwent emergency CT that revealed esophageal rupture with cervical air-fluid collection sized 9,5/7,5cm, with contrast splillage, and the 6th vertebral body and spinous process fracture.

Diagnosis: 1 week old bicycle accident, cervical abscess due to esophageal rupture. 6th vertebral body and spinous process fracture. Thoracic trauma with 5-th left rib fracture. Nasal bone fracture.
Therapy and Progression: The patient underwent surgery that evacuated and drained the purulent collection through cervical approach, and Stamm gastrostomy. Patient had a good postoperative evolution that allowed removal of the drainage tube after 15 days. Oral intake of contrast substance in days 9 and 14 showed no extravasation through the drainage tube and the endoscopy revealed no esophageal lesions after 15 days. Patient was readmitted after 2 months for gastrostomy removal.
Comments: Esofagian ruptures have a great mortality rate (5-40%), reaching 50% if operated after the first 24 hours. The patient had no sepsis signs even after 7 days, and the postoperative period was uneventfull.
References: Henderson E, Echavé V, Lalancette M, Langlois G. Esophageal perforation in closed neck trauma. Can J Surg. 2007;50:E5–E6 Strauss DC, Tandon R, Mason RC. Distal thoracic oesophageal perforation secondary to blunt trauma: case report. World J Emerg Surg. 2007;2:8. Misiak P, Jabłoński S, Terlecki A. Cervical esophageal rupture after blunt trauma resulting from a car accident. Kardiochir Torakochirurgia Pol. 2016 Sep;13(3):262-264.
Disclosure: No significant relationships.

P360

MANAGEMENT OF INTESTINAL EVISCERATION INJURY AFTER RUN OVER BY CAR

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Case History: 25 year-old male patient admitted in the ER after being involved in a car run over.
Clinical Findings: Hemodinamic stability, complete avulsion of skin and subcutaneous tissue, muscle and sheath with evisceration of the small intestine
Investigation/Results: Initial IV fluids. Emergent exploratory laparotomy was performed: multiple rib fratures, rupture of few parts of serous layer of cecum, ascending colon walls, small disruptions in the mesentery, contusion of the spleen and grade I hepatic laceration.
Diagnosis: Toraco-abdominal trauma with intestinal evisceration.
Therapy and Progression: Closure of the serous defects; stabilization of the rib fractures with non-absorvable suture; spleen and hepatic hemorrage controlled with Tachosil. Abdominal wash out and a multicapilar drain placed. Rotula fracture treated with a Depuy imobilization. Chest tube was introduced. Respiratory rehabilitation was started in pos-operative day 2. Discharged from the hospital after 11 days.
Comments: The patient recovery was favoured by intensive respiratory rehabilitation and inhanced a quick returning to the patient activity as a clarinet musician
References: "Bansal S., Jain S., Meena L. N.; Staged management of giant traumatic abdominal wall defect: A rare case report; Burns Trauma. 2013; 1(3): 144–147."; "McDaniel E., Stawicki SP, Bahner DP; Blunt traumatic abdominal wall disruption with evisceration; Int J Crit Illn Inj Sci. 2011 Jul;1(2):164-6.; ATLS 9th edition
Disclosure: No significant relationships.

MANAGEMENT OF SEVERE HEMORRHAGE FROM PELVIC INJURY (CASE PRESENTATION)

P361

POSTTRAUMATIC BLADDER HERNIATION INTO A PUBIC SYMPHYSIS DIASTASIS IN A TYPE C PELVIC RING FRACTURE – AN UNUSUAL PRESENTATION

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Case History: In June 2016 patient UI, male, 64 years old, suffers an injury by falling from a height for which is admitted in emergency.
Clinical Findings: Comatose patient.
Investigation/Results: Based on conventional radiographs and CT scan he is diagnosed with a C1-3 pelvis fracture. CT scan also reveals a posttraumatic bladder herniation into the pubic symphysis diastasis.
Diagnosis: He was also diagnosed with CV-CIX rib fractures, sternum fracture, antero-internal shoulder dislocation, liver contusion, latero-thoracic subcutaneous emphysema, retroperitoneal and prevesical hematoma, head trauma, multiple contusions.
Therapy and Progression: To control the bleeding in emergency, it is necessary to stabilize the pelvis fracture with a pelvic binder. Not to further damage the bladder during this maneuver, initially it is mounted a cistocat, hoping that by emptying the bladder it will withdraw from between the pubic bodies. CT scan reveals maintaining position of the bladder and for this reason pelvic binder is performed under CT control. Due to the general state of the patient the surgery for the fractured pelvis is delayed. Meanwhile it is revealed the presence of a urinary infection with multiresistant Pseudomonas aeruginosa and for this reason it is preferred to stabilize the pelvic fracture with external fixator.
Comments: Although urological injuries are common in pelvic fractures, herniation or interposition of bladder into pelvic fractures is very rare phenomenon with available case reports mentioning herniation and subsequent entrapment into pubic symphyseal diastasis (1-4). It is important to focus on avoiding possible urinary bladder complications associated with closed reduction and external fixation of the diastasis.
References: Finnan RP, Herbenick MA, Prayson MJ, McCarthy MC. Bladder incarceration following anterior external fixation of a traumatic pubic symphysis diastasis treated with immediate open reduction and internal fixation. Patient Saf Surg. 2008;2:26. Min W, Gaines RJ, Sagi HC. Delayed presentation of bladder entrapment secondary to nonoperative treatment of a lateral compression pelvic fracture. J Orthop Trauma. 2010;24:e44-8. Tabib W, Mitilian D, Pauthier F, Ghiles E. Herniation of the bladder after recurrent pubic symphysis diastasis. EJOST. Aug 2010, 20(6), 497–500. Ghuman MS, Kaur S, Saggar1 K. Urinary Bladder Herniation into Pubic Ramus Fracture. Urology journal. Aug 2014, 11(4), 1852.
Disclosure: No significant relationships.

P362

SUCCESSFUL MANAGEMENT OF MASSIVE BLEEDING FROM A BUTTOCK STAB WOUND USING TEMPORARY BALLOON TAMPONADE USING A FOLEY CATHETER BRIDGE TO INTERVENTIONAL RADIOLOGY

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Case History: A 41-year-old previously healthy male injured his left buttock by sitting on a piece of broken glass. He could stand without assistance, but when brought to our ER by ambulance, bleeding from the wound could not be controlled by compression.
Clinical Findings: On arrival, his vital signs were indicative of shock. The injury was 3-cm wide and more than 5-cm deep, with arterial haemorrhage.
Investigation/Results: Enhanced CT and angiography revealed active extravasation from the inferior gluteal artery.
Diagnosis: Penetrating inferior gluteal arterial injury
Therapy and Progression: Because gauze packing could not control the bleeding, we inserted a Foley catheter into the wound and inflated it as a temporary tamponade, which succeeded in controlling the bleeding. We were able to safely perform the image inspection. The patient was treated by angiography and selective arterial embolization with NBCA. No postoperative fever, infection, necrosis, or hematoma was observed in the 6 days following treatment.
Comments: Use of a Foley catheter bridge to hemostasis can be considered as a simple and effective method for control of bleeding from deep stab wounds.
References:
Disclosure: No significant relationships.

CEREBROSPINAL TRAUMA (CASE PRESENTATION)

P363

POSTTRAUMATIC LUMBAR SPONDYLOLISTHESIS L5-S1

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Case History: A 28 y.o. biker suffered a road accident during a collision with a car in September 2011.
Clinical Findings: The patient had severe lumbosacral and thoracic pain together with mild paraparesis and cauda equina syndrome and which made him bedridden and incapable of mobilizing.
Investigation/Results: The lumbar radiography shows 3rd-4th degree spondylolisthesis L5-S1. The MRI shows contusion-laceration lesions of the spinal cord L5-S1.
Diagnosis: Lumbar trauma with 3rd degree Posttraumatic Spondylolisthesis L5-S1 and Cauda Equina Syndrome.
Therapy and Progression: The surgery was perfomed 14 days after admission, lasted for 3 hours and consisted in the decompression of the cauda equina and the nerves with the reconstruction of the dura mater. Afterwards, the reduction of the L5-S1 luxation fixation and posterolateral interbody fusion was accomplished with L5-S1 transpedicular screws and iliac bone graft. The patient started mobilizing 3 days after surgery and discharged after 1 week. After 3 months he was completely recovered and the spinal fusion was complete.
Comments: Lumbar Spondylolisthesis is classified according to Wiltse, Newman and MacNab (1976) into: Dysplastic, Isthmic, Degenerative, Posttraumatic and Pathologic. Posttraumatic spondylolisthesis is rare and results from acute fractures of the neural arch, other than the pars interarticularis (lamina or vertebral pedicle). The symptomatology consists in cauda equina syndrome. The treatment is by election surgical and consists in vertebral fixation and fusion.
References: 1. Benzel EC. Biomechanics of spine stabilization. 1st edn. Illinois: Thieme; 2001. pp. 1–17. 2. Lamn M, Henriksen S-EH, Eiskjcer S. Acute traumatic L5–S1 spondylolisthesis. J Spinal Disord Tech. 2003;16:524–527. 3. Wiltse LL, Newman PH, Macnab I. Classification of spondylolysis and spondylolisthesis. Clin Orthop. 1976;117:23–29. 4. Lim CT, Hee HT, Liu G. Traumatic spondylolisthesis of the lumbar spine: a report of three cases. J Orthop Surg (Hong Kong) 2009;17(3):361–365. 5. Roche PH, Dufour H, Graziani N, Jolivert J, Grisoli F. Anterior lumbosacral dislocation: case report and review of the literature. Surg Neurol. 1998;50(1):11–16.
Disclosure: No significant relationships.

P364

THORACIC SPINE FRACTURE-LUXATION T6-T7 IN A POLYTRAUMA PATIENT

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Case History: A 26 y.o. woman suffered a polytrauma by accidental falling from the 3rd floor (15m) in June 2013.
Clinical Findings: The patient had hemorrhagic shock, severe thoracic trauma with multiple fractured ribs, bilateral hemothorax, abdominal trauma with hepatic contusion together with splenic dilaceration, vertebral trauma with T6-T7 fracture-luxation without neurological findings and right collarbone and scapula fractures.
Investigation/Results: The radiography and CT scan during the spinalization confirm the diagnosis of type C T6-T7 fracture-luxation in the AO classification.
Diagnosis: Severe polytrauma with multiple fracture lesions. Vertebral trauma with T6-T7 fracture-luxation without neurological findings. Bilateral Hemothorax. Abdominal severe contusions and internal bleeding.
Therapy and Progression: After the hemothorax was drained and the splenectomy was performed, the patient began the spine surgery. The operation consisted in spinal decompression, reduction, fixation and fusion using titanium instrumentation: transpedicular screws, rods and titanium cage. The postoperative evolution was favorable, the patient being discharged 10 days after surgery.After 1 year the patient had no complaints and the vertebral fusion was complete.
Comments: Severe spinal lesions with fracture-luxation are frequently found in polytrauma patients. Neurological symptoms (paraplegia) are frequent and the lack of these symptoms is very rare. The treatment is by election surgical and consists in the decompression, reduction, fixation and fusion of the spine.
References: 1. Saiki K, Hirabayashi S, Sakai H, Inokuchi K. Traumatic anterior lumbosacral dislocation caused by hyperextension

mechanism in preexisting L5 spondylolysis: a case report and a review of literature. J Spinal Disord Tech. 2006;19(6):455–462
2. Watson-Jones R. Fractures and joint injuries. 1st edn. Baltimore: Williams & Wilkins; 1940. p. 641.
3. Benzel EC. Biomechanics of spine stabilization. 1st edn. Illinois: Thieme; 2001. pp. 61–89.
4. Zuidema GD, et al: The Management of Trauma, ed 3. Philadelphia, W.B. Saunders, 1979, 379—383.
5. Kapandji IA: The Physiology of the Joints: The Trunk and the Vertebral Column, ed 2. New York, Churchill Livingstone, 1974, Vol III, p 138.
Disclosure: No significant relationships.

P365

PENETRATING SPINAL INJURIES IN FRANCE AND IN OVERSEAS OPERATIONS: HOW MANAGEMENT DIFFERS

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Case History: Four patients with ballistic penetrating spinal injury were managed in 2015: they were victims of the attacks of the 13th of November.
Clinical Findings: The clinical presentation were: - Absence of neurological deficit (ND), stable. - Incomplete ND, rather unstable lesion. - Complete ND, unstable lesion. - Complete ND, permanent injury.
Investigation/Results: Investigation
Diagnosis: Diagnosis.
Therapy and Progression: The stable lesion was treated by thermoformed bracing. The patients with unstable lesions underwent surgery that was performed immediately by decompressive laminectomy (incomplete deficit) and by delayed percutaneous surgery (complete deficiency). For the last patient, surgery was performed to stop the dural leak.
Comments: Surgical indications are the same for war and civil practice. The impossibility of fitting a brace in overseas operations would have led to treating a patient with the healthcare available to the local population. Without ND with a rather unstable lesion, the patient would be managed with prolonged bed rest or by instrumented surgery without laminectomy. Furthermore, the percutaneous surgical techniques available in homeland medical infrastructures were not deployed in Kabul. Thus, a military patient with full deficit and vertebral instability would be evacuated on a vacuum mattress for delayed stabilisation. On the other hand, a patient relying on the medical aid to the population, would have to stay in bed. This would result in an increased risk of recovery problems. Single use ancillary systems are now available to perform instrumental spine surgery in both conventional and percutaneous manner. Dual-use instruments could lead us to reconsider the choice of deployable equipment.
References: 1. Klimo, P., Ragel, B. T., Rosner, M., Gluf, W. & McCafferty, R. Can surgery improve neurological function in penetrating spinal injury? A review of the military and civilian literature and treatment recommendations for military neurosurgeons. Neurosurg. Focus 28, E4 (2010).
2. Kumar, A., Pandey, P. N., Ghani, A. & Jaiswal, G. Penetrating spinal injuries and their management. J. Craniovertebral Junction Spine 2, 57–61 (2011).
3. Martins, R. S., Siqueira, M. G., Santos, M. T. S., Zanon-Collange, N. & Moraes, O. J. S. Prognostic factors and treatment of penetrating gunshot wounds to the head. Surg. Neurol. 60, 98–104 (2003).
Disclosure: No significant relationships.

P366

THE ROLE OF CONSERVATIVE MANAGEMENT OF TENSION PNEUMOCEPHALUS IN TWO CASES POST TRAFFIC-RELATED INJURIES

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Case History: Case 1: A 30 year old male pedestrian hit by a car presented to Trauma room **Case 2:** A 43 years old lady driver involved in a motor vehicle collision
Clinical Findings: Case 1: Glasgow Coma Scale (GCS) score 15, stable vital signs, multiple facial lacerations, tenderness over the bilateral chest walls with abdominal wall ecchymosis, and right upper limb weakness. Case 2: Severe head and facial injuries. She had right forehead open fracture with globe rupture and brain matter out, and was bleeding from nose and mouth. The GCS was < 8 and the patient was intubated.
Investigation/Results: Computerized tomography (CT) imaging study of head and Magnetic resonance imaging (MRI) for cervical spine
Diagnosis: Case 1: Tension pneumocephalus, atlantoaxial sublaxation, disc protrusion with spinal cord indentation and contusions Case 2: Tension pneumocephalus and subarachnoid hemorrhage
Therapy and Progression: Conservative treatment Case 1: During the hospital course, the patient had cerebrospinal fluid rhinorrhea from the facial fractures along with fever, neck stiffness, severe headache and confusions. Patient was treated for meningitis.The patient discharged to home in good health condition. Case 2: The patient was treated conservatively, and had rhinorrhea (CSF leak) during the course. Incision and drainage was performed and the patient was posted for planned reconstructive surgery for right orbital rim with bone grafts.
Comments: These are two rare cases with posttraumatic pneumocephalus treated conservatively with favarable outcome. Early diagnosis of tension pneumocephalus is a crucial step to facilitate early recovery, however, the associated injuries infleunce the hospital course.
References: Chue KM, Lim TC, Lim J, Yap YL, Ong WC.Pneumocephalus Following Air Travel in a Patient With Preexisting Facial Fractures and Dural Tears.J Craniofac Surg. 2016 Oct;27(7):1774-1776 Rathore AS, Satyarthee GD, Mahapatra AK.Post-Traumatic Tension Pneumocephalus: Series of Four Patients and Review of the Literature.Turk Neurosurg. 2016;26(2):302-5
Disclosure: No significant relationships.

P367

TITANIUM MESH CRANIO-ORBITAL RECONSTRUCTION OF A COMPLEX CRANIOFACIAL FRACTURE FOLLOWING A SEVERE TRAUMATIC BRAIN INJURY – CASE REPORT

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Case History: We report a case of a 25 years old patient without significant medical history who suffered a severe TBI in a car crash.
Clinical Findings: He was brought in the emergency department in a deep coma, the only neurological response elicited was extension to nociception (GCS-4 pts.). A large frontal scalp laceration was visible; multiple bone fragments were palpable underneath with cerebral tissue extruded through the laceration.
Investigation/Results: A CT scan with bone window and bone reconstruction showed bilateral frontal and right temporal brain laceration with extended posttraumatic subarachnoid hemorrhage, and complex frontoorbitary, maxilary and zigomatic bone cominutive fractures and bilateral hemosinus.
Diagnosis: The diagnosis was bilateral frontal and right temporal brain laceration with extended posttraumatic subarachnoid hemorrhage and a complex cominutive right frontal, maxillary and zygomatic fracture corresponding to Le Fort III fracture, bilateral circumorbital ecchymosis with bilateral subconjunctival hemorrhage, epistaxis, CSF rhinorrhea and enophtalmia.
Therapy and Progression: Emergency surgery was performed. Both the frontal brain lacerations were cured and hemostasis was achieved. The temporal and orbital wall bone fragments were removed. Dura was reconstructed with fascia. The patient showed an impressive recovery after 5 months in NICU, being able to ambulate without assistance. A subsequent cranioplasty surgery was staged to reconstruct the frontotemporal defect and the roof and lateral wall of the orbita with titanium mesh and plates.
Comments: This case report shows an imprssive recovery following a severe TBI. The complex fronto-orbital fracture in this case has been reconstructed using the high versatility titanium wire mesh and perforated titanium plates system.
References: 1. Chesnut RM, Marshall LF, Klauber MR, Blunt BA, Baldwin N, Eisenberg HM, et al: The role of secondary brain injury in determining outcome from severe head injury. J Trauma, 1993 2. Demetriades D, Kuncir E, Velmahos GC, Rhee P, Alo K, Chan LS: Outcome and prognostic factors in head injuries with an admission Glasgow Coma Scale score of 3. Arch Surg, 2004 3. Eisenberg HM, Gary HE Jr, Aldrich EF, Saydjari C, Turner B, Foulkes MA, et al: Initial CT findings in 753 patients with severe head injury.. J Neurosurg 73:688–698, 1990
Disclosure: No significant relationships.

P368

DO NOT TRUST IN LOW SERUM LEVEL: PROTEIN S100B

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Case History: After mild head trauma injury a patient came to emergency ambulance to get some help because he had headake. He had no platelet aggregation inhibitors or any kind of anticoagulation. Like usual we tested the S100B blood level. Due to his headake we also permitted a CT-scan.
Clinical Findings: S100B blood level was normal but in the CT-Scan the Patient had a fracture and also a posttraumatic subarachnoidal hemorrhage.
Investigation/Results: Allthough some investigators argue, that S100B has no false negative results - we found one.
Diagnosis: Skull Fracture and posttraumatic subarachnoid hemorrhage.
Therapy and Progression: Konservative treatment with observation and pain killer
Comments: Sometimes it is realy hard to find the right decision. In this case the CT-Scan was the perfect way to detect the patients problem.
References: Rothermundt-M et al.: S100B in brain damage and neurodegeneration. - Microsc Res Tech 2003, 60614-632
Disclosure: No significant relationships.

P369

MIGRATION OF K-WIRE INTO SPINAL CANAL AFTER AC JOINT FIXATION- A CASE REPORT

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Case History: We present male patient who underwent examination in Emergency Center of Belgradedue to the weakness and increasing pain in his neck and arms.He underwent AC joint fixation three months ago due to the AC joint luxation (Tossy III).
Clinical Findings: Pain distribution in the nuchal region and both arms, increased with activity.
Investigation/Results: The migration occur through foramen into spinal canal with dura laceration.
Diagnosis: Intraspinal migration of k-wire with dura lesion
Therapy and Progression: The patient underwent surgical removal of the wire using anterior approach and afterward laminectomy and dura repair using posterior approach. Postoperative recovery went without complications.
Comments: Despite the fact that such cases are rare, it is of paramount importance to think about K-wire migration possibility after surgical procedures at shoulder region. Every sign regarding possible migration should alert surgeon and the consultation of spinal surgeon should be immediately performed.
References: Tan L, Sun DH, Yu T, Wang L, Zhu D, Li YH. J Med Case Rep. 2016 Mar 24;10:66
Disclosure: No significant relationships.

