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CLINICAL AND PARACLINICAL MANIFESTATION OF CHRONIC PANCREATITIS IN PATIENTS WITH ALCOHOLIC LIVER DISEASE

Abstract. *Chronic pancreatitis and alcoholic liver disease are two pathologies found simultaneously in a patient with excessive alcohol consumption. In this study we aimed to demonstrate a close link between chronic pancreatitis and alcoholic liver disease in patients with chronic alcohol consumption. Researching the family history, the clinical picture, the paraclinical and imaging manifestations of these two pathologies.*
Keywords*: Alcohol-related liver disease, hepatic steatosis, alcoholic hepatitis, alcoholic cirrhosis, chronic pancreatitis*

Introduction. Alcoholism is considered one of the most common public health problems in the world after cardiovascular disease, mental illness and cancer. [1]

The World Health Organization periodically publishes The Global Status Report on Alcohol. According to its publication from 2018, the Republic of Moldova was ranked the first country in the world by alcohol consumption per capita, ahead of countries such as Lithuania, Czech Republic, Seychelles, Belarus and others. Alcohol consumption in post-Soviet countries is an even bigger problem due to complementary factors: low standards of living, the weak economy and gaps in education. [2]

Disorders that occur in alcohol users, most often, include Hepatic steatosis (fatty liver) (in> 90%), Alcoholic hepatitis (in 10%-35%), Cirrhosis (in 10%-20%).

[9] Alcohol is truly involved in the production of over 200 different diseases, including: Chronic Ethanolic Pancreatitis and Alcohol-Related Liver Disease, the pathologies to be analyzed in this paper. [3]

A lot of studies consider that Pancreatitis and Alcohol-related Liver Disease (ARLD) are two pathologies found simultaneously in a patient with excessive alcohol consumption, but the fact is that Chronic Pancreatitis (CP) manifests itself later clinically and paraclinically. In these patients the first signs are those of liver damage.[4]

The purpose of the research. Studying the clinical-paraclinical features of chronic pancreatitis in alcoholic liver disease to highlight the direct link between these two pathologies, as well as their evolution.

Objectives.

– Assessment of the prevalence by sex and age of ARLD and CP in the study group;

– Assessment of the risk factors associated with ARLD and CP in the retrospective study;

– Study of the clinical-paraclinical manifestations of CP in patients with ARLD;

– Comparative analysis of the paraclinical tests in different stages of alcoholic liver damage in association with CP;

– The prevalence of tumor factors in different stages of alcoholic liver damage in association with PC;

– The prevalence of other pathologies associated with these patients, influenced by excessive alcohol consumption.

Material and methods. In order to fulfill the research objectives, was performed an analytical observational study: retrospective cohort follow-up of 54 patients who were diagnosed with CP and ARLD in 2019 in the "Timofei Moșneaga" Republican Clinical Hospital of Chisinau, Republic of Moldova.

Criteria for inclusion in the study: patients with a definite diagnosis of ARLD and CP, both sexes, chronic and excessive alcohol users, age >20 years, presence of anamnestic, clinical, paraclinical criteria for studied diseases.

Exclusion criteria from the study: the absence of the above-mentioned diagnosis, the absence of chronic alcohol use, patients with liver and pancreatic diseases of other etiology.

The quantitative parameters were represented by the mean value and the standard error value. T-Student test was also used for estimating the statistical differences between the means of the groups.

Results. The general features of the study group is presented in *Table 1*. The study lot is composed of 41 men and 13 women, aged between 27-76 years old. The average age of the patient group was 45,73 years old.

Table 1

General features of the study lot

Features	**Patients (N=54)**
Men/Women	41/13(27-76 years old)
Mean age	45,73±1,76

Several risk factors were analyzed in patients with ARLD and CP from the study lot in *table 2*. Thus, it was estimated 100% alcohol consumption in all patients selected in the study and in a lower percentage – 18,51% - smoking patients.

