

## Ovarian mucinous cysts in children and adolescents

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**Background:** Mucinous ovarian cysts (MOC) in children and adolescents are extremely rare. The study aimed to determine the particularities of imaging diagnosis, surgical treatment and morphological characteristics of MOC in pediatric patients.

**Material and methods:** We performed a retrospective analysis of pediatric patients ( $\leq 19$  years) with ovarian tumors ( $n = 117$ ) treated at the Institute for Mother and Child Health Care from 2000 to 2017. The diagnosis was confirmed by immunohistochemical analysis with monoclonal antibodies for cytokeratin 7 (CK-7), cytokeratin 20 (CK-20) and CEA.

**Results:** MOC was identified in 17(14.5%) cases. The average age was  $16.7 \pm 0.6$  years (95% CI: 15.44-17.98). MOC was on the left ovary – 9(52.9%), right – 6(35.3%) and in 2(11.8%) – bilateral. After radiological exam data: unilateral MOC – cystic, multicameral formations with max.  $12.7 \pm 1.4$  cm (from 8 to 27.7) and the “morphological” index (MI) after Jeoung HY. –  $6.5 \pm 0.1$ ; bilateral (or secondary, appendectomy anamnesis) – are preponderant solid formations with max. –  $6.9 \pm 0.4$  cm and MI = 4. Surgical interventions were performed by laparotomy – 15(88.2%) and laparoscopic – 2(11.8%). According to the volume of operations, ovarian tissue preserving – 11(64.7%), adnexectomy – 4(23.5%) and ovariectomy – 2(11.8%) were performed. On the immunohistochemical exam: Primary MOC (benign cystic adenoma) – CK-7 + / CK-20- / CEA-, and secondary MOC – CK20 + / CEA + / CK-7-.

**Conclusions:** MOC are quite rare epithelial tumors in pediatric patients with specific radiological and immunohistochemical characteristics. Secondary MOCs must be examined as metastatic formations in the mucinous tumors of the appendix having the potential for developing pseudomixomas of the abdominal cavity.

**Key words:** mucinous ovarian cysts, adolescents, children, cystadenoma.