BONE INFECTIONS (CASE PRESENTATION)

P370

NEGATIVE PRESSURE WOUND THERAPY WITH INSTILLATION AND DWELL TIME USED TO TREAT INFECTED ORTHOPAEDIC IMPLANTS: A 4-PATIENT CASE SERIES

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Case History: Infection following orthopedic implants for bone fixation or joint replacement is always serious and may require removal of the osteosynthetic material. Negative pressure wound therapy with instillation and dwell time (NPWTi-d-d) is an emerging therapy for the treatment of complex wounds, including infected wounds with osteosynthetic material.
Clinical Findings: The purpose of this case study was to evaluate outcomes of 4 patients (1 man, 3 women; age range 49 to 71 years) with a postoperative wound infection (POWI) following fracture repair and internal fixation.
Investigation/Results: All were at high risk for surgical complications, including infections. Antibiotic treatments were unsuccessful.
Diagnosis: Post operative wound infection with osteosynthesis material in situ.
Therapy and Progression: Based on the available literature, a NPWTi-d protocol was developed. Following surgical debridement, wounds were instilled with polyhexanide biguanide with a set soak time of 15 minutes, followed by continuous NPWT of -125 mm Hg for 4 hours. The system was changed every 3 to 4 days until sufficient granulation tissue was evident and negative pressure without instillation could be used. Systemic antibiotics were continued in all patients. Granulation tissue was found to be sufficient in 12 to 35 days in the 4 cases, no recurrence of infection was noted, and the osteosynthesis material remained in place. No adverse events were observed.
Comments: Research is needed to compare the safety and effectiveness of this adjunct treatment in the management of challenging wounds to other patient and wound management approaches.
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Disclosure: No significant relationships.

P371

TREATMENT OF BONE INFECTION AFTER FEMORAL FRACTURE IN A POLYTRAUMA PATIENT

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Case History: Pacient D.D.T., male, 40 years old, admitted in our clinic after a car accident, polytrauma,with head and abdominal trauma, complex pelvic ring fractures, medium-third open femural fracture type IIIB Gustilo Anderson, left ankle fracture with external dislocation of the foot, right knee sprain,obesity. Emergency treatment consisted of: ExFix for the pelvic ring injury, debridement and ExFi for the femoral fx, left ankle reduction and K wires stabilization. Repeated debridemments and NPWT were applied until the wound closed; since the intermmediate devscularised fracgment was excised, free vascularised fibular graft with biplan ExFix were used for covering the femoral deffect. After 8 months, revision surgery was required, due to an abcess at the level of the graft (Staphylococcus Aureus); debridement and graft removal were performed.
Clinical Findings: pain, instability of the middle third of the femur with pin tract infections, keloid scar of the lateral side of the femur.
Investigation/Results: X-ray, CT, MRI
Diagnosis: Osteomyelitis of the femoral shaft after IIIB open fracture (Gustilo Anderson).
Therapy and Progression: ExFix removal, and treatment of the bone defect using Masquelet tehnique, osteosintesis of the femour with titan alloy femural nail and grafting of the bone defect with autologus bone graft from the iliac crest and bone substitute.
Comments: Treatment of type III open femoral fractures is challenging especially in polytrauma patients, affected by the systemic inflammatory response, which enhances the risk of early and late infection. Multiple surgical procedures and a pluridisciplinnary team are man datory for a favourable outcome of these patients
References: Masquelet Technique for Treatment of Posttraumatic Bone Defects, The Scientific World Journal Volume 2014 (2014), Article ID 710302, 5 pages; A. C. Masquelet and T. Begue, "The concept of induced membrane for reconstruction of long bone defects," Orthopedic Clinics of North America, vol. 41, no. 1, pp. 27–37, 2010; Vivek Chadayammuri, Mark Hake and Cyril Mauffrey, Innovative strategies for the management of long bone infection: a review of the Masquelet technique, Patient Safety in Surgery2015, https://pssjournal.biomedcentral.com;
Disclosure: No significant relationships.

GERIATRIC PATIENTS: IMPROVING CARE OUTCOMES (CASE PRESENTATION)

P372

THE ORTHOGERIATRIC MANAGEMENT IN AN ELDERLY PATIENT WITH POSTTRAUMATIC COMPLEX PELVIC RING FRACTURES

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Case History: We present the case of a 75 year old female patient who was admitted in the Orthopedic Department for complex pelvic ring fracture after a minor trauma. After complex evaluation, conservatory measures were recommended, and the patient should have been discharged; unfortunately, she developed high, persistent values of the blood pressure and panic attacks, and she was transferred in the Geriatric Department.
Clinical Findings: At admission, clinical examination confirms hypertension, which required prompt treatment. Geriatric evaluation detected a normal cognitive status, depression, malnutrition. Psychological evaluation confirms the mixed anxiety-depressive disorder with panic attacks appeared after the trauma and enhanced by the dependency in activity of daily living, immobility and the pain.
Investigation/Results: Blood analyses revealed an anaemic syndrome, dyslipidaemia, normal thyroid function, cardiovascular

evaluation revealed a normal electrocardiogram and diastolic dysfunction on echocardiography – with no clinical relevance.
Diagnosis: The diagnosis was Hypertension, Dyslipidaemia, Malnutrition, Osteoporosis, Frailty, Pelvic ring fractures, Mixed anxiety-depressive disorder with panic attacks.
Therapy and Progression: The patient benefitted by a complex therapy, which encompassed: medication, rehabilitation, kinetotherapy, personalised diet, psychotherapy. The hypertension was controlled both with antihypertensive medication and pain medication. The evolution was favourable: nutritional status improved, depression score decreased, mobility and independence for activity of daily living were achieved.
Comments: An integrated ortho-geriatric treatment leads to a better control of mortality risk factors in geriatric patients with fractures. These factors are: age itself, malnutrition (1), physical limitations, comorbidities, cognitive impairment, depression (2). Ortho-geriatric treatment should be standard approach for elderly patients with frailty fractures because of their complex needs and management (3).
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Disclosure: No significant relationships.

P373

CLINICAL CASE OF FRAGILITY FRACTURE OF THE SACRAL REGION IN PATIENT WITH OSTEOPOROSIS

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Case History: The case describes an 83 year-old patient who is transported to the emergency room after a low trauma falling from its own height.
Clinical Findings: The patient describes pain in the left groin, posterior pelvic region and the impossibility of maintaining the decubitus position.
Investigation/Results: Pelvis X-Ray: Bilateral Intertrochanteric fracture fixed with Dynamic Hip Screw. CT with 3D: isolated, non-displaced bilateral sacral fracture without involvement of the anterior pelvic ring.
Diagnosis: In 2007 and 2010 the patient had 2 fractures: bilateral intertrochanteric fracture, he was submitted for surgery with Dynamic Hip Screws. In May 2016, after a fall at home, he sustained a new fragility fracture: isolated, non-displaced sacral fracture without involvement of the anterior pelvic ring, Type II a, according to Rommens and Hofmann classification (1).
Therapy and Progression: We started with painkillers and anticoagulation therapy, early mobilization to avoid pulmonary and tissue complications and recommended conservative treatment (2). After a 7 days period without weigh baring, the patient presented less pain there for it was recommended partial and progressing loading. After 3 months, CT showed fracture healing.
Comments: The case described is a typical example of a serious osteoporotic pattern, complicated with 2 fractures occurred in 3 years interval. The clinical examination suggested a posterior injury but the pelvic X-ray was not conclusive there for it required a CT examination with 3D reconstruction. Since this tip of lesion is correlated with high mortality risk in the elderly, we want to point out the importance of CT imaging in blunt pelvic trauma.
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Wagner, D., Ossendorf, C., Gruszka, D., Hofmann, A., Rommens, P.M. Fragility fractures of the sacrum: how to identify and when to treat surgically?. Eur J Trauma Emerg Surg Off Publ Eur Trauma Soc. 2015; 41:349–362.
Disclosure: No significant relationships.

P374

SURGICAL FIXATION USING RIB STAPLERS FOR FLAIL CHEST INJURIES OF ELDERLY PATIENT

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Case History: Several studies have suggested effects to lower incidence of pneumonia and shorter trauma intensive care unit stay after surgical fixation for flail chest injuries.
Clinical Findings: However, we know that non-operative management of flail chest in young patients has beneficial effect.
Investigation/Results: We performed four cases of surgical fixation for flail chest injuries of elderly patients. One patient was stabilized by locked plate, three patients were stabilized by rib stapler from 2012 to 2016. Surgical procedure using locked plates takes long time, was not suitable for the thin part of rib bone of elderly patient.
Diagnosis: Flail chest
Therapy and Progression: After that, three patients underwent surgical fixation using rib staplers. All patients were received preoperative examination by multidetector computed tomography.
Comments: We show the surgical procedure using rib staplers and report usefulness for flail chest injuries of elderly patient.
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Disclosure: No significant relationships.

COMPLEX INJURIES OF THE LIMBS: AMPUTATION/LIMB SAVING (CASE PRESENTATION)

P375

LONG-TERM FUNCTIONAL OUTCOME AND QUALITY OF LIFE IN PATIENT AFTER SEVERE POLYTRAUMA

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Case History: A female of 30 years old had a severe polytrauma with multiple pelvic fractures, bilateral fractures of crural bones, traumatic injury of *a.poplitea dxt*. In spite of several efforts to perform vascular reconstruction of the right leg, the gangrene of the right foot continued to progress. This resulted in the amputation of the right leg at the middle third level of the femur. The pelvis was fixed with a locking plate at posterior access and an acetabular component with cannulated screw at anterior access.
Clinical Findings: The patient's physical state was evaluated according to the Amputee Mobility Predictor (AMP) (1). It was performed at 2 years post-polytrauma and resulted with a K3 functional level.
Investigation/Results: Electromyography of the left lower extremity presented a *n. tibialis sin.* deep axonal injury above left knee joint.
Diagnosis: Right side transfemoral amputation, secondary to traumatic etiology, *n. tibialis sin.* deep axonal injury above left knee joint.
Therapy and Progression: Majeed score (2) at 2 years post-polytrauma 88 points (excellent). The mobility according with modified Lower Extremity Functional Scale (LEFS) questionnaire (3) was 79% of the maximum possible.
Comments: This case demonstrantes the significance of long-term follow-up with necessary out-patient treatment and rehabilitation of patients following severe polytrauma. Results indicate follow-up care improves the quality of life in patients.
Modified LEFS could be used to evaluate the mobility of transfemoral amputees. However, the validity of these modifications must be determined by administering such modified questionnaire to a larger group of patients following transfemoral amputation with consequent statistical analysis of the received results.
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2) Majeed SA. Grading the outcome of pelvic fracture // J Bone Joint Surg Br 1989 Mar; 71(2):304 – 306
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Disclosure: No significant relationships.

P376

EMERGENCY FASCIOTOMY TO TREAT NECROTIZING FASCIITIS BY VIBRIO VULNIFICUS

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Case History: The patient is a 71-year-old Asian female who presented to the emergency department complaining of an eight-hour history of vomiting and diarrhea accompanied by poor appetite.
Clinical Findings: During the physical examination pain, local heat and erythema were noted over the right forearm. After a careful history the patient remembered cleaning fish and oysters the previous night.
Investigation/Results: On patient's arrival her vital signs were 37°C, 65bpm, 20cpm, BP:96/76mmHg and dropping. The laboratory data showed normal white blood count of 8,62, elevated lactase level of 3,5mmol/L, mild elevated CRP:6,64 and hypokalemia of 2,4.Metabolic acidosis was noted of pH:7.36, PaO_2:133mmHg, $PaCO_2$:33mmHg, HCO_3:18mmol/L.
Diagnosis: Septic shock was suspected and due to the bullae formation on the forearm, the plastic surgery departement was consulted and concluded with the diagnosis of necrotizing fasciitis.
Therapy and Progression: An emergency fasciotomy was proposed for this case. A dorsal incision from lateral epicondyle to mid wrist was performed. The grayish necrotic deep fascia, the lack of bleeding and the presence of foul smelling pus confirmed the diagnosis of necrotizing fasciitis. Radical fasciectomy was then performed and dorsal incisions in line with the 2nd and 4th metacarpal were also made. After the surgery non-occlusive dressings were used and the patient was treated with antibiotics, Tazocin and Vancomycin under the suspicion of infection by Vibrio vulnificus.
Comments: Although an infrequent cause of necrotizing fasciitis, infections by Vibrio vulnificus appear an increasing incidence due to ocean warming and with such a high mortality rate, it needs the alertness of all physicians especially at the emergency unit.
References: "Vibrio vulnificus in Taiwan", Hsueh PR, Lin CY, Tang HJ et al, Emerg Infect Dis 2004,8:1363-1368 "Necrotizing fasciitis caused by Vibrio vulnificus: epidemiology, clinical finding, treatment and prevention", Y-L Kuo, S-J Shieh, H-Y Chiu et al. Eur J Clin Microbiol Infect Dis (2007), 26:785 "Accurate diagnosis and treatment of Vibrio vulnificus infection: a retrospective study of 12cases", Matsuka Y et al, Braz J Infect Dis (2013), 17:7-12 "Ocean warming and Spread of pathogenic Vibrios in the Aquatic Environment", Luigi Vezzulli, Rita R. Colwell, Carla Pruzzo, Microb Ecol (2013), 65: 817-825.
Disclosure: No significant relationships.

P377

THE MANAGEMENT OF THE COMPLEX UPPER LIMB TRAUMA – CASE REPORT

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Case History: 43 years old male patient presenting a complex trauma of the left upper limb, caused by a work accident.
Clinical Findings: A global swelling and deformation of the left upper limb, externalization of bone fragments in the 1/3 distal part of the left forearm, extended burn injury on the medial side of the upper limb, paraesthesia in the whole left upper limb, peripheral pulse hardly perceptible.
Investigation/Results: The radiography reveals: comminuted midshaft left humerus fracture with displacement, fracture of ulna and radius with displacement. The vascular ultrasound reveals the presence of pulse in both ulnar and radial artery.
Diagnosis: Comminuted midshaft left humerus fracture with displacement, type III A open fracture of ulna and rasius with displacement, compartment syndrome in the left upper limb, III degree burn injury on the medial side of the left upper limb.
Therapy and Progression: By emergency it is practiced a fasciotomy, to decompress the upper left limb. Several surgical interventions in order to produce the osteosynthesis of the fractures: humeral locking nail, 2 plates with screw fixation in the forearm. A week later it is collected a sample of secretion from the wound, in which is isolated the bacteria Serratia Sp. It is administrated antibiotherapy. Several surgeries: to debride the necrotic tissue; the ligation of the thrombosed radial artery; the coverage of the ischemic median nerve and the coverage of the cutaneous defects with skin grafts.
Comments: The complex upper limb traumas which involve, beside bone lesions also soft tissue lesions, require a quick, precised and multidisciplinary approach and a very effective management.
References: Complex Fracture Patterns of the Upper Extremity.Simpson, N Shaun MD; Jupiter, Jesse B. MD
Managment of Complex Extremity Trauma Management of **Complex Post-traumatic Injury of the Upper Extremity in the Presence of Early Brachial Artery Branching**
Disclosure: No significant relationships.

P378

AN AVULSION FRACTURE OF THE CALCANEAL TUBEROSITY: DELAY OF TREATMENT CAUSES THE "ACHILLES HEEL" OF OPTIMAL RECOVERY

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Case History: A 72 year old woman suffered from a fall in her house.
Clinical Findings: She was not able to weight bear her right foot. Thompson test was positive. At the day of the injury the skin was intact and unremarkable.
Investigation/Results: X-ray showed an avulsion fracture of the tuberosity of the calcaneus
Diagnosis: Avulsion fracture of the tuberosity of the calcaneus
Therapy and Progression: The fracture was planned for elective fixation 12 days after the accident. The planned open reduction and internal fixation was not possible, due to a large decubital wound on the Achilles-heel as a result of increased pressure on the skin of the fractured tuberosity. Due to the potential risk of wound infection, a closed reduction and fixation with Kirschner wires with suboptimal outcome was performed. After 100 days, the fracture was fully consolidated and the wound healed. Function was limited.
Comments: Avulsion fractures of the tuberosity of the calcaneus are rare. Delay in treatment may lead to decubital wounds by increased pressure of the fractured bone on the skin. Tuberosity fractures only account for 1-3% of all calcaneal fractures.[1] Soft tissue problems are the biggest challenge of these fractures. To prevent skin complications, operative treatment in the first 24 hours may be indicated. Non-operative treatment may lead to misshaped heels, footwear problems and impaired dorsoflexion.[1] Several different treatment modalities to fixate the tuberatosity avulsion have been described: sutures with corkscrew anchors, sutures with drillholes, tension-band wiring and (cannulated) screwfixation. The current case underlines that the fracture should be fixated early to prevent skin complications.
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Disclosure: No significant relationships.

P379

POPLITEAL VASCULAR TRAUMA

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Case History: A 65 years-old male arrived to the ER with an open injury of the right tigh produced by a mechanical blade.
Clinical Findings: On primary survey, the patient was shocked (BP 75/46 mmHg; Pulse 71). The injured extremity was cold, pale and without distal pulses. There was an entry and exit wound, on the rigth tigh, with active bleending.
Investigation/Results: X-ray: mechanical blade in the wound. Laboratory results: Hb 9 g/dL.
Diagnosis: Vascular trauma
Therapy and Progression: The patient begun blood transfusion and was sent to the OR. Exploration of the wound revealed a complete transection of the first segment of popliteal artery. An end-to-end anastomosis using Carrel triangulation technique and prophylatic fasciotomies were performed, with revascularization of the leg. He was discharged home at the 27th postoperative day, able to walk without severe damage.
Comments: Trauma to the extremities is one of the most common lesions found in the ER, most of them restricted to soft tissue. However, it can comprise lesions of major vessels and early recognition and treatment of these lesions is important to avoid limb loss and to improve functional outcome. Althouth rare, the most feared scenario involve the popliteal vessels, due to the associated high rates of amputation. Reparation of damage vessels is achieved with an end-

to-end anastomosis or with an interposition graft of autologous vein or sintetic prostesis. Prophylactic fasciotomies are performed to avoid compartment syndrome after revascularization. As seen in this case, althought popliteal vascular injury is a surgical emergency, it is possible to obtain good funcional results.

References: Weaver F, Hood D, Yellin A. Vascular Injuries of the Extremitie. In Robert Rutherford Vascular Surgery 5th ed 2000. Vol1. Saunders Company; 862-71

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Disclosure: No significant relationships

P380

OSTEOSEPTOCUTANEOUS FREE VASCULARIZED FIBULAR BONE GRAFT IN THE TREATMENT OF LARGE BONE AND SOFT TISSUE DEFECTS – CASE REPORT

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Case History: In October 2012 patient HG, male 52 years old, is admitted in the emergency room due to a high-energy farm trauma.
Clinical Findings: Based on clinical examination he was diagnosed with open Gustilo-Anderson type IIIC right forearm fracture, right shoulder dislocation, multiple contusions.
Investigation/Results: Conventional X-Rays revealed a forearm fracture which was classified 22C3 - both bones complex (AO classification)
Diagnosis: Traumatic forearm amputation.
Therapy and Progression: In emergency, mixed team - orthopaedist and plastic surgeon, after cleaning the wound, we performed end-to-end bone fixation of the ulna with a k wire with a bone shortening of 2 cm, stabilization of the radial fracture with external fixation and with a remaining gap of 8 cm between the two fragments, revascularization with reconstruction of both vascular axes, primary neurorrhaphy of median and ulnar nerves, tenorrhaphy of deep flexors and extensors of the forearm. At 3 month, when general and local conditions permitted, the large radial bone and soft tissue defect has been reconstructed with an osteoseptocutaneous free vascularized fibular bone graft. Bone graft showed radiological signs of integration at 5 months. Three years follow-up showed good clinical and excellent radiological results.
Comments: The particularity of this case lies in large soft tissue and bone defect (traumatic amputation) of the right forearm. In the context of large injury zones with significant irreversible tissue damage/ loss and bone defects >6 cm, free vascularized fibular bone grafts can facilitate a complete reconstruction (such as with an osteocutaneous graft) and can be performed in the early biological healing stages of these injuries (1-3).
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Disclosure: No significant relationships.

P381

PEDICLED RADIAL FOREARM FLAP FOR EMERGENCY RECONSTRUCTION OF POSTRAUMATIC LOWER THIRD ARM SOFT TISSUES DEFECT

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Case History: The aim of the presentation is to emphasize the versatility of the radial forearm flap. Commonly used as a free flap in head and neck reconstruction, the radial forearm flap can also be a solid choice for defects of upper limb as a pedicled flap.
Clinical Findings: We present the case of a 68 years of lady who presented to the emergency room with a 120 cm2 soft tissue defect on the antero-medial lower third of the right arm resulted from a dog bite.
Investigation/Results: The soft tissue defect exposed the brachial vascular pedicle, the ulnar nerve and the medial antebrachial cutaneus nerve. After the initial debridment of devitalised tissues we decided to rotate to the arm defect a pedicled radial fasciocutaneous flap.
Diagnosis: The reconstructive procedure was performed 24 hours after the presentation and required the disection of the radial pedicle up to 3cm to the brachial artery bifurcation.
Therapy and Progression: The postoperative evolution was free of complications and allowed for the discharge of the patient within 7 days from the admission. The patient presented for follow-up every 2 weeks for 3 months without having any complaints regarding de donor of the receiver area.
Comments: The well known reliability and ease of harvest of the radial forearm flap should make it a reconstrutive solution to be considered whenever faced with an upper limb defect.
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Disclosure: No significant relationships.