Table 2

Main risk factors involved

Main risk factors	**Alcoholic steatosis+CP**	**Hepatitis+CP**	**Alcoholic cirrhosis+ PC**
	N=6(11,11%)	**N =5(9,25%)**	**N-43(79,62%)**
Alcohol	**6**	**5**	**43**
Smoking	**1(1,85%)**	**3(5,55%)**	**10(18,51%)**
Hepatic viruses	**1(1,85%)**	**3(5,55%)**	**11(20,37%)**

The spectrum of the alcoholic liver in the study lot was also estimated. (Fig.1) From the entire group, a number of 44 patients (79,62%) have alcoholic liver cirrhosis (associated with hepatic viruses), 6 patients (11,11%) – alcoholic hepatic

steatosis, 5 patients (9,25%) – alcoholic hepatitis (also associated with hepatic viruses). (Fig.1)

Patients with alcoholic liver disease have a diverse clinical picture, represented by various clinical signs and syndromes. The most common signs in the study group were manifested by: ascites and peripheral edema – 42,59%, hepatosplenomegaly – 44%, ecchymosis, palmar erythema – 35%, signs of hepatic encephalopathy - 33%, etc. (Fig. 2.)

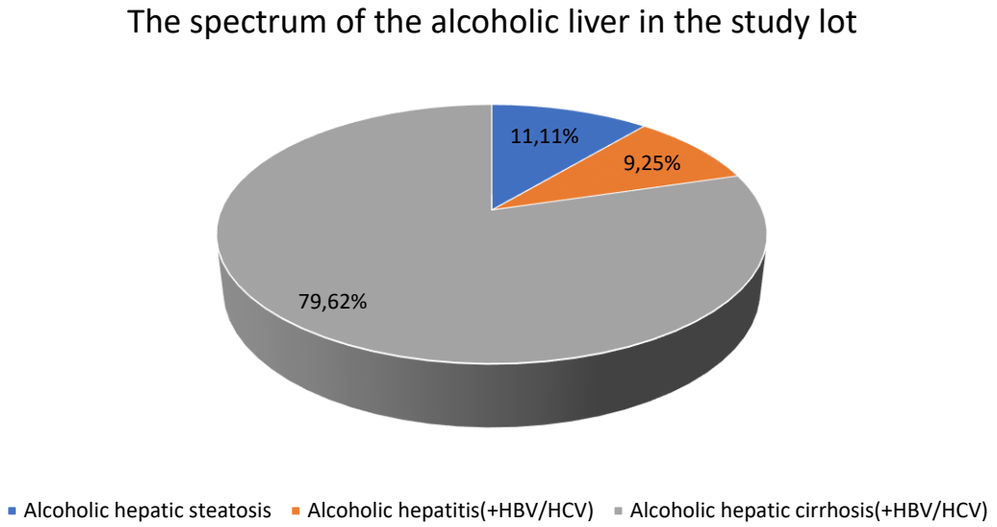

Fig. 1. **The spectrum of the alcoholic liver in the study lot**