P382

THE ROLE OF NEGATIVE- PRESSURE THERAPY IN THE MANAGEMENT OF OSTEO-ARTICULAR INFECTIONS

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Case History: A 55 years old female patient was admitted to our department following fall from own height, being diagnosed with tibial pilon fracture and soft tissue injuries type III B (Gustilo Andersen). Immediate i.v antibiotic therapy, surgical debridement and external fixation was initiated.
Clinical Findings: The persistence of the traumatic wound infection raised the suspicion of a fracture confined to the fracture place. Microbiological examination confirmed the presence of two Gram-negative microorganisms and the antibiotherapy was adjusted according to the antibiogram. Four weeks posttraumatic was diagnosed with critical ischemia of the right leg.
Investigation/Results: The patient was investigated by Angio-CT scan which identified an obstruction at the internal segment of the foot arch, while leg arteries were permeable. Critical ischemia progressed to necrosis of fingers 2 and 3 of his right leg, which were amputated.
Diagnosis: The diagnosis was of tibial pilon fracture with infected soft tissue lesions Gustilo- Andersen type IIIB, critical right leg ischemia, necrosis of fingers 2 and 3 and skin necrosis in the inner right ankle.
Therapy and Progression: Negative-pressure wound therapy was applied in order to eliminate the infection, to cover the skin defect from the right ankle and stimulate the soft tissue granulation desired to cover the defect of the skin with skin grafts. The evolution was favorable and the aspiration was maintained for 6 weeks.
Comments: The advantages of negative-pressure wound therapy are the effective elimination of secretions, coverage of skin defects and prevention of contamination, stimulation of tissue granulation through improved local blood flow, hastening the application of skin grafts.
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Disclosure: No significant relationships.

P383

THE CRITICAL IMPACT OF A CRUSH INJURY

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Case History: A 47-year-old man was admitted in the Emergency Unit for lower limb ischemia due to severe crush injury and irreversible avulsion of the femoral neurovascular bundle, after an occupational accident.
Clinical Findings: The condition was extremely severe, with mechanical ventilation, hypovolemic shock unresponsive to fluid replacement and blood transfusion, hypothermia, oliguria, with hemorrhagic soaked amputation stump dressing and important scrotal swelling.
Investigation/Results: CT scan reveal a low density in the anterior muscular compartment of the thigh, bladder, scrotal and pelvic hematoma. The angiography showed occlusion of the femoral artery in the proximal third segment. The lab test revealed severe anemia (2.3 g/dl), thrombocytopenia, severe coagulopathy (INR 9.91), rhabdomyolysis (CK 76000 U/L), hyperkalemia, severe metabolic acidosis.
Diagnosis: The patient was diagnosed with irreversible ischemia of the lover limb due to severe crush injury, hemorrhagic shock and acute kidney failure.
Therapy and Progression: After a series of surgical procedures using modern hemostasis techniques, massive blood transfusion, fluid replacement, vasopressor support, antibiotics, and renal substitution therapy, the general condition of the patient improved significantly and after 13 days the patient was extubated. At the 26th day, he developed convulsive crisis followed by ischemic stroked in the frontoparietal area. After heparin and anticonvulsant therapy, the clinical signs were resolved. After 3 months the patient presented bronchopneumonia complicated with massive pleural effusion and dilatative cardiomyopathy with severe systolic dysfunction (EF15%) confirmed using echocardiography, receiving specific treatment.
Comments: A particular aspect of this case was the unpredictable evolution, the patient losing not only his lower limb, but a significant amount of the heart function.
References: Schwartz DS, Weisner Z, Badar J. Immediate Lower Extremity Tourniquet Application to Delay Onset of Reperfusion Injury after Prolonged Crush Injury. *Prehospital Emergency Care* 2015;19.4: 544-547 Ramirez ME, McQuillan RF. Acute Kidney Injury Secondary to Trauma-Induced Hemolysis: The Need for Increased Awareness and a Preventative Strategy. *American Journal of Kidney Diseases* 2016; Kuzmanovska B, Cvetkovska E, Kuzmanovski I et al. Rhabdomyolysis in Critically Ill Surgical Patients. *Medical Archives* 2016; *70*(4): 308 Wallin K, Nguyen H, Russell L, Lee DK. Acute Traumatic Compartment Syndrome in Pediatric Foot: A Systematic Review and Case Report. *The Journal of Foot and Ankle Surgery* 2016;Jul-Aug;55(4):817-20
Disclosure: No significant relationships.

P384

CLASSIC NECROTIZING FASCIITIS; HOW CLASSIC IS CLASSIC?

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Case History: 69-year old man. medical history of pure red cell aplasia treated with prednisone in 1981 and blood transfusions in 2007. 2-day history of fever, pain, erythema en oedema of both legs without trauma.

Clinical Findings: Moderate ill, T38.9°C, BP135/88mmHg, P122/min, RR25/min and sat98%. Erythematous swollen right leg, blister on right foot. Multiple erythematous regios, without sharp margins, extended from the right leg to his lower abdomen, both groins, and left thigh.
Investigation/Results: Ultrasonography: subcutaneous oedema, especially right leg. Laboratory tests: normal white blood count and C-reactive protein. Draining of the blister revealed an anaerobe smell with haemorrhagic fluid. Patient was hospitalized in Intensive Care Unit with broad-spectrum antibiotics. Patient developed progressive hypotension and oliguria. CT abdomen/legs: extensive subcutaneous oedema, no emphysema. Laboratory tests: metabolic acidosis, high serum lactate (6.3mmol/L; reference value 0.5-2.5mmol/L), increased CK (1749U/L). CRP and WBC were normal. Erythematous leasions increased with progressive blistering.
Diagnosis: Differential diagnosis consisted of sepsis, erysipelas, disseminated intravascular coagulation and necrotizing fasciitis.
Therapy and Progression: Surgical procedure: necrotic greyish fascia, typical for NF. We performed a complete removal of the skin of the entire right lower leg and foot, lateral side of right upper leg and left medial thigh. Despite surgery, antibiotics and inotropes, the patient developed multiple organ failure and died 18hours after admission to the hospital. Gram stains and blood cultures revealed an Escherichia coli.
Comments: Only 15% of NF cases are monomicrobial infections, classically linked to Streptococcus pyogenes, Group A Streptococcus (GAS). Physicians should be aware of a monomicrobial E. coli as a rare pathogen in NF.
References: Ustin JS, Malangoni MA. Necrotizing soft-tissue infections. Crit Care Med 2011 Sep;39(9):2156-2162.
Angoules AG, Kontakis G, Drakoulakis E, Vrentzos G, Granick MS, Giannoudis PV. Necrotising fasciitis of upper and lower limb: a systematic review. Injury 2007;38(5):S18-S25.
Li DM, Lun LD, Chen XR. Necrotising fasciitis with Escherichia coli. Lancet Infect Dis 2006 Jul;6(7):456.
Yoon TY, Jung SK, Chang SH. Cellulitis due to Escherichia coli in three immunocompromised subjects. Br J Dermatol 1998;139(5):885-888.
Grimaldi D, Bonacorsi S, Roussel H, Zuber B, Poupet H, Chiche JD, et al. Unusual "flesh-eating" strain of Escherichia coli. J Clin Microbiol 2010 Oct;48(10):3794-3796.
Disclosure: No significant relationships.

P385

TRANSARTERIAL EMBOLIZATION FOR AXILLARY ARTERY BRACHES INJURY ASSOCIATED WITH HUMERUS NECK FRACTURE

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Case History: A 65-year-old man was brought to our hospital after being involved in a high-speed car crash. On arrival in the Emergency Department, his blood pressure was 77/57 mmHg, heart rate 72, SpO2 98% (room air). After infusion of crystalloid solution and blood transfusion, CT scan was performed.
Clinical Findings: CT showed traumatic subarachnoid hemorrhage, left humerus bone fracture, left shoulder blade bone fracture, left sacrum and pubic bones bone fracture, left fibula bone fracture, right tibia bone fracture, splenic injury, and abdominal cavity internal hemorrhage.
Investigation/Results: CT showed traumatic subarachnoid hemorrhage, left humerus bone fracture, left shoulder blade bone fracture, left sacrum and pubic bones bone fracture, left fibula bone fracture, right tibia bone fracture, splenic injury, and abdominal cavity internal hemorrhage.
Diagnosis: Traumatic subarachnoid hemorrhage/left humerus bone fracture/left shoulder blade bone fracture/left sacrum and pubic bones bone fracture/left fibula bone fracture/right tibia bone fracture / Splenic injury/abdominal cavity internal hemorrhage
Therapy and Progression: We did emergency laparotmy for intra-abdominal bleeding and managed with open abdominal management and then trasarterial embolization (TAE) for axially artery branches injury (circumflex humeral artery and thoracoacromial artery injuries) associated with humerus neck fracture was performed. On day ten an open reduction and internal fixation of the humerus fracture were performed. The patient was discharged on day 24.
Comments: TAE is a valuable therapeutic option for axially artery branches injury It is important for us to know the association with axillary artery injury and humerus neck fracture, so as to make an early diagnosis and avoid serious complications.
References:
Disclosure: No significant relationships.

POLYTRAUMA-MULTIDISCIPLINARY APPROACH (CASE PRESENTATION)

P386

RECTAL ABDOMINAL AND THORACIC IMPALEMENT - SURVIVABLE TRAUMA

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Case History: A 62 years old male was victim of an agression with a walking stick introduced in his rectum by multiple strong kicks.
Clinical Findings: The patient was breathing spontaneously, hemodynamically stable, with the end of the stick still out of the anal canal and the tip of the stick palpable under the skin of the right supraclavicular fosa.
Investigation/Results: CT scan confirmed the trajectory of the stick through abdomen and thorax.
Diagnosis: Emmergency laparotomy and thoracotomy revealed the lesions of the rectum, right colon mesentery, liver, diaphragm, right lung, second rib on the right. Minimal hemoperitoneum and hemothorax.
Therapy and Progression: The stick was sectioned below the liver using a pendular bone saw. The distal end was removed transanal, and the proximal end was pulled into the abdomen under direct intrapleural control. Lung and diaphragm lesions have been sutured, the thorax drained, TachoSil® Fibrin Sealant has been aplied in the transhepatic wound, right hemicolectomy was needed becouse of the mesocolic lesions, lateral sigmoid colostomy, peritoneal lavage and drainage of the subperitoneal space near the rectal perforation. Low flow biliary leakage was treated conservatively, hospital-acquired

pneumopathy resolved after treatment, right monoparesis persisted till discharge, colostomy was reversed 3 months later.
Comments: Impalement injuries have been documented since the early beginnings of recorded history and "proper" placement of the stake was intended to prolong the suffering by lengthening the victim's postimpalement survival time. This type of trauma, as impressive as they are, may be survivable and the awarness of their possibility may increase the chances of appropriate and timely treatment.
References: 1. Moncure M, Konie JA, Kretzer AB, DiPasco PJ, Braxton CC. Survival Following Rectal Impalement through the Pelvic, Abdominal and Thoracic cavities: a case report. *Case Rep Med* DOI 10.1155/2009/361829. Epub 2009 Jul 1. PMID: 19718249.
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Disclosure: No significant relationships.

P387

FIVE YEARS FOLLOW-UP OF A POLYTRAUMA. LIMB FOR LIFE OR LIFE BEFORE LIMBS?

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Case History: A 18 years old woman trying to commit suicide jumped from the seventh floor and she fell on the fire escape in which she got stuck. After a difficult extrication from the fire escape the patient was brought to the Humanitas ED.
Clinical Findings: At the arrival in the ED she was sedated and intubated. The E-FAST was negative for fluids in the abdomen. The right arm was amputated and the left arm was twisted and swelled. Both legs were deformed and extrarotated with several wounds. The right foot had a bad plantar exposed fracture. The pelvis was stable and there were no head wounds. The amputated limb was well preserved.
Investigation/Results: CT scan showed no brain injuries and no fluid in the abdomen. The X-Ray showed serious fractures to the left arm, to both femurs and a plantar exposure of the chain of all the metatarsal heads of the right foot.
Diagnosis: The patient was brought to the OT for the replanting of the arm and the fixation of the fractures
Therapy and Progression: In the OT was replanted the right arm and fixed the fractures, but suddenly the patient got shocked for an abdominal bleeding and after the surgery the patient was brought to the ICU. The day after the arm was ischemic and the abdomen was still bleeding. She was brought to the OT again for reamputation of the arm and the abdominal surgery.
Comments: No other reimplantation attempt were performed for clinical instability. Today the patiant is still alive and in good health.
References:
Disclosure: No significant relationships.

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RADIOLOGICAL MISDIAGNOSIS VS. INTRAOPERATIVE FINDINGS IN A TRAUMA PATIENT - CASE PRESENTATION

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Case History: A 51-years old male patient, victim of a car accident, is brought to our Emergency Department accusing pain in the right hemithorax and right shoulder. Prehospital examination: GCS 15, haemodinamically stable, but decreasing peripheral oxygen saturation.
Clinical Findings: Massive subcutaneous emphysema in the right hemithorax, with laterocervical extension, flail chest, absence of breath sounds on the right hemithorax
Investigation/Results: CT scans of cranial, thoracic and abdominal segments showed on the right side: hemopneumothorax, 12 ribs fractures, with anterolateral flail chest, pulmonary contusions, massive subcutaneous emphysema, scapula fracture and grade I liver laceration.
Diagnosis: Abdomino-thoracic trauma by car accident, multiple rib fractures right hemithorax, right flail chest, posttraumatic right hemopneumothorax, grade I liver laceration.
Therapy and Progression: A right chest tube was placed in the ER, and also an external stabilization of the flail chest was performed. The patient was taken in ICU where he began the oxygenotherapy with CPAP mask for the next 3 days. After multiple attempts to an external immobilisations of the flail segment, the control CT showed an image compatible with a cyst, with air-fluid level, which was according to the big volumes of air evacuated through the chest tube. The patient was sent to a specialized Thoracic Institute, where, intraoperative, there were found multiple adhesions between the lung and the rib fractures, forming a perfect circle, which apperead on CT scans as a suspicion of cyst. Postoperative evolution was favorable.
Comments: The accuracy of diagnosis is given by intraoperative findings, despite the significant difference between these and the imagistic results of preoperative CT scans.
References: 1. Athanassiadi, Kalliopi, Michalis Gerzounis, Nikolaos Theakos - Management of 150 flail chest injuries: analysis of risk factors affecting outcome. European Journal of Cardio-thoracic surgery 26, 2004.
2. Sangster GP, Gonzalez-Beicos A, Carbo AI,et al - Blunt traumatic injuries of the lung parenchyma, pleura, thoracic wall, and intrathoracic airways: multidetector computer tomography imaging findings, *Emerg Radiol,* 2007
3. Farquhar J, Almahrabi Y, Slobogean G, Slobogean B, Garraway N, Simons RK, et al. - No benefit to surgical fixation of flail chest injuries compared with modern comprehensive management: results of a retrospective cohort study, *Can J Surg,* 2016.
Disclosure: No significant relationships.

P389

MINIMALLY INVASIVE MANAGEMENT IN SEVERE MULTIPLE TRAUMA BY MOTORCYCLE ACCIDENT

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Case History: We present a 32 year old male, helmet carrier, that suffers a motorcycle accident with high energy trauma.
Clinical Findings: He presented permeable airway, spontaneous and symmetrical breathing movements, hemodynamically stability, normothermic, and appropriate capillary refill. As a possible source of bleeding, a displaced diaphyseal fracture of the right humerus, which was immobilized. He had diffuse abdominal tenderness without peritonitis signs. He presented hematuria with the spontaneous urination, so we performed bladder catheterization. Neurologically he had 15 points on the Glasgow Coma Scale. In the secondary review, we examined the skin surface, cleaning and suturing several wounds.
Investigation/Results: In this high energy multiple trauma with hemodynamic stability, we performed a CT-scan finding a grade IV rupture of the descending thoracic aorta, grade II splenic and hepatic lacerations and a grade IV renal and a grade I bladder injuries without skeleton injuries.
Diagnosis: For de diagnosis we used pelvic radiograph, without findings, a chest radiograph with mediastinum widening and the previusly explained CT-scan.
Therapy and Progression: It was performed an urgent percutaneous placement of an aortic stent, followed by an arteriography without active bleeding finding, so we decided a conservative management. The patient was transferred to the intensive care unit, extubated on the 4^{th} day and the 8^{th} day a CT-scan showed improvement of all the injuries. The patient was discharged and nowadays, he is free from significant sequels.
Comments: In a multiple trauma patient with several injuries, it is mandatory to assess the hemodynamic status. It is possible a conservative management in low grade lesions and intermediate grade lesions with hemodynamic stability.
References: (1) Gonzalez-Robledo J, Martin-Gonzalez F, Moreno-Garcia M, Sanchez-Barba M, Sanchez-Hernandez F. Prognostic factors associated with mortality in patients with severe trauma: from prehospital care to the Intensive Care Unit. Med Intensiva 2015 Oct;39(7):412-421.
(2) Ozpek A, Yucel M, Atak I, Bas G, Alimoglu O. Multivariate analysis of patients with blunt trauma and possible factors affecting mortality. Ulus Travma Acil Cerrahi Derg 2015 Dec;21(6):477-483.
(3) Oyo-Ita A, Chinnock P, Ikpeme IA. Surgical versus non-surgical management of abdominal injury. Cochrane Database Syst Rev 2015 Nov 13;(11):CD007383.
Disclosure: No significant relationships.

P390

PNEUMOPERITONEUM AND INTRAPERITONEAL URINARY BLADDER INJURY

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Case History: A 50-year-old man with a medical history of liver cirrhosis was admitted to our hospital after a motorcycle accident.
Clinical Findings: On physical examination, he had stable vital signs, a slight abdominal tenderness and the Foley catheter revealed gross hematuria.
Investigation/Results: Chest, abdomen, and pelvis x-rays were normal. Focused assessment with sonography for trauma found fluid on all intra-abdominal spaces, an irregular liver contour, and an enlarged spleen. CT scan to the abdomen detected pneumoperitoneum in the upper abdomen. Retrograde cystography showed extravasation of contrast from the superior wall of the urinary bladder.
Diagnosis: Intraperitoneal urinary bladder injury
Therapy and Progression: The patient, after resuscitation, underwent laparotomy which revealed serohemorrhagic fluid, rupture on the posterior wall of the urinary bladder, nodular liver, and an enlarged spleen. The defect was closed with Vicryl 2-0 in two layers. Broad-spectrum antibiotic therapy was used for seven days. The Foley catheter was removed on the tenth post-operative day. The patient was discharged without complications on the twelfth postoperative day.
Comments: Pneumoperitoneum, in cases of intraperitoneal urinary bladder rupture following blunt abdominal trauma, is an additional radiological finding with economically low cost that confirms the diagnosis.
References: 1. Chitale S, Debbarma M, Wilson P, et al. Urological pathology causing free air under the diaphragm? Ann R Coll Surg Engl. 2008; 90: W3-5
2. Ogawa S, Date T, Muraki O. Intraperitoneal urinary bladder perforation observed in a patient with an indwelling urethral catheter. 2013: http://dx.doi.org/10.1155/2013/765704
Disclosure: No significant relationships.

P391

THE MANAGEMENT OF COMPLEX BLUNT THORACOABDOMINAL TRAUMA

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Case History: A 44-year-old man was referred to our hospital after a work-related accident; he was struck by a falling tree.
Clinical Findings: He was admitted in our hospital, in stable hemodynamic status, with thoracic and abdominal pain. On physical

examination, he had mild tenderness in the left upper quadrate of abdomen.
Investigation/Results: Thoracoabdominal CT scan revealed fractures of the fifth to tenth rib, right hemopneumothorax, and central hepatic contusion. On the fourth day Thoracoabdominal CT scan showed multi-loculated pleural effusion in the right pleural cavity, rupture of the right diaphragm, and contusion of the 7-8 liver segments
Diagnosis: Blunt thoracoabdominal trauma
Therapy and Progression: Right thoracostomy tube was inserted. On the fourth day the chest tube was removed, biliary fluids appeared from the hole of the thoracic wall. On the tenth day after trauma, right thoracotomy, evacuation of a clotted hemothorax, bilious collection, and right diaphragmatic repair was performed. On the sixth day after right thoracotomy, the patient presented hemobilia, which was treated by the placement of T-tube drainage. After repeated hemorrhage through a hole in the chest wall and abdominal incision from pseudoaneurysm of the right hepatic artery (RHA), in the absence of arterial embolization, ligation of the RHA was performed. The patient was discharged healed forty days after the injury.
Comments: SBTIs require a multidisciplinary approach, a highly trained trauma team, and medical equipment available 24 hours a day, seven days a week.
References: Leppäniemi AK, Mentula PJ, Streng MH, et al. Severe hepatic trauma: nonoperative management, definitive repair, or damage control surgery? World J Surg 2011; 35:2643-9
Castaing D, Azoulay D, Adam R. Manœuvre spéciale au cours des traumatismes du foie. Chirurgie du foie et de l'hypertension portale 2006;19:164:172
Disclosure: No significant relationships.

P392

IS NON-OPERATIVE MANAGEMENT OF POLYTRAUMA POSSIBLE?: CASE STUDY OF A 26 YEAR-OLD WOMAN WITH RENAL AND SPLENIC INJURY

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Case History: A 26-year-old woman from rural provenience is victim of a car accident. She calls an ambulance because of excrutiating pain in the lumbar area. She is taken to the emergency departement of "Spitalul Judetean Brasov" for care on 24.03.2016.
Clinical Findings: On examination, patient presented bruises on left shoulder and macroscopic hematuria. Palpation of left lumbar quadrant provoked high intensity pain. Pulse was 90 beats/min, BP was 105/65 mmHg. She had no additional relevant medical history.
Investigation/Results: On investigation, biochemical parameters were modified as such: hemoglobin-10.4g/dl, sodium-133,7 mmol/L, calcium-3,71 mmol/L. Microscopic hematuria is confirmed by urinalysis. An abdomen CT scan (8 slice-1G) performed on 24.03.2016 showed spleen contusion and modification of left kidney consistent with laceration of the valvular region and presence of a retroperitoneal hematoma with contrast agent spreading in iliopsoas muscle area. Toracic and Cranial CT revealed no abnormalities.
Diagnosis: Based on clinical findings, final diagnosis is polytrauma with renal and splenic involvement. Renal trauma is classified as stage IV on American Association for the Surgery of Trauma (AAST) kidney injury scale and conservative management is possible[1]. This patient's polytrauma is noted as an Injury Severity Score (ISS) of 18 which is classified as serious but not severe injury and orientates the treatment towards non-operative management (NOM).
Therapy and Progression: Therapeutic focus is oriented on local protocol with pharmacological treatment and patient monitoring.
Comments: NOM has proven to be effective in many studies regarding abdominal trauma patients[2]. This case collects new data on polytraumatized patients and highlights NOM as a safe and effective treatment.
References: 1. McCombie et al. The conservative management of renal trauma: a literature review and practical clinical guideline from Australia and New Zealand. BJU Int 2014; 114, Supplement 1: 13–21.
2. Gaspar B, Negoi I, Paun S, Hostiuc S, Ganescu R, Beuran M. Selective Nonoperative Management of Abdominal Injuries in Polytrauma Patients: a Protocol only for Experienced Trauma Centers. A Journal of Clinical Medicine 2014; 9(2): 168-172.
Disclosure: No significant relationships.

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SURGICAL APPROACH IN MAJOR RETROPERITONEAL INJURIES - A CASE REPORT

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Case History: 40-years old female patient, victim of a motorcycle accident (passenger), comes to the ER complaining of abdominal pain. Pre-hospital examination: blood pressure 110/60 mmHg, pulse 80/min.
Clinical Findings: In trauma room, patient had slightly decreased blood pressure (100/50 mmHg), tachycardia (100/min), pale skin, abdomen with tenderness in the right upper quadrant, without traumatic marks, normal urine on the urinary catheter.
Investigation/Results: Laboratory tests show a decreased hemoglobin (10.5 g/dl), elevated WBC (20680), increased transaminases. CT scans (cranial, thoracic and abdominal segments) show a small hemopneumothorax with minimal pulmonary contusions, grade II liver laceration segment V, grade V renal laceration, with extravasation of IVU, clot on the inferior vena cava, hemoperitoneal hematoma 125/55 mm.
Diagnosis: Final diagnosis was polytrauma, right hemopneumothorax with pulmonary contusions, grade II liver lacerations, grade V renal laceration, IVC injury, retroperitoneal haematoma.
Therapy and Progression: The patient was taken to the operating room, where the intensive care started, with i.v. lines, central line, massive blood transfusions, coloids. The surgery consisted in immediate laparotomy (abdominal packing, without active liver bleeding), and, because of the extensive retroperitoneal haematoma in zone 1, the retroperitoneum was explored. The IVC injury was rapidly controlled and sutured, and a right nephrectomy was performed, due to the vascular injuries of the renal hilum. After the surgery, the patient was transferred into ICU, where treatment continued. The evolution was favorable, patient being dismissed after 20 days of hospitalization.
Comments: The patient developed a liver haematoma, which was treated conservative, being monitorized monthly by ultrasound, with decreasing sizes in evolution.
References: 1. Broghammer JA, Fisher MB, Santucci RA. - Conservative management of renal trauma: a review, Urology, 2007
2. Chiron P, Hornez E, Boddaert G, Dusaud M, Bayoud Y, Molimard B, et al. - Grade IV renal trauma management. A revision of the AAST renal injury grading scale is mandatory, Eur J Trauma Emerg Surg., 2015

3. Pollack HM, Wein AJ. - Imaging of renal trauma, *Radiology,* 1989
Disclosure: No significant relationships.

P394

SURGICAL TREATMENT OF A DISTAL HUMERUS MALUNION IN A HEAD TRAUMA PATIENT: WHY A POOR RESULT?

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Case History: We present the case of a head trauma patient treated in our department for an unrecognized fracture of the elbow, the complications of the treatment and the causes of the poor functional result. Road accident in Albania. Brain concussion with coma, right leg fracture treated with intramedullary nail, left distal humerus fracture.
Clinical Findings: Presentation of the patient in our hospital 1year after trauma: right hemiplegia, partial cognitive deficit, reduced left elbow ROM.
Investigation/Results: Elbow and humerus X-ray and CT scan.
Diagnosis: Left elbow stiffness with distal humerus fracture malunion.
Therapy and Progression: Aim of treatment is functional recovery of at least 90* of flexion to improve ADL (considering right hemiplegia). Surgical treatment: corrective distal humerus osteotomy with distal humerus locking compression plate. Because of an infection: reoperation with debridement, remove of the plate, and external fixator stabilization. After several surgical treatment and complication we obtain: 30° clinical valgus deviation, full extension and pronosupination, 80° flexion, no clinical articular instability.
Comments: The treatment of trauma outcomes and sequels is often complex and need a very detailed past medical history knowledge with full collaboration of patient and caregivers. The patient cognitive impairment and language barriers surely affected surgical decision and functional recovery.
References: Takeyasu Y1, Oka K, Miyake J, Kataoka T, Moritomo H, Murase T. Preoperative, computer simulation-based, three-dimensional corrective osteotomy for cubitus varus deformity with use of a custom-designed surgical device. J Bone Joint Surg Am. 2013 Nov 20;95(22)
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Disclosure: No significant relationships.

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ORTHOPAEDICS EARLY TOTAL CARE IN POLYTRAUMA: A GOOD CHOICE?

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Case History: We present a case of a major trauma treated in emergency with orthopaedics Early Total Care. Motor road accident Endotracheal Intubation on the scene (low GCS, motor disorders and psychomotor agitation) Access to our Emergency Department
Clinical Findings: Endotracheal Intubation; no open wound, no chest/neck deformity;no instability of the pelvis; extrarotation of the lower limbs; distal pulses: normal.
Investigation/Results: In shock room: Chest X-ray, Pelvic X-ray, Emergency US, Bilateral Chest drain. CT total body, Spine MRI
Diagnosis: Polytrauma (Injury Severity Score 41) Severe chest trauma, cervical and dorsal vertebral fractures with spinal cord injury, bilateral femoral neck fractures, abdominal trauma.
Therapy and Progression: In emergency we performed: Vertebral stabilization (level C4-T6); CRIF bilateral hip (Targon® FN locking plate); spleen lesion: wait and see. Admission in intensive care unit and then in our spinal cord injury service for rehabilitation. Discharge 3 months after trauma: incomplete tetraplegia ASIA D. Return to walk without crutches. Return to ADL (Activities of Daily Living). Preserved intestinal and urinary continence.
Comments: In this patient we did an early total care in emergency: after vertebral stabilization we performed a synthesis of femoral neck with a minimally invasive surgical technique. The neurological recovery and satisfaction of the patient was optimal.
References: Körver RJ1, Wieland AW, Kaarsemaker S, Janzing HM. Clinical experience, primary results and pitfalls in the treatment of intracapsular hip fractures with the Targon® FN locking plate. Injury. 2013 Dec;44(12):1926-9.
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Disclosure: No significant relationships.

P396

CERVICAL PENETRATING TRAUMA BY ARROW IN SUICIDE ATTEMPT

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Case History: A 46 year old male with schizophrenia was taken to the emergency room after a suicide attempt.
Clinical Findings: At the emergency room he was eupneic with 97% oxygen saturation and hemodynamically stable. In the anterior cervical region, he still presented the arrow going through the wound. There was little bleeding and crepitus. He also presented an epigastric penetrating wound of 2 cm and a dubious abdominal exploration.
Investigation/Results: We decided to perform a CT scan of the neck and the abdomen with intravenous contrast.
Diagnosis: The CT scan showed the tip of the metal projectile lodged in the front of the trachea but not passing through, without damage in cervical vessels and moderate amount of free fluid.

Therapy and Progression: Surgery was decided. It was established a definitive airway by endotracheal intubation. We removed the arrow and we explored the carotid and jugular vessels without injuries. It proceeded to the tutorship of injury in the second tracheal ring with a cannula. Simultaneously, laparotomy was performed showing a discrete hemoperitoneum of the gastroepiploic artery that was ligated at both ends. After surgery, the patient was transferred to intensive care unit. He was transferred to the hospitalization room the 6th postoperative day and he was decannulated and discharge seventh day psotoperative.
Comments: Penetrating neck injuries are a potential thread to airway permeability that may compromise the patient's life. The protocolized management by a team with expertise in trauma and interdisciplinary coordination is essential to prevent a potential catastrophe.
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Disclosure: No significant relationships.

P397

THORACOSCOPY AS AN ALTERNATIVE TO STERNOTOMY IN IMPALEMENT INJURY OF THE CHEST WITH HEMODYNAMICALLY STABLE PATIENT

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Case History: A 24 year old male, habitual drug user was taken to the emergency room with a thoracic impalement injury.
Clinical Findings: The patient exhibits permeable airway, tachypneic, with symmetrical tracheal deviation to the right, and with decreased vesicular murmur in the left lung, hemodynamically stable, with symmetrical peripheral pulses and apparently without further injury. He present a sharp instrument wound in thoracic operculum, immediately above the sternal manubrium with the sharp object staying in the puncture site; there is no hematoma and no evidence of active bleeding.
Investigation/Results: In this hemodynamically stable patient we decided to perfonrmance an imaging tests to determine direction and possible injury of sharp object.
Diagnosis: In the chest x-ray radiograph posteroanterior and lateral we found left hydropneumothorax and sharp bladed weapon in the anterior mediastinum without penetrating the area of the large thoracic vessels.
Therapy and Progression: Given the patient's hemodynamic stability, it is decided that he needed surgery by thoracoscopic approach where a sharp object appears about 15 cm housed in left pleural cavity immediately medial to the left subclavian artery, in addition to a clotted hemothorax of approximately 500 cc. The sharp object is removed under direct eyesight, the chest cavity is **washed** without evidence of active bleeding points or other injuries; endothoracic drainage is done to the patient. The patient is in hospital ward handled without incident, the endothoracic tube was removed the second postoperative day and was discharged the same day
Comments: Impalement injuries in thorax are rare. They occur most frequently in the right hemithorax, because in left hemithorax, the presence of the heart and great vessels, makes most of these injuries are fatal. If on arrival in the emergency room the patient is hemodynamically unstable, immediate surgery is the best option. In hemodynamically stable we can performance a imagin test. Impaled object extraction should be done in the operating room where you can control of possible vascular or visceral damage causing for the impalement object. We present thoracoscopy as a suitable and safety option in selected patients with thoracic impalement injury. This approach offers significant benefits in terms of postoperative pain, early respiratory rehabilitation and decreasing hospital stay
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Disclosure: No significant relationships.

P398

A MORE CONSERVATIVE APPROACH TOWARDS HIGH GRADE BLUNT SPLENIC INJURIES

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Case History: A 63-year-old woman was referred to our hospital after motor vehicle accident from a regional hospital.
Clinical Findings: In admission, she was in stable hemodynamic status, complained of left-side abdominal pain and left pelvic pain during leg movement. On physical examination, she had slight tenderness in the left upper quadrant, but no peritoneal signs.
Investigation/Results: Focused abdominal sonography for trauma showed significant amounts of intra abdominal free fluid. Plain pelvic radiograph demonstrated fracture of left superior pubic ramus. Abdominal CT scan showed a giant subcapsular hematoma, free intra-abdominal fluids, and no extravasation of contrast
Diagnosis: Blunt splenic injury
Therapy and Progression: The patient was treated with intravenous fluids, analgesic, PPI, anticoagulant, and broad-spectrum antibiotics. The next day after the accident, she appeared with acute severe anaemia (RBCs 2,400,000/mm3, Hb 6.8 gr/dL, Hct 22%) and was transfused with three blood units and three fresh frozen plasma units. Repeated ultrasound control after seven days revealed no free intra-abdominal fluid. On the twelfth day, the patient was discharged uneventful from the hospital. The three and six months' follow-up imaging showed clear reduction of subcapsular hematoma.

Comments: High grade blunt splenic injuries in selected patients, in hospitals equipped with trained human resource and the required medical equipments, could be successfully managed with a non-surgical treatment.
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Disclosure: No significant relationships.

P399

OCCULT PNEUMOMEDIASTINUM AFTER A BLUNT TRAUMA

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Case History: A 41-year-old male was seen in the emergency department. He reported falling from a ladder. The patient complained of abdominal pain as well as chest pain.
Clinical Findings: He was concious with permeabla airway and initial vital signs were:respirations 22 breaths/min, Sat 95%, blood pressure 95/63 mm Hg, pulse 110 beats/min, and temperature 36.8°C.
Investigation/Results: The X-ray study was unremarkable. The FAST examination revealed free fluid in Morison's pouch, and Douglas pouch. Based on these findings we decided to performed a exploratory laparotomy. A spleen laceration with subscapular hematoma and an associated hemoperitoneum, were found. The patient required an urgent splenectomy. No other findings were presented The patient developed chest pain, fever and leukocytosis in the 7th postoperative day. We repeted an abdominal X-ray that showed pneumoperituneum. Because of the cause of the pneumoperituneum was obscure and the patient was hemodicamically stable a CT scan was performed.
Diagnosis: No sign of intestinal perforation were found but a pneumomediastinum was seen predominantly in anterior and basal distribution. Esophagogram examinations shows that there were no signs of tracheal or oesophageal injury. The endooscopy was completely normal
Therapy and Progression: We decided to start conservative treatment based on intravenous antibiotic therapy, parenteral nutrition and close observation. The patient did well over the course of his hospitalization and was discharged home one week later.
Comments: The greatest concern involving Pneumomediastinum in a trauma patient is an aerodigestive tract injury. Prompt evaluation, identification, and management of these injuries are extremely important. It can be occult at de initial evaluation in the emergency room. We must have in mind after a blunt thoraco-abdominal trauma.
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Disclosure: No significant relationships.

P400

BLUNT CHEST TRAUMA AND NOACS: AN UNFORTUNATE COMBINATION

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Case History: Two cases presented with severe bleeding following blunt chest trauma while using a NOAC. Patient one (78-year-old) was involved in a MVC and presented with a hematoma on the right hemithorax. Patient two (75-year-old) presented with dyspnea and a painfull hemithorax after falling two days earlier.
Clinical Findings: ATLS survey: the first patient was hemodynamically stable initially, but became unstable over the course of a couple of hours whilst the hematoma expanded. The second patient was initially stable.
Investigation/Results: Patient one; chest x-ray showed no fractures/haemothorax. Patient two; X-ray showed four fractured ribs and a right sided hemothorax for which tube thoracostomy with massive output of old blood, after which he became briefly hemodynamically unstable.
Diagnosis: Major bleeding following blunt chest trauma while using NOACs.
Therapy and Progression: ICU admission and appropriate resuscitation. Patient one was taken for angiogram, complicated with two times a CPR setting, showing no active bleeding. Patient two was stabilized without surgical intervention. Both patients stayed several days in the ICU.
Comments: Predictable pharmokinetics of NOACs result in easy usage.[1] Occurrence of spontaneous bleeding is significantly lower in patients treated with NOACs, but few data on traumatic bleeding is available.[2]However, major concerns remain: currently no laboratory tests are available measuring the anticoagulation state of patients on NOACs. This can eventually result in life-threatening situations in case of major bleeding.[3,4]Additionally, only dabigatran-induced anticoagulation can be reversed. Therefore trauma surgeons are advised to start rapidly with reversing actions with blood transfusions and PCC infusion in trauma patients using NOACs, untill appropriate laboratory testing and antidotes are available.
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Disclosure: No significant relationships.

P401

FACIAL RETAINED WEAPON INJURIES: AN UNUSUAL CASE WITH A CHALLENGING MANAGEMENT

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Case History: 41 year old man admitted at the ER with a retained knife blade through the left temporal region after being assaulted.
Clinical Findings: The patient was hemodynamically stable on admission, GCS 15, without any neurological deficit but diplopia and local pain.
Investigation/Results: A non-contrast CT was performed, showing the blade going through the left orbit, maxillary sinus and both nostrils without any damage to the eyeball or the optic nerve. Due to the CT findings, an angioCT was done in order to assess vascular injuries.
Diagnosis: Penetrating facial trauma without any major vascular or neurological injuries with retained blade.
Therapy and Progression: A simple withdrawal of the blade was performed under general anesthesia and direct vision by an infraorbitary approach. Wide spectrum antibiotics were prescribed, as well as the tetanus vaccine. The only sequel he presented was a left lateral rectus muscle paresis, resulting in diplopia, which was successfully treated with botulinum toxin. He was discharged at day 7 after an uneventful recovery.
Comments: Facial retained weapon injuries are not frequent and most centers have a very limited experience in their management. They represent a diagnostic and therapeutic challenge, since they might be associated with significant morbidity and mortality. The transfer of the patient by the EMS must be careful, with immobilization of the weapon in order to prevent further damage. Some groups initially prefer a simple CT scan, leaving the CT-angio for cases without "scattering" and when considering that it can provide useful additional information. Although shocking, many of these injuries can be managed with simple withdrawal.
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Disclosure: No significant relationships.

P402

POLITRAUMA PATIENT – WHAT IS THE REAL COST?

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Case History: Background: Treatment costs datas regarding politrauma patients in Romania are not available. The aim of this paper is to evaluate if the costs required for a polytraumatised patient are sufficiently reimbursed by the health system.
Clinical Findings: Background: Treatment costs datas regarding politrauma patients in Romania are not available. The aim of this paper is to evaluate if the costs required for a polytraumatised patient are sufficiently reimbursed by the health system.
Investigation/Results: Results: The mean calculated cost per patient was 4009 Euro while the reimbursemnet according to DRG system was only 608 Euro/patient. This leads to a financial deficit of approximately 3400 Euro/patient (84,8%). The DRG system insufficiently reimburse the polytrauma cases who requires multidisciplinary approach and long periods of intensive care hospitalisation.
Diagnosis: Results: The mean calculated cost per patient was 4009 Euro while the reimbursemnet according to DRG system was only 608 Euro/patient. This leads to a financial deficit of approximately 3400 Euro/patient (84,8%).
Therapy and Progression: The DRG system insufficiently reimburse the polytrauma cases who requires multidisciplinary approach and long periods of intensive care hospitalisation.
Comments: Management and health political decidents should consider new forms of polytrauma-reimbursement based on ISS and duration of hospital stay otherwise the trauma centers will have to face a continuously increasing financial deficit.
References:
Disclosure: No significant relationships.

P403

PENETRATING ABDOMINAL GUNSHOT WOUND WITH MULTIVISCERAL INJURIES – CASE REPORT

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Case History: Penetrating abdominal gunshot wounds are extremely rare in our country due to the legislation which bans firearms. Such cases can raise surgical decision issues about the way hollow organs injuries should be managed especially in case of colon injuries.
Clinical Findings: The modern trend of surgical treatment of colonic and small intestine traumatic lesions is primary repair either by primary suture or resection and anastomosis. Colostomy is preferred in patients with ATI $\geq$ 30 and colon injury scale $\geq$ 4.
Investigation/Results: Material and method: We present the case of a 32 years old patient with gunshot penetrating abdominal wound with multivisceral injuries - jejunum (gr. III), sigmoid colon (gr. III) and the left hepatic lobe (gr. II) with an Abdominal Trauma Index of 28. The patient was operated after standard clinical and imagistic assesment, primary repair being used for intesinal and colonic injuries. The postoperative evolution of the patient was favorable, with a urinary complication due to detachment of an ureteral eschar leading to uroretroperitoneum which required percutaneus drainage and ureteral Cook catheter.
Diagnosis: The postoperative evolution of the patient was favorable, with a urinary complication due to detachment of an ureteral eschar leading to uroretroperitoneum which required percutaneus drainage and ureteral Cook catheter.

Therapy and Progression: The modern trend of surgical treatment of colonic and small intestine traumatic lesions is primary repair either by primary suture or resection and anastomosis. Colostomy is preferred in patients with ATI $\geq$ 30 and colon injury scale $\geq$ 4.
Comments: The modern surgical treatment - primary suture or resection and anastomosis.
References:
Disclosure: No significant relationships.