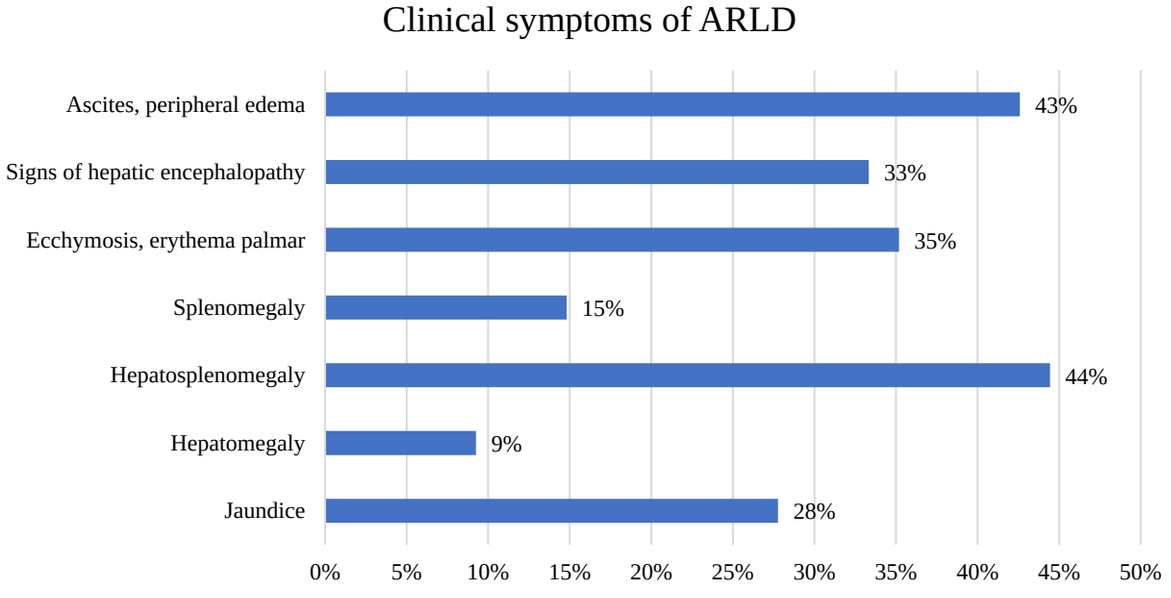

Fig. 2. **Clinical symptoms of ARLD**

In the patients of the study group, the major clinical manifestations of CP were presented by: asthenic syndrome – 94% of individuals, abdominal discomfort (epigastric region and hypochondria) – 83%, flatulence – 44%, weight loss – 41%, etc. (Fig. 3.)

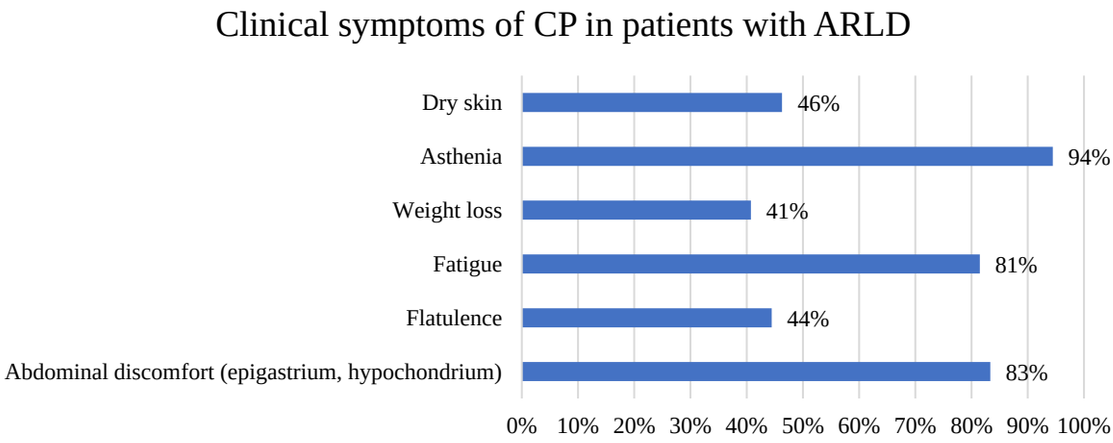

Fig. 3. **Clinical symptoms of CP in patients with ARLD**

CBC test shows that patients experience thrombocytopenia, leukopenia, anemia as a result of hypersplenism. Leukocytosis is a leukemoid reaction, it is found in acute alcoholic hepatitis, as well as co-infections or as a paraneoplastic manifestation in hepatocellular carcinomas. Leukopenia, as mentioned, is a consequence of hematological hypersplenism, but can also be heard of the suppressive effect of alcohol on the hematogenous marrow. MCV increased (in 28% patients) is a marker of alcohol abuse, even in the absence of any liver damage, is one of the criteria for alcohol-induced liver pathology.