P404

DOUBLE TROUBLE - ONE LIMB, TWO NON-UNIONS

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Case History: We report a case of an 40-year-old male injured in occupacional train accident.
Clinical Findings: A subtotal traumatic amputation of right upper limb, deformities of left lower limb, permagna abdominal wound.
Investigation/Results: Initial pelvic and thoracic x-ray were performed as well as an abdominal US and the whole-body CT and CTA screening. We found fractures of proc. styloidei Th8-Th10, fracture of right ramus ossis pubis, abruptions of right crista iliaca and patella, fracture of right distal humerus, a comminutive supracondylar fracture of left femur, a comminutive fracture of distal part of tibia with dislocation and fracture of distal fibula.
Diagnosis: Politrauma
Therapy and Progression: After diagnostics and stabilization the pacient was moved to OR. Multidisciplinal surgical team was involved. An ex-fix for left lower limb, osteosynthesis of right crista iliaca and revision of abdominal wound was performed. Reimplantation of amputated right upper limb was not feasible, therefore a standard above elbow stump was formed. Later conversion to definitive osteosynthesis with intramedulary nails of distal femur and tibia was made. Eight months after the operation patient still reported pain in the lower limb while weightbearing. CT scan confirmed a hypertrophic non-union of distal femur and tibia. Implant removal, reaming and reinsertion was performed. Further recovery after the last surgical procedure was uneventful.
Comments: To our knowledge simultaneous noninfected hypertrophic non-union of femur and tibia is very rare. We know of different strategies for treatment hypertrophic non-unions: additional plate to nail; exchanging nail for plate; removing nail, reaming the canal and inserting wider nail as we did in our case.
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Disclosure: No significant relationships.

P405

DIAPHRAGMATIC INJURIES IN A TRAUMA PATIENT. CASE REPORT

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Case History: We present the case of a 43-year-old male patient, victim of a car accident (passenger).
Clinical Findings: At admission, the patient was mechanically intubated, hypotensive, with a severe traumatic brain injury, left pneumothorax, a right radius fracture, presenting an expanded abdomen.
Investigation/Results: Blood tests revealed leukocytosis, hyperglycemia, hyperuremia, severe anemia (Hb=5mg/dL for which 4 units of blood were administrated). FAST (Focused Assessment with Sonography for Trauma) was performed and concluded a large quantity of free intraperitoneal fluid.
Diagnosis: Emergency exploratory laparotomy was performed and the intraoperative diagnosis was of hemo-pneumoperitoneum, ileal perforation, ileal mesentery injury, mesosigmoid rupture and hematoma, and left hemidiaphragmatic rupture.
Therapy and Progression: Ileal enterectomy with T-T anastomosis, segmental sigmoidectomy with left terminal colostomy, left diaphragmatic suture, multiple drainage and left pleurostomy was performed. Due to respiratory dysfunction the patient remained intubated, and a traheostomy was performed. 3 months later a right pleurostomy was placed for pleural empyema. The patient was discharged after 111 days of hospitalization.
Comments: The treatment of the trauma patients with diaphragmatic rupture should not be delayed because of the severe complications such as, respiratory dysfunction or incarceration of herniated abdominal contents, which can occur.
References:
Disclosure: No significant relationships.

P406

ANTERIOR TIBIAL ARTERY AVULSION AND EXTERNAL ILIAC VEIN LACERATION: A CASE OF BULL GORE INJURY

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Case History: We report a case of a 62-year-old male brought to the emergency department after a blunt chest trauma and several bull gore injuries during a bull running event.
Clinical Findings: At presentation his vitals were stable with supplementary oxygen. There was decreased sounds on the left

hemithorax and two perforating injuries, one on the right lower abdomen and another on the right leg with avulsion and exposure of the anterior tibial artery.
Investigation/Results: CT scans showed fracture of the 12th vertebra, free pelvic fluid, several ribs fractured bilaterally, left hemopneumothorax and pulmonary contusion.
Diagnosis: Polytrauma.
Therapy and Progression: In the operating room a left chest tube was placed and the abdomen was explored through a T shape incision on the right lower quadrant. The peritoneum was intact and there was laceration of the right external iliac vein, which was sutured. The wound in the external region of the right leg was explored, showing no signs of muscle laceration and a clot in the distal extremity of the artery so we proceeded to its ligation, placement of drains and closure. Post-operatively, deep venous thrombosis of the external iliac vein was detected and after heparin perfusion there was evidence of recanalization of the vein. Later he was also submitted to transpedicular screw fixation of the lumbar spine and followed-up by several specialties with good recovery.
Comments: The medical literature on bull gore injuries is scarce. These wounds have different mechanisms of action and are complex due to the circular movement of the bull while goring, thus requiring a multidisciplinary approach.
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Disclosure: No significant relationships.

P407

POLYTRAUMA: THE SURGICAL CHALLENGE

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Case History: The autors present a case of a 39 years-old male, victim of a motorcycle accident, with torso and extremity injuries.
Clinical Findings: On arrival, primary survey showed a shocked patient, with 94% haemoglobin saturation, blood pressure of 116/70 mmHg and 130 of pulse, transient responder to fluids. Patient complained of pain in the right hemithorax and right upper quadrant.
Investigation/Results: FAST was positive for peritoneal fluid. CT showed multiple right fractured ribs with flail chest and pneumothorax; grade IV liver injury with active bleeding; grade II kidney and spleen injury. He also sustained clavicle, scapula and peroneal fractures.
Diagnosis: Polytrauma
Therapy and Progression: A right chest drain was inserted, blood transfusion was started and the patient was sent to the Operating Room, where a laparotomy with perihepatic packing and laparostomy was performed. He was admitted in the Intensive Care Unit and 2 days later a resectional debridement of VI and VII hepatic segments was done. The patient complicated with aponeurotic dehiscence and necrotizing pneumonia, but was discharged home at 28th post-operative day. Bones fractures were submitted to nonoperative management.
Comments: Polytrauma management has undergone massive evolution in last decades, allowing substantial improvements in morbimortality. These patients should be evaluated and stabilized initially. In hemodynamically unstable patients with active bleeding and hemoperitoneum on abdominal imaging, the strategy and techniques for bleeding control, mainly in liver injuries, can be demanding and complex. Damage control surgery must be preferred with later definitive interventions. Nonoperative management can be used in stable patients with no active bleeding.
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Disclosure: No significant relationships.

P408

A RARE CASE OF PENETRATING CHEST WOUND (WITH REMAINING FOREIGN BODY)

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Case History: A 49-year-old man was transported to the operating room after being pierced by a spike who entered trough his left hemithorax from the antero-lateral region,landing paravertebrally on the left side.
Clinical Findings: Patient conscious, cooperative, hemodynamic and respiratory stable. On the left hemithorax we identify textile and foreign body without any bleeding.
Investigation/Results: The chest X ray showed neither pneumothorax or hemothorax. Our patient had rib fractures at the entrance site.
Diagnosis: Penetrating chest trauma with foreign remaining body. Traumatic shock
Therapy and Progression: Intraoperatively no major vessels damage was found, only a lung wound. The stake was then removed and the lung was sutured. The patient remained well, was converted to antibiotics and discharged home day 5 post admission. Follow-up imaging revealed no modifications. He remains well to date.
Comments: During the initial care of patients with penetrating trauma, the object should not be removed from its place. Our patient was lucky enough that no injury occurred to the heart and major vessels during the accident and he was not subjected to any secondary trauma during ambulance transport.

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Disclosure: No significant relationships.

P409

ATLS TO GUNSHOT WOUNDS

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Case History: A 20 yo patient with no personal history of interest who has suffered two thoracoabdominal gunshot wounds.
Clinical Findings: Patient arrived to emergencies services by ambulance. In spite of his good situation, we decided to examine him in the box of CPR. In first instance, it was established the priorities to value the gravity of the wounds. The patient got 100% oxygen through a non-rebreathing mask. Penetrating wounds of thorax were reviewed, an hemopneumothorax was diagnosed by auscultation. Blood pressure and heart rate were been measured, two intravenous lines had started, and blood was obtained for laboratory investigation. The patient presented good general state, was conscious and oriented (GCS 15).
Investigation/Results: Thoracoabdominal CT showed injuries to pulmonary, diaphragmatic, hepatic and gastric level. As well as it showed the location of both projectiles (pectoral left and another in vertebral body D12).
Diagnosis: A 20 yo patient who had two gunshot wounds which produced him several injuries.
Therapy and Progression: Multidisciplinary assessment of the surgical team of emergencies. Thoracostomy tube for hemopneumothorax. Projectile lodged in vertebral body that does not engage the spinal cord, it is not indicate immobilisation, surgery for fixation of vertebral body can be delayed. Emergency laparotomy, the diaphragmatic, hepatic and gastric injuries are repared.
Comments: The purpose of adequate trauma care is to decrease this morbidity and mortality, which is expected to be achieved by fast, systematic, and effective assessment and treatment of the injured patient, according to the ATLS guidelines of ACS and its COT.
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Disclosure: No significant relationships.

P410

A SEVERE PENETRATING THORACIC TRAUMA BY CIRCULAR GRINDER

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Case History: Patient came to the ER with a severe penetrating thoracic trauma by circular grinder from a domestic accident.The injury was repaired and the patient had a good recovery.
Clinical Findings: A 66 year-old male was brought in ER; the primary survey reveals a conscious patient, with respiratory distress, hemodinamically stable and an open wound in the left thorax that involved all the layers of the thoracic wall with active bleeding. The secondary survey did not reveal other injuries.
Investigation/Results: ECG, FAST and cardiac ultrasound were performed. The patient was rapidly transferred in the operating room for the exploration of the wound and surgical treatment. After surgery the patient performed a CT scan evaluation.
Diagnosis: Open wound in the left thorax with the complete section of the second and third left ribs and partial section of the first left rib and the clavicle; active bleedind by complete section of the second and third intercostal arteries.
Therapy and Progression: The patient was monitored and analgesia applied. He had been intubated with rapid sequence intubation, the protocol for transfusion was activated. In the operating room, the patient was received by a team formed by general and vascular surgeons; no thoracic surgeon available. The arteries were sutured and a drainage tube was placed.The patient was admited in the intensive care unit.
Comments: There is a discrepancy between the mechanism and the injuries discovered. Even the patient was stable in the emergency department because of the bleeding and the mechanism involved the decision to be transferred to OR was made.
References: ATLS Penetrating Chest Trauma Treatment and Management Protocol
Disclosure: No significant relationships.

P411

A PENETRATING ANTERIOR THORACIC AND ABDOMINAL INJURY AND A LUCKY PATIENT T: A CASE REPORT

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Case History: A 46-year-old patient transported to the hospital with penetrating wound of the thoracic anterior wall.
Clinical Findings: After 3 hours from the incident the pacient was haemodynamically stable. In the region of the anterior abdominal and thoracic wall the pacient shows penetrating wounds.

Investigation/Results: The patient remained stable, was converted to heparin and discharged home day 10 post admission, with cautious follow-up given her risk of late effusion and tamponade.Echocardiography revealed left ventricular thrombus, with minimal pericardial effusion.He remains well to date.
Diagnosis: Polytrauma. Craniocerebral trauma. Periorbital ecchymosis. Left penetrant laterothoracic and abdominal wound. Left hemopneumothorax. Haemoperitoneum. Hemorragic shock.
Therapy and Progression: The pre-operative management, techniques of surgical repair and the outcome were assessed.He was transported to the operating room. Intraoperativelywe found a 5 cm penetrating wound ofthe left ventricle that was sutured. The patient remained stable, was converted to heparin and discharged home day 10 post admission, with cautious follow-up given her risk of late effusion and tamponade.Echocardiography revealed left ventricular thrombus, with minimal pericardial effusion.He remains well to date.
Comments: We consider that the techniques required for cardiac wounds can be practiced comfortably by general and thoracist surgeon. We encourage the general surgeon who receives a unstable patient with penetrating thoracic trauma to operate, instead of adding risk to the patient's physiology by a transfer to cardiothoracic or dedicated trauma units.
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Disclosure: No significant relationships.

P411A

HETEROTOPIC OSSIFICATION IN POLYTRAUMA PATIENTS

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Case History: Heterotopic ossification (HO) is a frequent complication due to prolonged immobilization, which is usual after high-energy trauma in polytraumatized patients. This complication can lead to pain,impaired range of motion and risk of revision surgery. A 43-year-old man with history of psychiatric disorder suffered after a high fall, in the context of suicide attempt in 30/May/2014,complex fractures, among them: left acetabulum posterior wall fracture with posterior hip dislocation.
Clinical Findings: Surgical fixation took place on June 18/2014 performing posterior wall internal fixation through Kocher-Langenbeck approach. The patient spent 42 days at the intensive care unit and partial weight bear with walk progression was not allowed till 12/08/2014
Investigation/Results: Radiology 6 months later showed appropriate fracture consolidation and HO Brocker grade II. During the follow up, 7/July/2015, we observed progression (Grade IV),a hip range of motion (ROM) 30°-60° and both knees ROM -45°-120°, so that we decide to proceed with surgical treatment in October 2016: HO left hip resection including femur distal osteotomy and proximal rectus femoris with distal psoas tenotomy were done.
Diagnosis: Heterotopic Ossifications In polytrauma Patients
Therapy and Progression: Three weeks after last surgery,our patient was walking with partial weight bearing and a better ROM 0°-70°,(previous 30°-60°).
Comments: Early rehabilitation and decreasing bed time period is quite important to reduce complications as HO, specially in polytrauma patients. Indomethacin and the use of radiation have been suggested for prophylaxis of this complication,however indications remain unclear thus new lines of treatment and management must be found
Disclosure: No significant relationships.

P412

SEVERE ABDOMINAL INJURIES CAUSED BY 2 POINT SEATBELT MALPOSOITION. THE SUBMARINE EFFECT

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Case History: The use of safety seat-belts has diminished the onsite mortality of traffic accidents but still can produce serious injuries. In the "submarine effect" the body slides below the belt, acting like hinge. A 30-year-old male suffered acute abdomen after traffic accident.
Clinical Findings: Patient was restrained with a two-points seatbelt. He presented with the "seatbelt sign". Unstable haemodinamics on arrival
Investigation/Results: No investigations performed initially.
Diagnosis: Lesions include rectal muscle transection, intestinal perforations and break right psoas.
Therapy and Progression: Damage control surgery was performed: sigmoidectomy, cequectomy without anastomosis and packing. Compartment syndrome developed and after transfer to our institution a second surgery was mandatory: Hemostasis and laparostomy with vacumm closure. Later on, intestinal reconstruction was carried out. Severe abdominal wall injury and retraction precluded closure and a substitution mesh was needed. In a fourth surgery after onset of hypogastric fasciitis, discharge incisions and fasciotomy were done. After several weeks with vacumm therapy, was closed with substitution mesh.
Comments: This case is a complete "seat-belt syndrome". The damage was caused by the two-points belt affecting the abdominal wall and viscera. Abdominal ecchymosis or chafing usually reflects important abdominal wall and cavity injuries. Wall damage is caused by knife-effect shearing the muscles. Intestinal injury is result of the sum of closed handle obstruction, increasing intraluminal pressure, and torsion forces that provoke the rupture of the intestinal wall. Bad use of two-points seatbelts, already for laxness, laying it over the iliac spines or for incorrect attitude on sitting down, cause important abdominal injuries, which can be lethal in traffic accidents
Disclosure: No significant relationships.

P413

TRAUMATIC DIAPHRAGMATIC HERNIA AND BLADDER RUPTURE: CASE REPORT

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Case History: 50 years old male, admitted in the ER, victim of car crash (front collision).
Clinical Findings: Patient oriented and conscious, GCS 15, hemodynamically stable and with normal peripheral saturation. Decreased left breath sounds and shortened left lower limb. Abdomen soft, with no tenderness. Urinary catheter placed, hematuria was drained.
Investigation/Results: Chest X-Ray: diffuse density in the left thorax and FAST was positive. Body CT: left pulmonary contusion, hepatic and spleen peritoneal effusion, no signs of active bleeding, left hip fracture and contrast bladder overflow indicating rupture.
Diagnosis: Extra-peritoneal bladder rupture and multiple hip fractures.
Therapy and Progression: Conservative management with Foley bladder catheter and hip fixation. Worsening of vital signs on day 3, with abolition of left breath sounds. CT thorax revealed left diaphragmatic rupture, with thoracic herniation of abdominal viscera. Exploratory laparotomy was performed, with correction of the diaphragm defect with prosthesis. At day 15, inflammatory signs on left thorax and abdomen and thigh transudation with urine smell. Cystography was performed, showing leakage of contrast through the soft tissues of abdominal wall. He underwent surgery, with correction of an anterior bladder wall rupture from a bone fragment. Good clinical evolution. Discharged at day 40.
Comments: Complex trauma situation. Hematuria in blunt pelvic trauma should raise suspicion of bladder rupture. Diaphragm rupture diagnosis is often delayed, despite medical imaging techniques. Surgery is the most efficient treatment.
References: Traumatic diaphragmatic injuries: epidemiological, diagnostic and therapeutic aspects. Thiam O *et al.* SpringerPlus (2016) 5:1614 Urological injuries associated with pelvic fractures: A case report of adetached bone segment inside the bladder. Alfayez SM *et al.* Int J Surg Case Reports (2016) 28:188-191 Evaluating the Role for Operative Repair of Extraperitoneal Bladder Rupture Following Blunt Pelvic Trauma. Johnsen NV *et al*. J Urol (2016) 195(3):661-5
Disclosure: No significant relationships.

P414

DELAYED PRESENTATION OF ABDOMINAL WALL RUPTURE AND BOWEL PERFORATION FOLLOWING RTA

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Case History: 16 year old female presented to a regional hospital with acute, severe abdominal pain. Involved in RTA one day previously: back seat passenger of a car involved in a head on collision travelling at 80km/hr. She was wearing a seatbelt at the time. Self-extracted following the impact walked away unaware of any injury. Asymptomatic until the following morning when she presented to the emergency department.
Clinical Findings: Alert, hypotensive, tachycardic. No visible haemorrhage. Abdominal bruising in distribution of the seatbelt, diffusely tender
Investigation/Results: CT TAP: Anterior abdominal wall rupture, herniation of bowel loops, extensive sub-cutaneous emphysema. Sternal fracture, small retrosternal haematoma. Bilateral 11th and 12th rib fractures. No pneumothorax. Fractures of T9, T10, L4 & L5.CT angiogram: no aortic root injury
Diagnosis: Abdominal wall herniation with associated bowel perforation
Therapy and Progression: Upon transfer to SVUH, the patient underwent immediate emergency laparotomy with resection of necrotic bowel sigments and formation of a loop ileostomy and blowhole colostomy, the laparotomy wound was left open. Delayed attempted laparotomy closure was unsuccessful and VAC dressing was placed. The patient was later transferred to a specialist spinal centre spinal fracture fixation. She will require later closure of her abdominal wound. Post operative complications included peritonitis, pneumonia and deep venous thrombosis necessitating IVC placement.
Comments: Abdmonal wall herniation following road traffic accidents is typical of high velocity trauma and often associated with other serious injuries. In this case, the bowel perforation neccesitated emergency laparotomy whilst maintiaing thoracolumbar spinal precautions, highlighting the importance of specialist input early in the management of these cases.
References: ANZ J Surg. 2014 Mar;84(3):160-5. doi:10.1111/ans.12079. Epub 2013 Mar 6.
Disclosure: No significant relationships.

COMPLEX ARTICULAR INJURIES (CASE PRESENTATION)

P415

PAEDIATRIC T-CONDYLAR FRACTURES OF THE HUMERUS: A CASE REPORT AND REVIEW OF THE LITERATURE

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Case History: A 13-year-old boy falls over his right arm while playing rugby.
Clinical Findings: The elbow was swollen and deformed. There were two 1-centimeter open wounds in the lateral side of the arm. No neurovascular injury was present
Investigation/Results: Radiographs and CT scan were performed to evaluate the fracture: T-condylar fracture with shaft comminution and adequate articular congruity.
Diagnosis: Gustilo-Anderson Grade I open T-condylar right elbow fracture
Therapy and Progression: Open wounds were closed after profuse cleaning. The patient underwent open reduction and internal fixation with two plates by a posterior approach. After the intervention, the patient developed a radial nerve palsy, which recovered completely in two months, and a severe elbow stiffness, which required an open arthrolysis three months after the intervention. The articular range of motion is almost completed seven months after injury.

Comments: T-condylar fractures are infrequent in children. Treatment options vary from percutaneous stabilization to open reduction and fixation. There is no standard recommended treatment. Rigid internal fixation with early mobilization is the generally accepted method. However, this treatment involves a high rate of complications, such as joint stiffness and nerve injury. When there is less displacement, closed reduction with K-wire fixation can be achieved, with less complications rate, and promising outcomes. In our case, the long shaft extension of the intercondylar stroke and the proximal conminution made reduction very difficult to achieve with K-wire fixation. Therefore, open reduction and fixation was performed. This case is representative of the complications this surgical procedure involves, and the complexity of these fractures.

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Disclosure: No significant relationships.

P416

A NEGLECTED COMMINUTED SCHATZKER VI TIBIAL PLATEAU FRACTURE

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Case History: We are presenting the case of a 60 years old alcoholic, homeless male who sustained a injury after falling down the stairs, 5 days before.

Clinical Findings: The clinical examination shows a marked swallowing in the knee and calf with circumferential blisters. The neurovascular exam in normal and there are no signs of compartment syndrome.

Investigation/Results: The Rx exam and CT scanner were done.

Diagnosis: They showed a Schatzker IV comminuted intraarticular tibial plateau fracture with marked displacement.

Therapy and Progression: A two stage protocol was applied. Initially a spanning external fixator was placed. After blister cicatrisation a definitive treatment was performed. Fracture reduction trough a double approach,metaphyseal defect filling with demineralised bone graft.The fracture was stabilised with 2 plates. Weight bearing was not allowed for 3 months. 6 weeks after the surgery the patient stared weight bearing. A partial hardware failure was noticed. The CT scanner showed a limited secondary displacement. A conservative attitude was decided. At the 3 months' follow-up the situation is unchanged. Weight bearing was allowed. At the 6 months' follow-up the patient is fully weight bearing and has intermediate pain an acceptable range of motion. The CT scanner shows signs of consolidation with a metaphyseal defect. Bone grafting was proposed to the patient but he refused any further treatment.

Comments: Soft tissues management and patient characteristics are important factors in the evolution and on the healing of a such complex injury. A two stage protocol is very useful in treatment of complex periarticular fracture, allowing soft tissues healing before the definitive osteosynthesis.

References: Treatment strategy for tibial plateau fractures: an update, Salvi Prat-Fabregat, Pilar Camacho-Carrasco, doi:10.1302/2058-5241.1.000031 Published 31 May 2016, EFFORT open reviews

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Disclosure: No significant relationships.

P417

EXTENSIVE OSTEOLYSIS OF THE FEMORAL HEAD FOLLOWING ACETABULAR FRACTURES IN A POLYTRAUMA PATIENT

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Case History: In June 2015 patient RA, male, 45 years old, is the victim of a car accident and suffers multiple trauma for which is admitted in the emergency room.

Clinical Findings: Based on conventional radiographs and CT scan patient is diagnosed with an acetabular fracture. Also, he was diagnosed with C7-C9 rib fractures, head trauma, multiple contusions.

Investigation/Results: The acetabular fracture was classified as transverse with posterior wall according to the Judet Letournel classification (1).

Diagnosis: Using a Kocher-Langenbeck approach we perform open reduction and internal fixation with two reconstruction plates. Postoperative radiologic control shows acceptable fracture reduction according to Matta criteria (2). Immediate postoperative evolution is favorable.

Therapy and Progression: At 45 days after surgery a routine X-ray control is performed and we notice a massive osteolysis involving about 50% of the femoral head. CT exam shows the exact amount of the osteolysis. The 3 months postoperative radiographic and CT images show quasi-total disappearance of the femoral head and superior dislocation of the remaining blunt. At 4 months, total hip arthroplasty is performed using a Burch-Schneider ring for acetabular component fixation.

Comments: The particularity of the case lies in the short time elapsed since the moment of the acetabular fracture to the appearance of massive osteolysis of the femoral head (6 weeks). According to Seo (3), extensive osteolysis of the acetabular femoral head appears to be a distinct entity from avascular necrosis or rapidly progressive osteoarthritis. The pathogenesis of this complication is not clearly explained and must be differentiated from aseptic necrosis of the femoral head.

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Disclosure: No significant relationships.

P418

TRAUMATIC INTRA-THORACIC DISPLACEMENT OF THE HUMERAL HEAD. A CASE REPORT AND REVIEW OF MANAGEMENT

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Case History: Mrs A was an 84-year-old lady, transferred to Liverpool's collaborative major trauma centre after suffering a fall from standing. She described tripping on electrical cables and falling on her outstretched hand (right).
Clinical Findings: Mrs A complained of severe pain in her right arm and chest. There was obvious deformity of the right humeral shaft accompanied by severe pain on inspiration. Mrs A remained alert, vocalised coherently, and was haemodynamically stable. There was significantly reduced air entry and extensive surgical emphysema across the right hemithorax and neck. Oxygen saturations were maintained at 98% with 10L supplemental oxygen.
Investigation/Results: Plain radiographs were inconclusive. CT scanning demonstrated a grossly comminuted fracture of the surgical neck of the right humerus. There were fractures of ribs 4-6 with significant displacement. The head of the humerus had separated and migrated to within the right pleural cavity.
Diagnosis: Haemopneumothorax with traumatic intra-thoracic fracture dislocation of the humeral head.
Therapy and Progression: Mrs A was taken to theatre, a thoracic epidural and intercostal drain were inserted. Due to her co-morbidities she was not suitable for definitive surgical management. Her symptoms were controlled and she died, of cardiorespiratory arrest, ten days after the injury.
Comments: There are less than 25 reported cases of this injury. Management is controversial. Some advocate urgent removal of the humeral head, others suggest that, with no major vascular or visceral injury, it can be left in situ. Management is dictated by the precise injuries sustained, physiological reserve and surgical expertise. Plain radiographs can be misleading; CT remains the investigation of choice.
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Harman, B.D., *et al.*, Intrathoracic humeral head fracture-dislocation. J Orthop Trauma, 2004. 18(2): p.112-5.
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Disclosure: No significant relationships.

P419

BILATERAL BICOLUMN ACETABULAR FRACTURES: A CASE REPORT

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Case History: A 55 Y/O driver presented in the emergency department after a local road accident. The patient was hemodynamically unstable: GCS 9, ISS 28 (brain and lung contusion). Resuscitation procedures and left leg traction were done initially. Five days after admission the surgery procedure was done.
Clinical Findings: Initial pelvic X-ray showed bilateral acetabular fractures. On the right side: T-shaped + posterior wall fractures; on the left side: transverse + posterior wall fractures and sacral avulsion fractures of sacrospinal and sacrotuberal ligaments. 2D CT-axial plane was shown posterior femoral head dislocation with intraarticular fragment on the left side. 2D CT-coronal plane was showing that acetabular roof on both sides was intact. 3D CT-posterior view had shown that main presentation of both fractures was posteriorly.
Investigation/Results: Full weight bearing was enabled after 10 weeks. An orderly healing had occurred three months after the operation.
Diagnosis: Bilateral bicolumn acetabular fractures.
Therapy and Progression: In the prone position through two Kocher-Langenbeck approaches ORIF of both sides was done with the same anesthesia.
Comments: There is no published report about high energy traumatic injury with isolated bilateral bicolumn acetabular fractures which required surgical treatment. That injury patterns are extremely rare, complex and very difficult for initial management as well as for definitive surgical treatment.
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Disclosure: No significant relationships.

P420

TIBIAL PLATEAU FRACTURES: THE ROLE OF ARTHROSCOPIC ASSISTANCE

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Case History: Tibial plateau fractures are a relatively common disease, accounting up to 1% of all fractures(8% of fractures in the elderly) According to various statistical series, external tibial plateau is the most common affected(55-70%) Surgical fixation has complications and limitations. It usually requires extensive approaches to expose and reduce the fracture, it is also necessary to perform arthrotomy and anterior detachment, increasing the morbidity of the affected area. However, arthroscopic techniques provides significant benefits treating these fractures due to minimal approaches that allow restoring articular congruity under direct vision, allows the diagnosis and treatment of pathologies associated during surgery.
Clinical Findings: We report the case of a 29 years old man, who suffered left tibial plateau fracture after a motorcycle-accident.
Investigation/Results: A CT and RM was requested, in which we observed tibial plateau fracture (Type V Schatzker-Classification) with an important joint central plateau depression. Lateral meniscus was detached, disinserted and folding, localized inside the depression of the fracture.
Diagnosis: Ligaments and medial meniscus were intact.
Therapy and Progression: We decide to perform surgical fixation with double-approach, with arthroscopic assistance. A cortical side window was performed to elevate the fragment with arthroscopic, iliac crest graft was used and synthesis with two cannulated screws and a tibial plate. Finally we proceeded to the reintegration of the lateral meniscus.
Comments: Arthroscopic surgery has been spread in treating these fractures, due to its benefits like direct fracture visualization, proper diagnosis of meniscal injuries, ligamentous, and osteochondral defect. It also provides anatomical reduction and percutaneous rigid fixation, and minimal exposure eliminating complications of open surgery.
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Disclosure: No significant relationships.

P421

TREATMENT OPTIONS IN THE MALUNION OF THE DISTAL RADIUS ARTICULAR FRACTURES

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Case History: Pacient C.V., female, 58 years old, presented in our clinic in decembre 2015, after 14 days from the initial injury with an articular fracture of the distal radius of the right arm. The pacient refuses surgical intervention, choosing to continue the orthopaedic treatment. The cast immobilisation was removed at six weeks, pacient accuses pain and functional deficit of the radiocarpal articulation. The clinical&radiological findings detailed below suggest the opportunity of a surgical treatment.
Clinical Findings: At six weeks reevaluation, pacient accuses pain and functional deficit with loss of normal volar tilt, radial inclination and radial length relative to the ulna, limited motion, decreased grip strength and cosmetic deformity.
Investigation/Results: X-ray and CT
Diagnosis: Malunion of the distal radius articular fracture
Therapy and Progression: After six months of the initial trauma, a corrective osteotomy of the distal radius using a dorsal plate and bone substitute grapht was performed. This was followed by a four weeks immobilisation and physical therapy. Due to pain in the distal radioulnar joint (DRUJ) and the persistent ulnar-positive deviation of over 2 mm, another surgical intervention was performed with shortening of the ulna with 2 mm and osteosynthesis with a semitubular locking plate and distal radioulnar joint debridment. After the second intervention, an ulnar negative variance was obtained.
Comments: The malunion of the distal radius has an increased impact on the distal radioulnar joint, affecting its motion and stability with increase chanses of arthrosis. In this case we were confronted also with an adaptive carpal instability that leeds to persistent pain and mobility deficit.
References: Brett Peterson, Varun Gajendran, and Robert M. Szabo-corresponding "Corrective Osteotomy for Deformity of the Distal Radius Using a Volar Locking Plate" Hand. 2008 Mar; 3(1): 61–68. Published online 2007 Aug 10. doi:10.1007/s11552-007-9066-y
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Disclosure: No significant relationships.

P422

TISSULAR REACTION TO IMPLANT AFTER DISTAL TIBIAL FRACTURE

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Case History: The patient was referred to our hospital after failed surgery for high energy trauma with bilateral tibial fracture- distal dyaphyseal (open) on the left side, distal articular on the right side. ExFix followed by intra-medullary nail was used for the left side, with excellent results. On the right side, secondary stabilisation with distal tibial plate and plate on the external malleolus was performed. Progressive pain while walking appeared 2 years after surgery, limiting the patient's activity.
Clinical Findings: Local evaluation revealed a swollen ankle, with inflammatory signs on the right side; a fistula appeared on the incision, with positive cultures with St.epidirmidis
Investigation/Results: Inflammatory tests were negative. X-rays showed progressive osteolysis of the peroneum, with no signs of rejection on the tibial side, but with signs of osteoarthritis
Diagnosis: Bilateral tibial fracture. Left tibial shaft fracture. Right distal tibia and peroneum fracture with tissular reaction to implant with septic complications; post-traumatic osteoarthritis right ankle
Therapy and Progression: Implant removal was performed; modified tissues with metallic impregnation were prelevated and histopathological exam revealed signs of intolerance. The outcome of the patient was favourable, pain diminished up to a tolerable level
Comments: Several mechanisms are responsible for tissular reaction to implant, all resulting in a chronic inflammation. Although it can

have different clinical aspects, it always affect the bone, most frequently by osteolysis, and increase the risk of infection. Since positive diagnosis is established by histological evaluation after intra-operative findings, implant removal is recommended whenever tissular reaction is suspected, in order to prevent further complications compromising the initial surgical result.
References: Hallab NJ, Anderson S, Stafford T, et al. Lymphocyte responses in patients with total hip arthroplasty. J Orthop Res 2005; 23 384-91
Disclosure: No significant relationships.

P423

LISFRANC INJURY; CASE SERIES OF THE A RARE INJURY

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Case History: From November 2013 till June 2015 we treated 15 patients suffering from a Lisfranc injury. Mean age of the patients was 54.5 years.
Clinical Findings: Eight of fifteen patients suffered from a Lisfranc injury of the left foot. None of our patients suffered from a compartment syndrome or impaired circulation of the toes. Thirteen Lisfranc injuries were the result of a low-energy trauma.
Investigation/Results: After at least one year follow-up seven patients had the osteosynthesis material removed due to complaints. Two patients suffered from a post-operative infection. None of these patients suffered from a deep infection and there was no need to remove the osteosynthesis material. The infections were treated using oral antibiotics. After three months follow-up, all patients were able to bear weight on their injured foot and all patient returned to their normal activities of daily living. Five patients complained of minor pain during the day.
Diagnosis: Lisfranc injury.
Therapy and Progression: Twelve of the fifteen patients were female. Eight patients underwent open reduction, the others underwent closed reduction. The method of fixation was arthrodesis using screw and plate fixation. Medical records were reviewed one year after the last operation.
Comments: Lisfranc injuries are very rare. They account for 0.1% to 0.4% of all fractures and dislocations. Lisfranc dislocations occur with an incidence of 1 per 60,000 per year in Europe. Arthrodesis of the Lisfranc joint is the preferred method of treatment in our hospital. We showed that this has a low complication rate. Longer follow-up is needed to evaluate the patients for late-onset complications such as osteoarthritis.
References: Rockwood and Green's - Fractures in Adults; Eight edition
Disclosure: No significant relationships.

P424

PROXIMAL TIBIOFIBULAR JOINT DISLOCATION: A RARE ENTITY

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Case History: We report a case of 37 year old female who was brought to the emergency department by ambulance. The patient slipped during a gymnastic exercise. She jumped over a bench while landing on the ground her right knee flexed and rotated inward.
Clinical Findings: Clinical examination revealed a prominence proximal caput fibula and minimal pressure pain around the area of fibula head. There were no hematomas and there was no evidence of distal neurovascular injury.
Investigation/Results: On x-ray of the right knee the fibular head was more lateral and there was no evidence of a fracture. A Computed tomography was obtained and it confirmed the suspicion of proximal tibiofibular joint dislocation.
Diagnosis: Anterolateral dislocation of proximal tibiofibular joint
Therapy and Progression: The treatment consisted of closed reduction at the OR and cast immobilization for six weeks.
Comments: Proximal tibiofibular joint dislocation is a rare entity. It is among the most missed diagnosis in emergency department. It accounts less than 1% of all knee injuries. Untreated proximal tibiofibular joint dislocation could lead to persistent pain and peroneal nerve injury.
References: Schuurhuizen C. et al. Geïsoleerde dislocatie van het proximale tibiofibulaire gewricht. Nederlands Tijdschrift voor Traumatologie 2012;(4): 124-127
Aladin A, Lam K S, Szypryt E P. The importance of early diagnosis in the management of proximal tibiofibular dislocation: a 9- and 5-year follow-up of a bilateral case. Knee 20029233–236.236

Chiu C, Sheele JM. Isolated Proximal Tibiofibular Dislocation during Soccer. Case Rep Emerg Med. 2015;2015:657581

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Disclosure: No significant relationships.

P425

KNEE CARTILAGE REPAIR USING THE AUTOLOGOUS MATRIX TECHNIQUE

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Case History: Male, 27 years old with multiple sports trauma on the right knee (professional basketball player). He acused pain, repeted effusions and joint blockages.
Clinical Findings: -signs of meniscal tear -antero-posterior laxity on the right knee -effusion.
Investigation/Results: MRI pointed out a 3.2 cm^2 size on the right lateral femoral condyle chondral defect (grade IV accordind to the Outerbridge classification), meniscal lesions, ACL tear and a free osteocondral-bone fragment with 2.6cm.
Diagnosis: Postraumatic osteochondral lesion on the rigt lateral femural condyle. (grade IV Outerbridge).
Therapy and Progression: A variety of surgical techniques that aim for resurfacing and regenerating of articular cartilage have evolved. Currently, microfracturing is the most commonly used cartilage repair procedure in cartilage defects but, fibrocartilaginous repair tissue is very fragile and easy to break under normal joint loading. We decided to use an implanted exogenous scaffold which may improve the mechanical stability and durability for endogenous cells and may

provide a proper stimulus for chondrogenic differentiation and cartilage regeneration. Autologous Matrix-Induced Chondrogenesis (AMIC) combines microfracturing with a collagen I/III matrix. The AMIC procedur is a one-step procedure with no need of cartilage harvesting potentially leading to donor site morbidity and it is cost effective with no need of in vitro cell expansion. We perform this technique by an artthroscopic approach.
Comments: AMIC is an effective and safe method for treating symptomatic chondral defects of the knee. There was significant improvement of knee pain in the follow-up at 3 and 6 months postoperatively (VAS, Lysholm score), and MRI has showed a restoration of the femoral condyle surface.
References: Bartlett W, Skinner JA, Gooding CR, Carrington RW, Flanagan AM, Briggs, Bentley G (2005) Autologous chondrocyte implantation versus matrix-induced autologous chondrocyte implantation for osteochondral defects of the knee: a prospective, randomised study. J BJS Gille J, Schuseil E, Wimmer J, Gellissen J, Schulz AP, Behrens P (2010) Mid-term results of Autologous Matrix-Induced Chondrogenesis for treatment of focal cartilage defects in the knee. KSSTA J. Gille • P. Behrens • P. Volpi • L. de Girolamo • E. Reiss • Outcome of Autologous Matrix Induced Chondrogenesis (AMIC) in cartilage knee surgery: data of the AMIC Registry; Arch Orthop Trauma Surg (2013)
Disclosure: No significant relationships.

HIP FRACTURE (CASE PRESENTATION)

P426

BILATERAL INTERTROCHANTERIC HIP FRACTURE ASSOCIATED WITH HIP OSTEONECROSIS

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Case History: A 41–year–old male sustained bilateral intertrochanteric hip fracture, following a frontal road traffic accident. On presentation he complained of severe bilateral hip pain and poor mobilization in both hips.
Clinical Findings: The physical exam in our emergency room revealed external rotation position and shortening of both lower extremities, severe pain in the hip on both sides exacerbated by motion. The neurovascular status was normal.
Investigation/Results: The AP radiograph of the pelvis showed a displaced bilateral intertrochanteric fracture, classified as Evans type IV on the right side and type II on the left side.
Diagnosis: Bilateral intertrochanteric hip fracture. Severe avascular necrosis of the right femoral head.
Therapy and Progression: Temporary proximal tibial skeletal traction was applied on both lower limbs. On the third day, closed reduction and internal fixation of the left hip with Intramedullary Gamma Nail was performed. Because of associated severe avascular necrosis of the right femoral head, on the fifth day after admission, our patient underwent an uncemented total hip replacement. No wound complication were encountered in the postoperative phase. After three weeks partial weight bearing with crutches was allowed and 1 month after surgery the patient was able to walk without crutches.
Comments: In case of associated avascular necrosis of the femoral head, hip arthroplasty remain the treatment choice. Fixation of greater trochanter to shaft is important for a good functional result and prosthetic stability. In our case the greater trochanter with the whole metaphyseal region were stabilized (impacted) by the femoral component without other any additional fixation methods (cables, wires, screws).
References:
Disclosure: No significant relationships.

P426A

TIPS AND TRICKS FOR REDUCTION OF PROXIMAL FEMORAL FRACTURES

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Case History: Proximal femoral fractures are very frequent injury especially in elderly. Some fracture are non-displaced, some are displaced, but can be reduced at the " fracture " table, but some are irreducible. In these cases we use some miniinvasive tricks that we would like to present.
Clinical Findings: For the lateral displacement of the proximal fragment we use small lateral incision, where we put ball spike and we push during the insertion of guide wire for nail and drilling the canal for nail.For anterior dislocation of fracture we use small anterior incision which is lateral of femoral artery and pushing during the insertion of guide wire for spiral blade and drilling tha canal and insertion of spiral blade.In the case of medial dislocation we used colinear forceps, which we insert through lateral incision for insertion of spiral blade. This incision is a little bit longer than usually.In the end we sometimes use tapes or cables, when there is large displaced fragment, but there is necessary make longer incision.
Investigation/Results: The healing of fractures and soft tissue after using miniinvasive technics is quicker and have small amount of complications.
Diagnosis: Proximal femoral fracture
Therapy and Progression: Operative treatment of proximal femoral fractures are only one possibility for recovery of patients and going back to preinjury level of life.
Comments: The healing of fractures and soft tissue after use miniinvasive technics is quicker and have small amount of complications. Reduction of fracture is neccesary to make before the insertion guide wire, The nail doesńt make reduction, more frequently makes worse displacement.
References: Surgical Treatment of Orthopedic Trauma, James P.Stannard, Andrew H. Schmidt, Philip J. Kregor
Disclosure: No significant relationships.