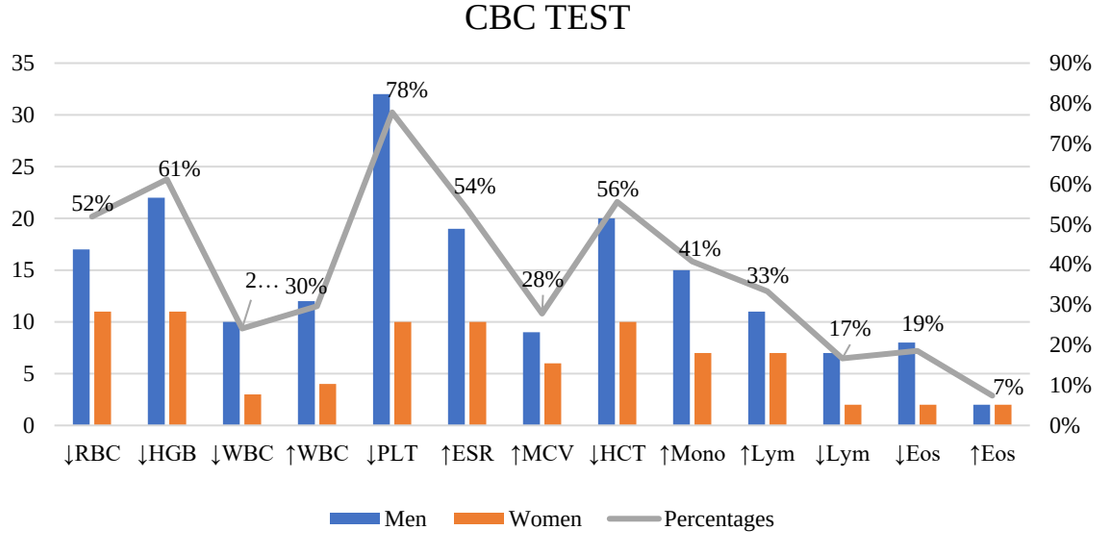

Fig. 4. **CBC test**

Following the primary markers for the assessment of alcohol consumption: GGT ↑↑↑ - increased 2-3 or even 5 times above normal value is the most common biochemical abnormality attested in alcoholics, AST/ALT >2 is a true indicator of liver pathology due to alcohol abuse. In the study lot, there is a strong evidence of increased of GGT in 78% of individuals, increased AST – 50%, increased alkaline phosphatase – 37%, hypoproteinemia – 35%, increased and decreased amylase in 9,25% for both criteria. (Fig. 5.)

Also, hepatic injury is shown in increased bilirubin: total bilirubin in 63%, direct – 69%, indirect – 63%, and in decreased production function of the liver: low fibrinogen – 56%, low prothrombin time Quick – 55%. (Fig. 6.)