P427

PATHOLOGIC FRACTURES IN A PATIENT WITH CHRONIC LYMPHATIC LEUKAEMIA WITHOUT DISEASE PROGRESSION

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Surgery, Alrijne Ziekenhuis, Leiderdorp/NETHERLANDS

Case History: A 59-year-old woman with chronic lymphatic leukaemia (CLL) suffered from upper leg pain. A PET CT showed diffuse bone marrow infiltration without signs of lymphatic or extra-lymphatic disease activity. After a low energy fall she was admitted to the emergency department.
Clinical Findings: Patient suffered from pain in her pelvis and her left proximal femur and was unable to weight bear.
Investigation/Results: Imaging showed a proximal femur fracture on the left side and nondisplaced fracture of her sacrum.
Diagnosis: Pathologic fracture of the left proximal femur and sacrum.
Therapy and Progression: The fracture was treated with an unreamed femur nail. During the admission she sustained an non-traumatic fracture of the right proximal femur. The right proximal femur was treated with a proximal femur nail. Bone marrow samples taken at the place of the fractures showed a localisation of chronic lymphatic leukaemia without signs of disease progression, Richter's transformation or multiple myeloma.
Comments: CLL is the most common leukaemia in western countries, with an incidence of 10/100.000 per year.[1] The metastatic spread of CLL to the bone resulting in pathologic fractures is extremely rare[2], and was reported in only a few cases. The pathologic fractures with CLL are usually based on Richter's transformation or Multiple Myeloma.[3,4] However, in this case, both PET-CT and bone marrow biopsy showed no signs of this. We did see a normoparathyroid hypercalcaemia in our patient, most likely caused by a CLL-based release of local osteoclast stimulating factors. FCR-chemotherapy was started as treatment, in combination with allopurinol and sodium bicarbonate to prevent further osteolysis.
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Disclosure: No significant relationships.

P428

BILATERAL FEMORAL NECK FRACTURES AFTER MINOR TRAUMA: TWO CASES OF GMFCS LEVEL II CERABRAL PALSY

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Case History: 18 years old male patient was able to walk in short distances but experience difficulty walking long distances and balancing on uneven terrain, inclines, in crowded areas or confined spaces (GMCSF II) previously, had suffered pain and inability walk after grand- mal seizure. 17 years old male was unable to walk following minor trauma 8 days ago. GMCSF II mobility level was present before the trauma.
Clinical Findings: unable to walk and pain are common clinical findings at the both patients. Patient II admitted to emergency service with abdominal pain but no gastrointestinal pathology.
Investigation/Results: Reduced weight bearing and insufficient mobility of the cerebral palsy patients with GMCSF II activity level alters the bone metabolism and weakens the bone micro-structure. In addition with the antiepileptic drugs usage and lowered calcium levels together pulls the fracture threshold down remarkably.
Diagnosis: Direct radiographs revealed femoral neck fracture of both femurs in patient I and II.
Therapy and Progression: Patient I has surgery as soon as possible, after closed reduction 3 cannulated screws applied for left, dinamic hip screw was choice of treatment for right femur neck fixation. Full weight bearing achieved 10 weeks after treatment. In patient II, both hips fixated with 3 cannulated screws following closed reduction and pasif mobility exercises started immediately.
Comments: Children with CP are prone to bone metabolisation abnormalities due to reduced mobility and ineffective balance. Even GMCSF II CP patients which are normally able to walk in most settings and climb stairs diagnosing fracture following minor trauma may be challenging.
References:
Disclosure: No significant relationships.

P429

IPSILATERAL FEMORAL NECK, SHAFT AND TROCH. MAJOR FRACTURE IN CHILDREN. A RARE TRAUMA

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Case History: 11 years old girl fell from height (approx. 7 meters) was admitted to emergency department.
Clinical Findings: Obvious deformity and pain were present at right thigh. Patient had subdural hematoma and visualized under ICU facilities. Immediate surgical intervention was planned as soon as vital parameters were stabilized.
Investigation/Results: Femoral shaft and femoral neck fractures are not uncommon particularly yet combination of these simultaneous fractures are quite rare. %2.5 to % 9 of femoral shaft fractures accompanied by concurrent femoral neck fractures in adults. However only 14 cases were described in children until the 2013.
Diagnosis: Plain radiographs revealed right femur cervico-tochanteric neck fracture (Delbet type III), right femur mid-shaft fracture and right trochanter major displaced Salter Harris – I fracture.
Therapy and Progression: Patient was operated in supine position 15 hours after trauma. We preferred fixation of femoral shaft to facilitate reduction of femoral neck avoid undesired reduction loss of femur shaft during reduction maneuvers. Both femoral shaft and neck were treated with closed reduction internal fixation and trochanter major fracture with open reduction and internal fixation. Two 4.5 mm titanium elastic nails (TEN) were used for shaft fracture then femoral neck shaft angle was adjusted to 125 degrees and fixed with 3 cannulated screws by taking care of not penetrating through epiphyseal line. Then tiny incision was applied on lateral side of proximal femur and tensor fascia lata was split and trochanter major was exposed. After the establishment of reduction, trochanter major was fixed with tension-band technique using 2 K- wires. Spica cast was applied to the patient. 6 weeks after the removal of spica cast, we started passive

exercises only for 2 weeks and started non-weight bearing exercises 9 weeks postoperatively.
Comments: Pediatric ipsilateral femoral neck and shaft fractures are rarely seen and mostly due to high energy trauma. It is best to keep in mind that immediate fixation of fracture is required as soon as patient's condition stabilized to cease future possible complications. We also believe surgical outcomes and complications are highly dependent on severity of trauma, achievement of reduction and time to surgery.
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Fractures of Neck and Shaft of Same Femur in Children: A Report of Two Cases, H. J. Hoekstra and B Binnendijk, Arch Orthop Traumat Surg (1982) 100:197-198

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Canale ST, Bourland WL (1977) Fracture of the neck and intertrochanteric region of the femur in children. J Bone Joint Surg [Am] 59-A:431–443
Disclosure: No significant relationships.

P430

INTERTROCHANTERIC FRACTURE UNDER AN ARTHRODESED HIP - CASE REPORT

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Case History: A 62 year old woman was transferred to the emergency department in our hospital because she accidental fell from the same level. She presented severe pain in the left hip and inability to walk. Her previous medical history revealed that 30 years ago she had a left femoral neck fracture. The option of treatment at that time was arthrodesis of the left hip.
Clinical Findings: The patient presented severe pain in the left hip and inability to walk
Investigation/Results: A standard emergency antero-posterior radiograph revealed an intertrochanteric fracture, severe deformity of the left hip joint and the osteosynthesis material used for arthrodesis of the left hip. Computed tomography (CT) imaging of the left hip joint showed a displaced intertrochanteric fracture under the ankylosed hip joint, some artifacts due to osteosynthesis material and marked atrophy of the gluteus muscles
Diagnosis: Intertrochanteric fracture under an arthrodesed hip
Therapy and Progression: The treatment included an surgery to remove the osteosynthesis material used for arthrodesis of the left hip and then internal fixation using a locked plate and several screws. Postoperatively the patient's evolution was good and after 2 weeks she could walk using double crutches. At 3 months after the operation she showed signs of fracture healing.
Comments: In conclusion, even if the intertrochanteric fracture under an arthrodesis hip is rare and the optimal surgical treatment is controversial, we consider that treating this kind of fracture with a locked plate was a succes.
References: A. Manzotti, N. Confalonieri, and C. Pullen, "Intertrochanteric fracture of an arthrodesed hip," Journal of Bone and Joint Surgery Series B, vol. 89, no. 3, pp. 390–392, 2007.
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Disclosure: No significant relationships.

P431

TREATMENT PROBLEMS IN FEMURAL NECK FRACTURES IN YOUNG PATIENS

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Case History: Patient (performance athleth) C.A.,age 15, sex F, presented in our clinic after 7 day from the initial injury.
Clinical Findings: Pain in the entire hip region, leg in external rotation and adduction, with shortening.
Investigation/Results: X-ray and CT
Diagnosis: Femural neck fractures (Garden IV)
Therapy and Progression: The initial treatment was closed reduction and fixation with 3 canulted screws. Postoperatory evolution was favorable. The patient was not alowed to walk for 6 months and stared the hiperbar oxygen terapy in a specialized center. After 10 months the X-RAY control reveal femural head avascular necrosis. Along with Plastic Surgery Department it is performed a free vascularized fibula graft inside the femural neck. Postoperatory evolution was favorable but in time the succesive X-Ray obtained after 3,6,9,12,18 months showed the beginnig of avascular femural head necrosis and the femural head resorbtion and evolution to osteoarthritis and arthrodesis.
Comments: Femural neck fractures in young patients are usually caused by high –energy trauma. This fractures are often associated with high rates of avascular necrosis and nonunion. Results of this injury depend on the amount of displacement, almount of comminution,the vascular status and also the timing of surgical treatment and adequacy of the reduction and of the fixation. Despite the hight effort of the interdisiplinar medical team, the result was unfavorable with the advent of femural head necrosis and coxarthrosis. Yet,

healing of nonunion of the femural neck was obtained assuring a good bone stock in view of hip prosthetics that will follow.
References: LeCroy, C. Michael; Rizzo, Marco; Gunneson, Eunice E.; Urbaniak, James R:
Free Vascularized Fibular Bone Grafting in the Management of Femoral Neck Nonunion in Patients Younger Than Fifty Years
Journal of Orthopaedic Trauma:
Disclosure: No significant relationships.

INNOVATIONS AND ADVANCED TECHNOLOGY: 3D PRINTING & WOUND CARE (CASE PRESENTATION)

P432

NEGATIVE PRESSURE WOUND THERAPY FOR PENETRATING PELVIC AND PERIPROCTAL WOUND

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Case History: Management of penetrating complex periproctal wounds are difficult and at risk for nonhealing.Here, we present a case of impalement injury of pelvic and periprotal ound and successfully managed with damage control surgery with negative pressure wound therapy (NPWT)
Clinical Findings: A 74 year-old man visited emergency department after cultivator overturn accident.Cultivator handle was impalment at left upper medial thigh area and perianal perineum was penetrated.
Investigation/Results: An immediate operation was performed. Foreign body was removed and bleeding from femoral vein was noted.After ligation of injured branch of femoral vein, main femoral venorraphy was conducted.Because of contamination and diffuse oozing from damaged soft tissue and muscle tissue massive irrigation and pad packing was done.Two days later second look operation was perfomed.After pad removal, perianal necrotic tissue was found and it was connected with pubic ramus.Transverse colostomy was formed and 12mm penlose drain insertion at periproctal space.
Diagnosis: On digital rectal examaination, intact rectal mucosa was secured. Abdominal computed tomography(CT) showed left ischial fracture with active bleeding at left anterior pelvic wall.There was no evidence of hemoperitoneum and pneumoperitoneum
Therapy and Progression: After procedure periproctal wound discharge was continued.Under local anesthesia irrigation and debridement of necrotic periproctal wound was performed.Wound discharge was diminished but pus like drainage was remained.10 days after surgery, we applied negative pressure wound therapy(NPWT) system by V.A.C Therapy.8 days later,partial wound closure was performed and granulation tissue formation was made.Patient was discharged on POD 60.
Comments: In case of penetrating periproctal injury,careful management is needed and NPWT could be helpful for successful healing of complex damaged wound.
References: 1.Vacuum-assisted wound closure (VAC therapy) for the management of patients with high-energy soft tissue injuries. -J Orthop Trauma. 2003 Nov-Dec;17(10):683-8. 2.Vacuum Sealing Drainage as Treatment of Severe Buttocks and Perianal Infection: A Case Report and Review of the Literature (Care-Compliant). -Medicine (Baltimore). 2015 Oct; 94(43): e1766.
Disclosure: No significant relationships.

P433

CONSERVATIVE MANAGEMENT OF ENTEROCUTANEOUS FISTULA WITH VISUAL APPROACH BY VIDEO LARYNGOSCOPE THROUGH ABDOMINAL WALL

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Case History: Postoperative entorotaneous fistula usually diagnosed with radiologic method.Here, we present a case of diagnosis by video laryngoscope after fistula track formation and successfully managed with conservative management.
Clinical Findings: A 75 year-old man referred to our hospital with an abdominal pain and hemodynamic instability after stab wound.On physical examination,multiple wound was found on neck,chest and abdomen wall and epigastric wound was connected with abdominal cavity.
Investigation/Results: An immediate laparotomy was performed and left hepatic lobe laceration and gastric wall perforation was found.Lt. lateral hepatic lobectomy and gastric wall primary repair was done.Because of patient's physical state, temporary abdominal closure was conducted and two days later second look operation with facial closure was peroformed.
Diagnosis: Abdominal computed tomography(CT) showed left hepatic lobe injury with contrast extravasation from branch of left hepatic artery and pneumoperitoneum.
Therapy and Progression: Fifteen postoperative day(POD15), during wound dressing we found oozing from epigastirc wound and after wound stitch out about 300cc feeding material was pour out from lesser sac area.Ater drainage and suctioning fluid collection we try to direct visualization of gastric defect by video laryngoscope and we detect perforation site.Conservative treatment including parenteral nutrion was continued.1 week later follow up video laryngoscope showed diminish of the lesion.Drainage amount was reduced with the passing of the time.POD 60 follow up abdomen CT using gastrografin checked and it passed without leakage.
Comments: To deal with postoperative entorocutaneous fistula whenever possible visulal approach through abdominal wound could be helpful to care abdominal cavity and to make a treatment decision
References: 1.Enterocutaneous fistulas in the setting of trauma and critical illness. Clin Colon Rectal Surg. 2010 Sep;23(3):182-9. 2.Enterocutaneous fistulas: an overview. Eur J Trauma Emerg Surg. 2011 Jun;37(3):251-8.
Disclosure: No significant relationships.

P434

VACUUM-ASSISTED THERAPY IN FLAIL CHEST MANAGEMENT: NEW CONCEPT

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Case History: We present the case of a patient with post-traumatic flail chest, after car crash, with mild contusions and asociated trauma.

Patient stabilisation can be achieved with external chest wall stabilisation or "internal stabilsation" intubation and ventilation.
Clinical Findings: Patient presented respiratory distress with SpO2 value of 85%, tachypnea and tachycardia with acute pain descibed in the flail-chest area. pCO2 and pO2 values showed mild hypercapnia and EKG showed normal sinus rhythm, with no respiratory nor cardiovascular history.
Investigation/Results: C4, C5, C6 double rib fractures on a 7 cm segment were described in the imaging findings with no significant associated trauma. Therapy adresses 4 steps: analgesia, intubation and ventilation, chest tube insertion and rib fracture fixation. External fixation and stabilisation with metal plates is common for large chest wall injuries.
Diagnosis: was established between clinical and imaging findings to be post-traumatic flail chest.
Therapy and Progression: Our adaption of vacuum-assisted therapy consists of applying pieces of open-cell foam externally,secured with plastic bands and covering the entire area with a transparent adhesive membrane,which is firmly secured to the skin and connected to the vacuum source.The therapy showed improvement in thoracic wall compliance and movement,thus avoiding external surgical fixation and intubation.
Comments: Our initial experience in external fixation showed improvement of the paradoxical chest movement after one week.Following vacuum-assisted therapy in sternal wound dehiscence management,our limited experience in external fixation of extensive thoracotomies for difficult pulmonary resections and our vast experience in chest wall resection and reconstruction,we imagined an easy-to-control external application of the vacuum-assisted therapy used in post-traumatic flail chest emergency treatment.
References: Dubinsky I, Low A. 'Non-life-threatening blunt chest trauma: appropriate investigation and treatment.' Am J Emerg Med 1997;15:240 Freedland M, Wilson RF, Bender JS. 'The management of flail chest injury: Factors affecting outcome.' J Trauma 1990;30:1460 Wanek S, Mayberry JC. Blunt thoracic trauma: Flail chest, pulmonary contusion, and blast injury. Crit Care Clin. 2004;20:71–81 Tanaka H, Yukioka T, Yamaguti Y, Shimizu S, Goto H, Matsuda H, et al. Surgical stabilization of internal pneumatic stabilization? A prospective randomized study of management of severe flail chest patients. J Trauma. 2002;52:727–32
Disclosure: No significant relationships.

P435

DOUBLE "ENDOTRACHEAL INTUBATION" FOR SEVERE DERMATITIS

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Case History: Peristomal skin dermatitis is a common and frequently overlooked complication. The problem is even more prevalent with proximal stomas due to the nature of the effluent. We present a case of a 91 year old women with history of hypertension, atrial fribillation and heart failure. The patient presents to the emergency department complaining of generalized, mild, abdominal pain and distension and vomiting
Clinical Findings: Abdominal examination revealed abdominal pain without guarding or rigidity
Investigation/Results: Laboratory evaluation showed discrete neutrophilia and elevaton of C-Reactive protein, acute renal injury, and a metabolic acidosis with huperacidemia. She underwent a computed tomography scan which showed pneumatosis of the mesenteric fat and veins around the superior mesenteric vessels suggesting mesenteric ischemia
Diagnosis: Mesenteric Ischemia
Therapy and Progression: The patient was submitted to an emergent laparotomy and small bowel resection. Due to length of the ischemic territory, 1,2m of bowel was removed, including most of jejunum and part of the ileum. There were no conditions for a primary anastomosis and we decided for the construction of a jejunostomy about 0,5m from the Treitz angle and an ileal mucosal fistulae. The postoperative recovery was satisfactory but complicated by a severe dermatitis due the difficulty controlling the jejunostomy effluent. We constructed device made by 2 endotracheal tubes no 8 with inflated cuffs, and a connector tube. This device allowed the patient do be fed per os and maintain the continuity of the GI tract, controling the peristomal dermatitis while the patient was recovering for definite bowel reconstruction
Comments: In conclusion, proximal stomas cause frequently severe dermatitis and this solution may help in controlling severe symptoms while bowel reconstruction is not feasible
References: Landmann, R.G; MD; Routine care of patients with an ileostomy or colostomy and management of ostomy complications; Uptodade; 2015
Disclosure: No significant relationships.

TRAUMA EDUCATION AND SIMULATION (CASE PRESENTATION)

P436

TRICEPS SPARING APPROACH WITH ONE (ULNAR) WINDOW FOR EXTRAARTICULAR DISTAL HUMERAL FRACTURES

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Case History: The principal objective of treating extraarticular distal humeral fractures is restoring alignment and achieving stable fixation aimed at facilitating early elbow range of motion, essential for a good functional outcome.
Alonso-Llames triceps-sparing approach involves sub-periosteal elevation of the distal triceps off the posterior aspect of the humerus. This approach is applicable in treating fractures of the distal humerus by developing "windows" along the medial and lateral borders of the triceps without injuring the triceps aponeurosis and its insertion into the olecranon.

This type of bilatretrotricipital approach to the elbow can be used to make the osteosynthesis of supracondylar fractures of the humerus. It was originally introduced in the treatment of children.
Clinical Findings: In five patients, who had extraarticular distal humeral fractures, named after the author who first described them Holstein-Lewis fractures, we applied the tricep sparing approach through only one - ulnar window.
Investigation/Results: First step, the ulnar nerve is isolated and protected with a vessel loop. Proximally, the ulnar nerve is followed along its course on the medial intermuscular septum, and the triceps muscle is mobilized extensively radially. In all cases we used the perpendicular position for the plate.

Diagnosis: We measured the degree of mobility of the elbow postoperatively.
Therapy and Progression: In all patients we found full and fast recovery of the range of motions after 4 weeks from surgery, without signs of nerve injury.
Comments: We have not found any articles which describe this type of approach for treatment of extraarticular distal humeral fracture.
References: 1. ALONSO-LLAMES, M.: Bilatretrotricipital approach to the elbow: its application in the osteosynthesis of supracondylar fractures of the humerus in children. Acta orthop. scand 43: 470–490, 1972.
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Disclosure: No significant relationships.

P437

MULTIPROFESSIONAL TEAMWORK AT THE TRAUMA ROOM: UPDATING AN ORGANIZATIONAL PROJECT

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Case History: Errors in the health care are most frequently due to an interaction of human factors, like poor teamwork and poor communication rather than individual mistakes. Multiprofessional education occurs when members of two or more professions learn side by side whatever the purpose. The goal is that each one and all play their own role. There are evidence that this one is a good strategy to promote patient safety and quality of care. Trauma is an epidemic phenomenon in all world. Beyond of the deaths we must considerer the survivors: for each person that dies, three of them will remain with important sequelae and disabilities that can be prevented or minimized with safe and quality practices. As trauma patients need a multidisciplinary approach, teamwork is a key issue. Teamwork can be enhanced and requires specific training. Lisbon school of nursing has an ongoing project for pre and postgraduate education in trauma care. The pregraduate program (ABCDE on Trauma) nurse students attend lectures and practical skills stations focused on technical procedures and teamwork (leadership and effective communication). Since 2008, more than 2.000 nursing students have developed these nursing competencies. The postgraduate program is a multidisciplinary one (doctors [ATLS®] and nurses [ATCN®]) where bachelor students attend the lectures and participate as observers and as simulated patients. From 2008 until now we had nearly 700 doctors and 700 nurses certified. This training contributes to the first job of ESEL's recent graduates.
Clinical Findings: non applicable
Investigation/Results: non applicable
Diagnosis: non applicable
Therapy and Progression: non applicable
Comments: non applicable
References: Eppich, W. J., Brannen, M., & Hunt, E. A. (2008). Team training: implications for emergency and critical care pediatrics. Current Opinion in Pediatrics, 20(3), 255–60. Hammick, M., Freeth, D., Koppel, I., Reeves, S., & Barr, H. (2007). A best evidence systematic review of interprofessional education: BEME Guide no. 9. Medical Teacher, 29(8), 735–51. Lo, L. (2011). Teamwork and Communication in Healthcare a Literature Review. Edmonton (AB): Canadian Patient Safety Institute. Stanley, J. M. (2005). Advanced practice nursing: emphasizing common roles. Philadelphia: F. A. Davis Company.
Disclosure: No significant relationships.

P438

EMPOWERING A VULNERABLE NEIGHBORHOOD TO DEAL WITH EMERGENCY SITUATIONS

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Case History: Vulnerable neighborhoods are a common concern for health professionals. They are not integrated in the community and lack the basic resources to face even minor emergencies, often related to a high prevalence of accidents, crime, substance and alcohol abuse (Mechanic and Tanner, 2007). Empowering these groups encompasses the European social innovation strategies (European Community, 2011). Nursing educators must be aware of political and social tendencies and meet the challenge of providing specific community experiences to undergraduate students (Gaines et al., 2005; Niederhauser et al., 2012).
Clinical Findings: Non-applicable
Investigation/Results: ESEL has a project of empowering residents of a vulnerable neighborhood, with great difficulties in getting help in emergency situations, as well as to provide first-aid. With faculty guidance, students prepare sessions of education and training for small groups identified by the population as key resources. Topics like first-aid kits,dealing with wounds and BLS have been evaluated by the participants as very helpful for the community, with practical application on everyday life. To students, as well as to faculty, this particular learning environment have a great impact since it provides the opportunity to integrate theory with practice and to develop nursing knowledge and skills (communication, education, problem-based learning), increasing their motivation and sense of being nurses.
Diagnosis: Non-applicable
Therapy and Progression: Non-applicable
Comments: These projects promote strong relations with the communities and positive perceptions of nursing profession and education, as community leaders were able to observe nursing students working with them to meet their needs. Past experiences of this project brought positive outcomes for the faculty, nursing students and the neighborhood.
References: European Community, 2011. Empowering people, driving change: Social innovation in the European Union. Luxembourg. Gaines, C., Jenkins, S., Ashe, W., 2005. Empowering nursing faculty and students for community service. J. Nurs. Educ. 44, 522–5. Mechanic, D., Tanner, J., 2007. Vulnerable people, groups, and populations: societal view. Health Aff. 26, 1220–30. Niederhauser, V., Schoessler, M., Gubrud-Howe, P.M., Magnussen, L., Codier, E., 2012. Creating innovative models of clinical nursing education. J. Nurs. Educ. 51, 603–8.
Disclosure: No significant relationships.

RESCUE SURGERY (CASE PRESENTATION)

P439

PNEUMONECTOMY FOR SEVERE CHEST INJURY UNDER EXTRACORPOREAL MEMBRANE OXYGENATION SUPPORT: REPORT OF A CASE

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Case History: A 24-year-old male motorcyclist compact with a truck and sustained severe thoracic trauma.
Clinical Findings: After primary survey of ATLS, flail chest and massive hemothorax in left chest was noted.
Investigation/Results: Multiple lung lacerations at LUL and LLL near hilar region with pulmonary artery laceration were found.
Diagnosis: acute respiratory distress syndrome, flail chest and massive hemothorax in left chest
Therapy and Progression: Emergency thoracotomy was performed. Pulmonary artery was repaired with hilum packing. Due to acute respiratory distress syndrome, Femoro-femoral VV ECMO was set up without heparin. Due to massive left hemothorax, left pneumonectomy was done. Unfortunately, this patient was expired on POD 36 due to multiple organ failure.
Comments: ECMO was a temporal life support tool for severe thoracic trauma patient. Although high mortality rate, this case showed pneumonectomy was still an effective procedure for hemostasis with ARDS. It can reduce the blood transfusion amount in the early post-injury course.
References: 1. Rosenthal A, McKenney M, Sanchez R, Lee S, Carrillo EH (2009) Extracorporeal membrane oxygenation for severe hypoxemia after trauma pneumonectomy. Am Surg 75:1258–1260 2. Ried M, Bein T, Philipp A et al (2013) Extracorporeal lung support in trauma patients with severe chest injury and acute lung failure: a 10-year institutional experience. Crit Care 17:R110 3. Launey Y, Flecher E, Nesseler N, Malledant Y, Seguin P (2013) Extracorporeal life support in a severe blunt chest trauma with cardiac rupture. Case Rep Crit Care 136542
Disclosure: No significant relationships.

P440

SELF INFLICTED CERVICAL INJURY - A CASE REPORT

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Case History: A 71-year old woman admitted to our emergency department with a self-inflicted cervical injury with a hedge shears.
Clinical Findings: The patient was conscious and alert. She had a penetrating zone 2 neck injury involving the anterior hemi-circumference of the neck, with hoarseness and bubbling through the neck wound. Wound exploration revealed airway transection slightly above the cricothyroid membrane. Tracheal intubation under direct visualization was performed. After securing airway, complete evaluation according to ATLS was performed.
Investigation/Results: No further investigation.
Diagnosis: Pharyngolaryngeal laceration
Therapy and Progression: Immediate surgical exploration revealed pharyngolaryngeal laceration with no evidence of tracheal, esophageal or vascular injuries. The laceration was primarily closed and a tracheostomy was performed. Post-operative period was uneventful with no deglutition alterations.
Comments: Neck trauma is present in 5%-10% of all traumatic injuries. Stab wounds lead to significant neck injuries in up to 10%-20% of all penetrating neck trauma (those that penetrate the platysma). Patients presenting with hard signs of major vascular or aerodigestive tract injuries should undergo immediate surgical exploration. Penetrating neck injuries are challenging, as there are a number of important structures of multiple systems in a small area. Morbidity and mortality are high in complex injuries.
References: Sperry JL, Moore EE, Coimbra R, et al. Western Trauma Association critical decisions in trauma: penetrating neck trauma. J Trauma Acute Care Surg. 2013 Dec;75(6):936-40 Tisherman SA, Bokhari F, Collier B, et al. Clinical practice guideline: penetrating zone II neck trauma. J Trauma. 2008 May;64(5):1392-405 Salinas NL, Brennan JA. Penetrating and Blunt Neck Trauma. In: Holt GR, editor. Resident Manual of Trauma to the Face, Head, and Neck. Alexandria: The American Academy of Otolaryngology— Head and Neck Surgery Foundation. 2012;164-173
Disclosure: No significant relationships.

P441

LARGE INTRAMURAL DUODENAL HEMATOMA - RARE CAUSE FOR UPPER GI TRACT OBSTRUCTION- CASE REPORT

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Case History: 36 years old, male patient, admitted for nausea end acute pain syndrome localized in superior abdomen, no history of trauma, anticoagulants, medical maneuvers. Day before admission the patient describe persisting vomiting.
Clinical Findings: At clinical examination, the abdomen was without distension, with acute pain syndrome with garding. After the initial treatment, the symptoms partial decreased, but persisting vomiting. NG tube was necessary – clear gastric fluid 1000ml/day.
Investigation/Results: Blood tests was normal. Ultrasound shows an inflamed gallbladder and a tumor-like mass in the duodenum Superior digestive endoscopy: complete obstruction in the DI, normal mucosa, without any evidence of active bleeding. CT scan images shows a voluminous intramural tumoral process/duodenal hematoma. No contrast blush. Barium swallow shows complete obstruction of duodenum.
Diagnosis: - Intramural duodenal hematoma? Or is that a malignant tumor of duodenum/GIST?

Therapy and Progression: Exploration: large duodenal feel firm mass, tumor-like, and normal aspect of serosa. Longitudinal antro-duodenotomy – normal mucosa. DI duodenotomy - massive intramural subserous old clot. We decided to drain the clot cavity and closing the gatroduodenotomy. Postoperative evolution was simple.
Comments: Intramural duodenal hematomas are rare reported, most frequent described as secondary to blunt trauma or after endoscopic procedures, and may be confused with obstructive GIST/ neoplastic conditions (either the obstruction was produced by extrinsic compression mechanisms). Endoscopic treatment is an option but inappliable in our case because of irrelevant examination with normal aspect of duodenal mucosa. The conservative management of such obstruction, imaging diagnosis and pitfalls, intraoperative photos, intraoperative problems and decisions, are discussed.
References: Hughes CE, 3rd, Conn J, Jr, Sherman JO. Intramural hematoma of the gastrointestinal tract. Am J Surg. 1977;133:276–279. []
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23. Fang JF, Chen RJ, Lin BC. Surgical treatment and outcome after delayed diagnosis of blunt duodenal injury. Eur J Surg 1999;165:133-139.
Disclosure: No significant relationships.

P442

NEGLECTED MASSIVE HEMOPERITONEUM CAUSED BY A LIVER RUPTURE

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Case History: We will present the case of a 51 years old patient, from the rural area, admitted at the emergency department for diffuse abdominal pain, nausea and vomiting. The anamnesis didn't reveal any trauma in his personal antecedents.
Clinical Findings: The patient was stable, with a blood pressure about 140 mmHg., lightly pale and sweated. The examination of the abdomen revealed the absence of any traumatic sign and diffuse muscular defense.
Investigation/Results: The laboratory exam showed us: high level of WBC (25630), the Hb 8,2 g/dl, the Ht 25%, the PLT 674000. The medical imaging were insignificant.
Diagnosis: With the diagnosis "Acute abdomen", we decided to operate the patient in emergency. The diagnosis has been established intraoperatory: neglected massive hemoperitoneum caused by a liver rupture (left lobe).
Therapy and Progression: We practiced exploratory laparotomy, "in situ" hemostasis, washing, multiple peritoneal drainage. The postoperatory evolution was favorable. The patient has been discharged the 9thpostoperatory day.
Comments: The peculiarity of this case is the apparent absence (hard to believe) of any trauma in the patient's recent antecedents.
References: Popescu I. (sub redacţia)- *Tratat de chirurgie,* vol. IX partea II A, Ed. Academiei Române, Bucureşti, 2008
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Disclosure: No significant relationships.

P443

SURGICAL TREATMENT OF ABDOMINAL AORTA OCCLUSION AFTER BLUNT TRAUMA

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Case History: We present the 3 cases involved in a frontal car crash (2 cases) and direct low abdominal blow (1 case) result abdominal aorta occlusion.
Clinical Findings: All patients admitted to trauma center, they had stable vital signs but presented with lower abdominal pain and numbness of both leg. Physical examinations revealed mild to moderate abdominal tenderness, and a stable pelvis without deformity.
Investigation/Results: Focused abdominal sonography for trauma were negative in all patients. They present with absent femoral and distal pulses in association with lower extremity neuropathy.
Diagnosis: The CT scans of the abdomen and plevis revealed complete occlusion of the abdominal aorta between the level of the intra renal artery and aortoiliac bifurcation. 2 patients had moderate amount of calcification of the wall of the aorta.
Therapy and Progression: One patient was taken to the operating room within 3 hours of his injury. But 2 patients were delayed after accidents in 5 and 6 hours each. All underwent an exploratory laparotomy, and a bifurcated aortoiliac graft was placed. After surgery, rhabdomyolysis proceeded in 2 delayed patients. And they were died from uncorrectable metabolic acidosis and multi-organ failure. The remained one discharged with good motor and neurologic status.
Comments: Blunt traumatic abdominal aorta occlusion is extremely rare and potentially critical. In most cases, intimal tears with or without subintimal thrombosis account for the luminal obstruction. Preexisting intimal and subintimal aortic abnormality is typical. In our cases of blunt traumatic abdominal aorta occlusion, early repair of this injury show the best chance for limb salvage and full neurologic recovery.
References: Dajee H, Richardson IW, Iype MO. Seat-belt aorta: acute dissection and thrombosis of the abdominal aorta. Surgery. 1979;85:263–267. Michaels AJ, Gerndt SJ, Taheri PA, et al. Blunt force injury of the abdominal aorta. J Trauma. 1996;41:105–109. Kory LA. Thrombosis of the abdominal aorta in a child after blunt trauma. AJR Am J Roentgenol. 2000;175:553–554. Inaba K, Kirkpatrick AW, Finkelstein J, et al. Blunt abdominal aortic trauma in association with thoracolumbar spine fractures. Injury. 2001;32:201–207.
Disclosure: No significant relationships.

P444

EMERGENCY OPERATION FOLLOWING HEMOPERICARDIUM WITH CARDIAC TAMPONADE DUE TO IATROGENIC PERFORATION OF RIGHT VENTRICLE WALL DURING ACUPUNCTURE

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Case History: A-80-year old female patient (148.8cm, 51.1kg) got acupuncture due to dyspepsia at oriental medical clinic and visited emergency room because of chest pain which had been continuing after acupuncture. On anterior chest wall, a needle was inserted. We explained needle must not be pulled out, however a member of oriental clinic pulled it out.
Clinical Findings: On emergency room admission, heart rate was 106 beats/min, non-invasive blood pressure was 92/49 mmHg and O_2 saturation was 100%. Although needle was removed incidentally, the vital sign was not changed significantly after that.
Investigation/Results: Pericardial effusion was checked at bed side transthoracic echocardiography.
Diagnosis: A diagnosis of hemopericardium with cardiac tamponade and iatrogenic cardiac perforation was made.
Therapy and Progression: The patient arrived at the operating room in one hour. The initial heart rate was 112 beats/min, invasive blood pressure was 104/74 mmHg. The 3cm of hemopericardium was observed and right ventricle was near collapsed in intraoperative TEE. After full median sternotomy, systolic blood pressure suddenly dropped to 50mmHg and heart rate decreased to 60 beats/min. Pericardiotomy was performed immediately and the vital signs became stable. After pericardiotomy, hematoma was removed and primary repair was done at bleeding site. The patient was transferred to ICU and discharged to home on POD 13 without any other problems.
Comments: In this case, after sternotomy, the vital sign was decreased suddenly. The bleeding at the site of needle removal might increase because compression effect was removed by sternotomy and cardiac tamponade could become severe before pericardiotomy.
References: (1) CHABANIER, A., et al. Iatrogenic cardiac tamponade after central venous catheter. *Clinical cardiology*, 1988, 11.2: 91-99. (2) SPODICK, David H. Acute cardiac tamponade. *New England Journal of Medicine*, 2003, 349.7: 684-690. (3) DATO, Guglielmo Maria Actis, et al. Posttraumatic and iatrogenic foreign bodies in the heart: report of fourteen cases and review of the literature. *The Journal of thoracic and cardiovascular surgery*, 2003, 126.2: 408-414.
Disclosure: No significant relationships.

P445

SURGICAL MANAGEMENT OF THE OPEN ABDOMEN - NEXT DAY LESSONS LEARNED AND APPLIED AFTER INTERNATIONAL TRAUMA WORKSHOP. CASE REPORT

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Case History: 75 years old patient who supported 7 days ago one low rectal resection for cancer, developing necrotizing fasciitis without any evidence of fistula or other septic intraabdominal process. After necrozectomy, the major pitfall was how to close the abdomen and how to limit the musculofascial septic process. After the first procedure, I was used one modified Bogota bag-like procedure. Next day, after attending one international trauma workshop, I used the learned procedure presented by Prof. Kurihara with very good results
Clinical Findings: In day 8 - evisceration imposing urgent surgery.
Investigation/Results: Excepting leukocytosis (22000/mm3) all usual blood tests was naormal. All sepsis markers was positives.
Diagnosis: Clinical examination of the abdomen revealed signs of deep necrotizing fasciitis and the evisceration imposed urgent surgical procedure.
Therapy and Progression: We show the first closure of the abdominal wall using 2 bogota bag foils one placed at the peritoneal margin, an other to skin, and the space between was filled with meshes. At 24 hour we observed the failure of this procedure. After attending the workshop, we decided to use the procedure showed (sandwich-like) by covering the visceral mass with one big subperitoneal foil mesh, mesh-packing and one big Ioban foil on the skin with good results in dynamics.
Comments: The management of the open abdomen is one big challenge in abdominal sepsis. When the sepsis is localised to abdominal wall the options are limited.The absence of the intraperitoneal sepsis and the large wall defect resulted imposed one solution for separating the peritoneal cavity and for managing an open abdomen.
References: 1. Schein, M., Saadia, R., Jamieson, J. R. and Decker, G. A. G. (1986), The 'sandwich technique' in the management of the open abdomen. Br J Surg, 73: 369–370. doi:10.1002/bjs.1800730514 2. Management of open abdomen.R.R. Ivatury, K.A. Kolkman, and K. Johansson Acta Clinica Belgica, Vol. 62, Iss. sup1,2007 3. Management of the Open Abdomen: From Initial Operation to Definitive Closure. Campbell, Andre; Chang, Michael; Fabian, Timothy; Franz, Michael; Kaplan, Mark; Moore, Frederick; Reed, R. Lawrence; Scott, Bradford; Silverman, RonaldVargo, Daniel; Richardson, J. David; The American Surgeon, Volume 75, Supplement 11, November 2009, pp. S1-S22(22),
Disclosure: No significant relationships.

P446

MAJOR PANCREATIC INTRAPERITONEAL BLEEDING AFTER THROMBOLITIC THERAPY FOR MIOCARDIAL INFARCTION TO AN 38 YEAR OLD PATIENT. CASE REPORT

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Case History: 38 years old male patient admitted for coronarography by transfer from another town after thrombolysis for acute anterior myocardial infarction. In out hospital, the coronarography was interrupted because of the acute abdominal pain and hypotension.
Clinical Findings: The acute pain syndrome, the hypotension (80mmHg) and the tachycardia (120/min) imposed surgical consult.

Investigation/Results: FAST ultrasonography - free abdominal fluid CT scan revealed massive hemoperitoneum, without arterial source, and vascular bundles in the root of transverse mesocolon. Normal Hb. at the admission, 5,3 g/dl after the coronarography (2 hours).
Diagnosis: Clinical examination and imaging investigation confirmed the hemorrhagic shock. The decision: the emergency operation despite the same day thrombolisys.
Therapy and Progression: Laparotomy - 3000 ml blood without clots, the source was one area with diffuse bleeding at the inferior margin of the pancreas where was a 30 cm^2 blood infiltrated space, induration and breackage of the transverse mesocolon, close to angle of Treitz. Because of high vasopresor doses used, recent thrombolysis plus acidosis and hypothermia developped in operating room, the only procedure was the packing of the submesocolic area and rapid closure of the abdomen. After 2 days, the packing was removed, without signs of active bleeding and we applied local hemostatic agents (Surgicel). Postoperatory - good evolution, discharge after 11 days.
Comments: Severe bleeding is the major side effect of thrombolytic therapy. Most bleeding cases are associated with an intervention, but spontaneous bleeding can happened. By our knowledge, this is the first case reported for spontaneous bleeding of the pancreas and consecutive massive hemoperitoneum after thrombolysis.
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Disclosure: No significant relationships.

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RARE CASE OF LARGE BOWEL UNJURY DUE TO DIRECT BLUNT TRAUMA OF A PRE-EXISTING FEMORAL HERNIA

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Case History: We report a case of an 85-year-old man with a known asymptomatic left femoral hernia who was admitted to the emergency ward a few hours after falling from a bicycle and suffering from blunt trauma of the handlebar to the left inguinal region.
Clinical Findings: The clinical findings were diffuse pain, a hard abdomen, and absent bowel sound. In the left inguinal area a tennis ball size hernia with purplish-blue skin discoloration was still visible. Palpation tenderness of the hernia and the lower abdomen was present.
Investigation/Results: The computed tomography (CT) scan detecting free air in the femoral hernia sac suggestingbowel perforation.
Diagnosis: Emergency laparotomy 6 hours after the incident confirmed a tear of the sigmoid colon accompanied by free blood and faeces in the left inguinal region of the abdomen.
Therapy and Progression: A segmental sigmoid resection and a primary end-to-end colorectal anastomosis were performed. The postoperative course was complicated by delayed oral feeding, a local infection and a partial left testicle necrosisthat led to secondary resection. The patient was discharged after 32 days of in hospital care. 3 months post-trauma we recorded a restitution ad integrum.
Comments: The case exemplifies that blunt trauma to pre-existing femoral hernias may cause potentially lethal bowel perforation and that the time interval between time of injury and surgical treatment may be a prognostic factor. CT-scans seem most suitable for ruling out bowel perforation. The rather scarce literature for blunt trauma to hernias is reviewed.
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Disclosure: No significant relationships.

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INTRAUTERINE FOREIGN BODY

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Case History: Patient C.G., 53 years old, was admitted accusing a vaginal bleeding and declaring that a syringe needle was coming out of her uterus. The patient told that at the birth of her only child, 24 years ago, the obstetrician informed her that a syringe needle has been lost inside the uterus, situation confirmed by the immediate X Ray examination. The postpartum evolution was uncomplicated. In the following years, the patient remained asymptomatic.
Clinical Findings: The genital inspection and palpation revealed the presence of the tip of a sharp metallic foreign body on the surface of the cervical tissue.
Investigation/Results: The X Ray examination shows the presence of the needle as a linear opacity in the center of the pelvis.
Diagnosis: Foreign body (syringe needle) exteriorized through the uterine cervix
Therapy and Progression: The needle was removed by vaginal approach and came out intact. The evolution was favorable.
Comments: Retention of a foreign body in the uterus for a long time may induce serious morbidity. The particularities of the presented case are: the very long period of retaining the foreign body, the fact that the foreign body is a syringe needle and, as a patient, being aware about it and yet asymptomatic all these 24 years.
References:
Disclosure: No significant relationships.

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