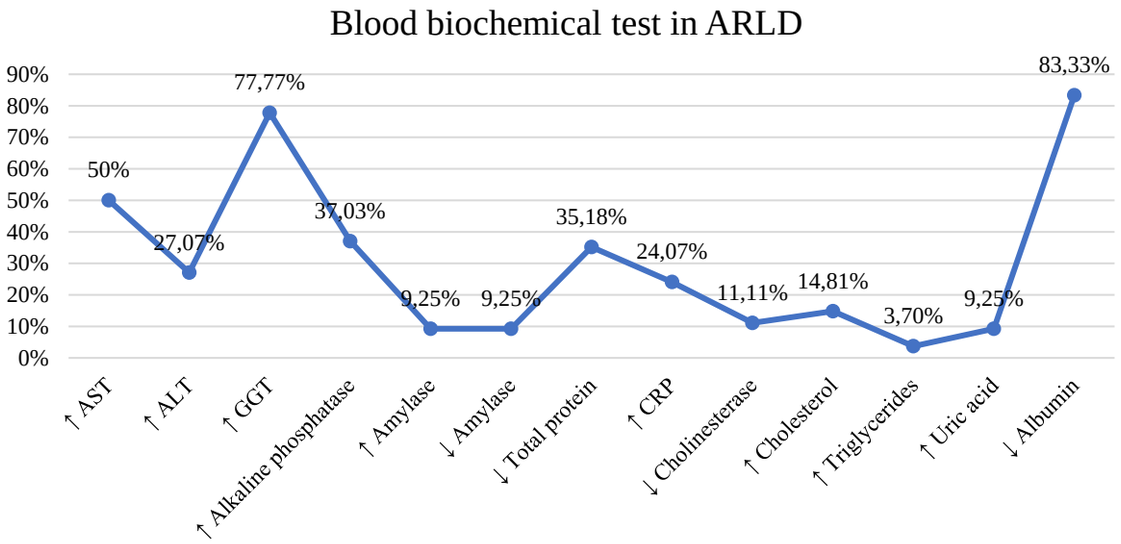

Fig. 5. **Blood biochemical test in ARLD**

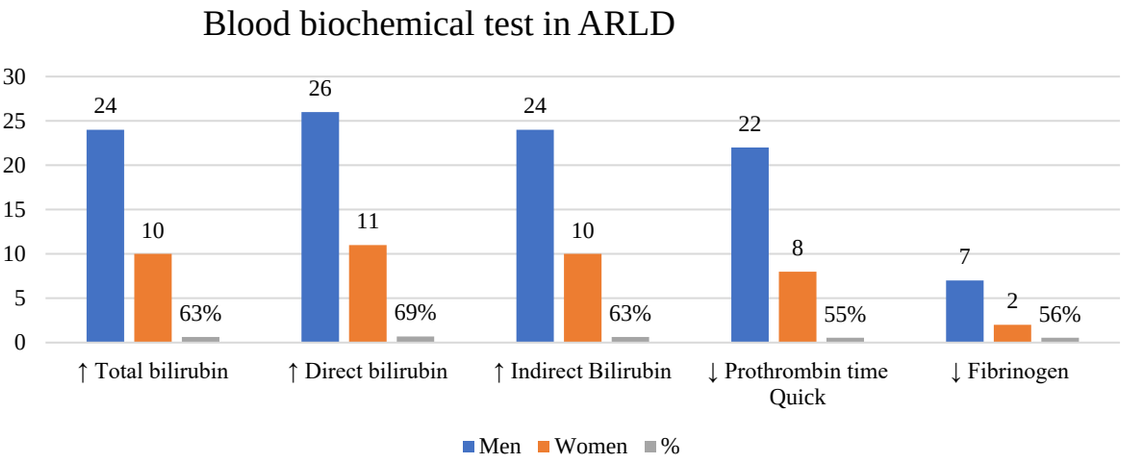

Fig. 6. **Blood biochemical test in ARLD**

In the study lot, there are patients with associated pathologies such as Diabetes Mellitus – 18,51%, and there is an evidence of just an increased glucose – 18,51%, non-associated with DM. (Fig. 7.)

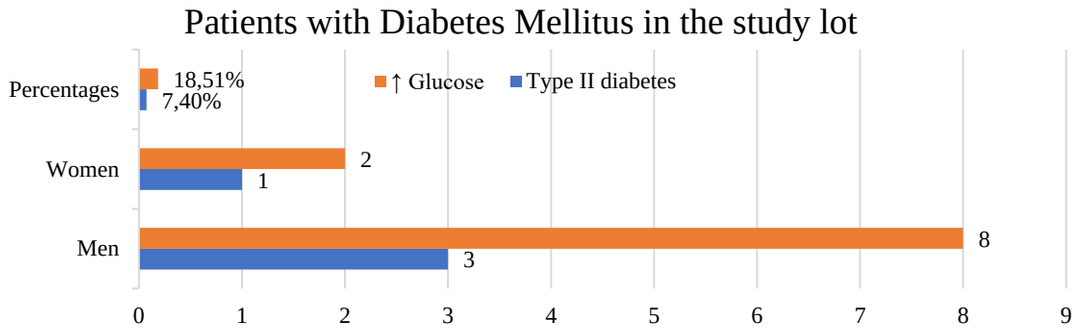

Fig. 7. **Patients with Diabetes Mellitus in the study lot**

Tumor markers that were evaluated in these cases that can be easy linked with an advanced liver injury: CA 19-9 (11% of patients), CA 125 (9%), Alpha Fetoproteina (6%). (Fig. 8.)

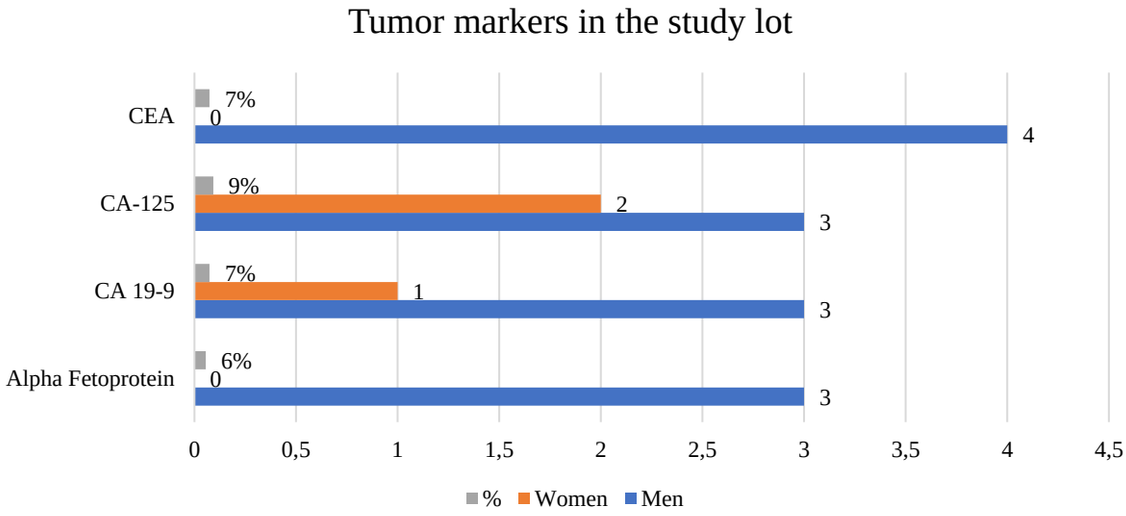

Fig. 8. **Tumor markers in the study lot**

Another paraclinical assessment method of the disease severity is abdominal ultrasound and the visualization of the liver and pancreas. In the study lot, there are changes in the liver: diffuse changes in the liver parenchyma in 67% of indivuals; in the pancreas: the surface is irregular and the texture is inhomogenous in 50% of

patients; and also is an association of hepato and splenomegaly in 35% of patients. (Fig. 9.)

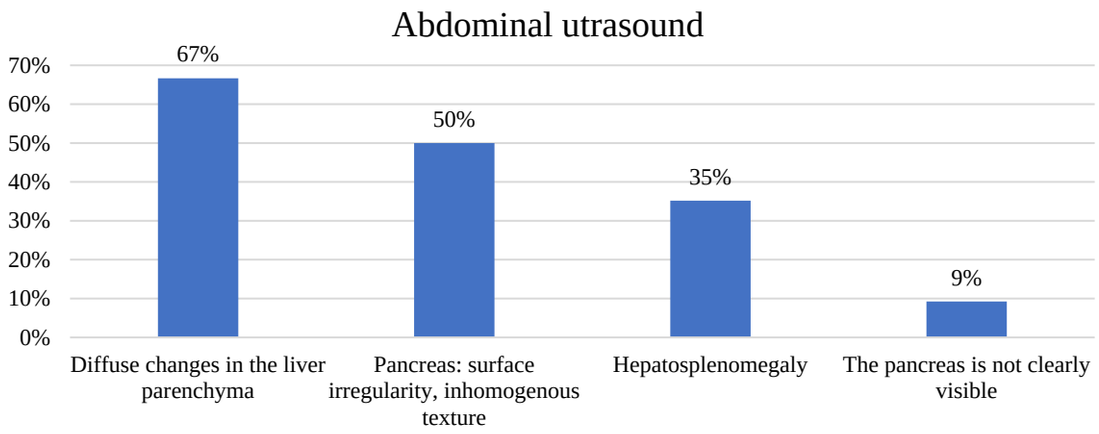

Fig. 9. **Abdominal ultrasound**

Hepatic scintigraphy: diffuse changes in the liver parenchyma – 35%, hepatosplenomegaly – 35%, indirect signs of portal hypertension – 30%. (Fig. 10.)

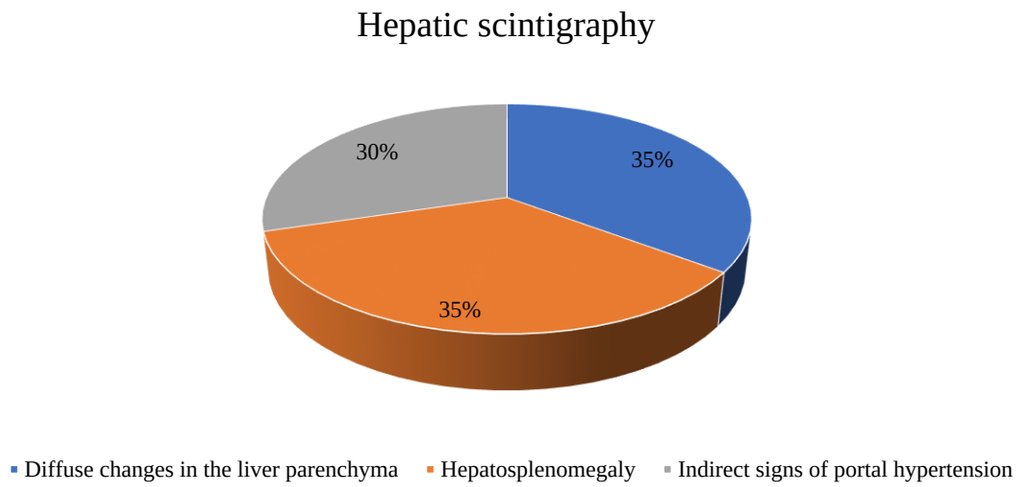

Fig. 10. **Hepatic scintigraphy**

FEGDS is considered one of the primary method for highlighting the signs of portal hypertension (esophageal and gastric varices, portal-hypertensive gastropathy, etc.). Esophageal varices may occur as a result of the transition of alcoholic steatohepatitis into alcoholic liver cirrhosis. In the research, changes that are shown in FEGDS are: esophageal varices gr. I-II – 54% of the individuals,

esophageal varices gr. II-III – 17%, erythematous gastroduodenopathy – 30%, portal hypertensive gastropathy – 41%, erosive gastroduodenopathy – 46% of the individuals.

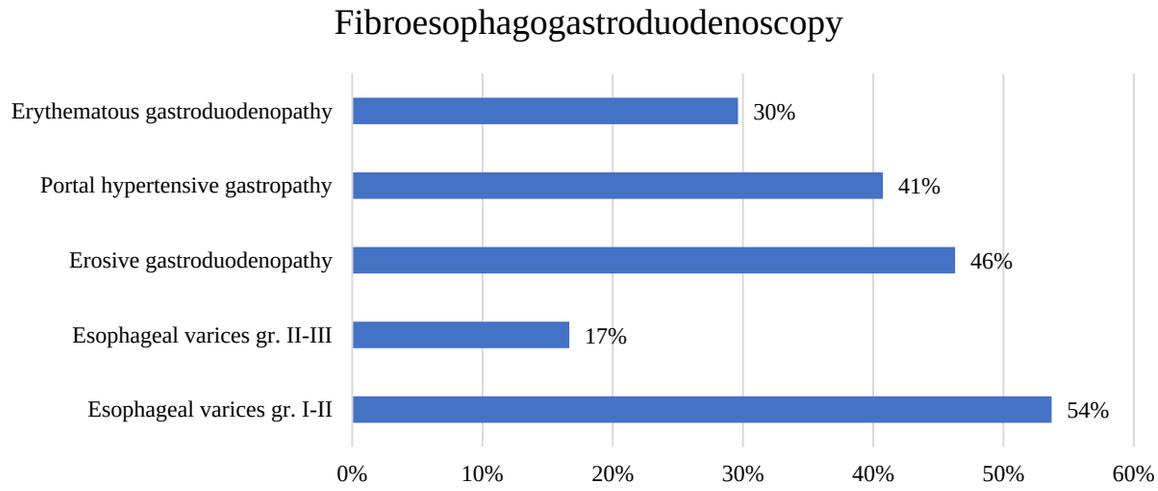

Fig. 11. **Fibroesophagogastroduodenoscopy**

Conclusions. Following the data from the family history, the clinical picture, the paraclinical and imaging data obtained from the study group, essential changes were estimated both clinically and paraclinically in the liver and pancreas. The research indicates a link between alcohol-related liver disease, chronic pancreatitis and alcohol consumption in these patients. A lot of studies show that Chronic Pancreatitis and Alcohol-related Liver Disease (ARLD) are two pathologies found simultaneously in a patient with excessive alcohol consumption, but the fact is that Chronic Pancreatitis (CP) manifests itself later clinically and paraclinically. In these patients the first signs are those of liver damage and later, following the presence of the main risk factor - alcohol – the full picture will show essential changes in pancreatic function.

References:

1. Commission of European Communities (2006). Communication From The Commission To The Council, The European Parliament, The European Economic And Social Committee And The Committee Of The Regions. An EU strategy to support Member States in reducing alcohol related harm. (f.e.) Brussels; Available at: https://ec.europa.eu/health /ph_determinants/life_style/alcohol/documents/alcohol_com_625_en.pdf;

2. WHO (2018) Global status report on alcohol and health. Available at: https://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf
3. N. T. Orfanidis, (2019) “Alcoholic Liver Disease,” Merck manual consumer version, Thomas Jefferson University Hospital
4. Singal AK, Bataller R, Ahn J, Kamath PS, Shah VH. ACG Clinical Guideline: Alcoholic Liver Disease. Am J Gastroenterol. 2018 Feb;113(2):175-194. doi: 10.1038/ajg.2017.469. Epub 2018 Jan 16. PMID: 29336434; PMCID: PMC6524956.