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Clinical And Morphological Features And Histological Variants Of Borderline Types Of Ovarian Tumors

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ABSTRACT

According to modern scientific literature, among all ovarian tumors, the borderline type occurs from 5 to 15%. This study analyzed the clinical and morphological features and histological variants of borderline types of ovarian tumors. The results of the study showed that among the borderline type of ovarian tumors, serous (46.8%) and mucinous types (42.7%) are more common, while other types, such as endometrioid, mesonephroid, Brenner, and mixed variants make up a low percentage. It was found that serous cystic tumors, in most cases bilateral, common cyst, cystadenoma, papillary adenoma histologically consists of two epithelia, that is, from the mesothelium and secretory cells, it is confirmed that with malignancy, elongated and basaloid cells are metaplastic. It was observed that mucinous borderline tumors were mainly found on one side, disabled adenofibroma, cystadenomas were filled with mucous contents, monolayer epithelium was metoplasized with stratified epithelium. Among the rare borderline tumors, the endometrioid type, Brenner, mesonephriodal and mixed type were identified.

KEYWORDS

Ovary, tumor, cyst, cystoma, borderline type of tumors, serous, mucinous, Brenner, endometrioid, mesonephroid, mixed tumors.

INTRODUCTION

In the pathology of the female reproductive system, a special place is occupied by tumors (2,3,5), which constitute the borderline stage of benign and malignant ovarian tumors (2,3,5). Their morphological specificity lies in the fact that proliferation of epithelial cells occurs, but does not invade the surrounding stroma and therefore they are included in precancerous conditions. Although these tumors show signs of a dangerous process, they are clinically relatively safe. Borderline tumors were included, as an independent form, in the histological classification of the World Health Organization (WHO) under the title "Tumors of Potentially Low Risk of Danger" in 1973. Currently, the development of diagnostic criteria for tumors of this group and their division into separate nosological units remains relevant (1, 6, 7,8).

According to modern scientific literature, among all ovarian tumors, the borderline type occurs from 5% to 15%, and according to some authors, up to 20% [2,4,7,]. The borderline type of ovarian tumor is most often detected in women under 40 (31.8%) years of age. To preserve reproductive function in patients, optimal follow-up tactics are required for young women. There are 6 histological types of borderline tumors: serous, mucinous, endometrioid, mesonephrioid, Brenner's tumor and mixed types [5,7,8].

Based on the above data, it follows that the preoperative ejection of borderline tumors and their differentiation is considered an important task. To date, modern diagnostic methods, such as magnetic resonance imaging, immunohistochemical determination of the

proliferative and apoptotic activity of tumor cells, lead to the creation of new criteria for tumor-specific symptoms. The aim of the study was to analyze the clinical and morphological features and histological variants of borderline ovarian tumors.

MATERIAL AND METHODS

In the ROAC study in the biopsy department for the period from 2016 to 2020, among the examined women from 18 to 67 years old (on average 43.7 ± 1.8), only 1246 ovarian cyst diseases were detected, of which 246 (19.7%) patients were of borderline type and biopsy was performed. Of these, 132 cases constituted a retrospective and 114 cases a prospective group of surveyed. Information about patients in the retrospective group was collected from case histories, an outpatient card, from journals with records of surgical and histological interventions, as well as by analyzing clinical and pathomorphological archived data. To collect clinical material, a special questionnaire was created, which included the following information: the woman's age, menstrual and reproductive function, life history and morbidity, the presence of concomitant gynecological and extragenital diseases, clinical laboratory tests, the scope of treatment, etc. If the patient was operated on, then the presence of an extract, and in case of a relapse of the disease, the location, time and volume of relapse.

Most of the borderline tumors in the examined patients were serous (46.8%), mucinous (42.6%), and various other histological types (Table 1).

Table 1

The incidence of borderline ovarian tumors

Histological type of tumors	Retrospective group, n = 132		Prospective group, n = 114		Total n = 246	
	abs	%	abs	%	abs	%
Serous	64	48,4	51	44,8	115	46,8
Mucinous	60	45,4	45	41,2	105	42,7
Endometrioid	3		6		9	3,7
Brenner's tumor	2		4		6	2,4
Mesonephroid	1		3		4	1,6
Mixed	2		3		7	2,8

The patients were worried mainly about discomfort, obstruction in the lower abdomen, stabbing pains (56.4%), bloating (38.7%). With large tumor sizes, dysfunctions of the bladder and colon were observed in 32.2% of cases. Menstrual irregularities were observed in 21.6% of women. 28.5% of neoplasms were found in women during routine examination, 12.5% - during ultrasound. In the majority of women (73.4%), it was found that menstruation persisted at the time of tumor diagnosis. Menstrual irregularities and pain were observed in 26.6% of cases.

A set of generally accepted methods was used to make the final diagnosis in prospective patients: analysis of clinical data, gynecological, cytological, histological examinations, transvaginal and transabdominal echography, including

Doppler, magnetic resonance imaging and tumor markers.

RESULTS AND DISCUSSION

During the last 5 years (2016-2020), 1246 patients with ovarian cysts were examined in the biopsy department of the ROAC, of which 246, or 19.7%, were identified as borderline cyst tumors. Among borderline ovarian tumors, serous benign tumors accounted for the largest proportion. In our material, they accounted for 46.8% of all epithelial tumors. They have been found to occur in almost all age groups, with the exception of young children. It was confirmed that both ovaries are located at the same level, often on both sides, laterally, under the outer membrane of the ovary. Morphologically, they were often detected in the form of simple cysts, cystoadenomas, papillomatous tumors. Histologically, the

epithelium of the tumor resembles the mesothelial epithelium of the fallopian tube. A benign stroma of a serous tumor is often found in the form of fibrosis, sclerosis, and in some cases in combination with ovarian fibroma (Fig. 1). In our material, serous tumors of the marginal category were most often detected in women aged 35 to 60 years. Microscopic examination showed the presence of two types of epithelial cells, one in the form of a rounded mesothelium, the other in the form of a hairy secretory epithelium, and these types of cells usually unite all cystic tumors. As signs of malignization of borderline types of serous benign tumors, in most cases, the cytoplasm of epithelial cells of the mesothelial type increases in volume, the appearance of mucous matter in their composition is observed, the nucleus becomes somewhat larger and darker. In the composition of serous tumors changed to such an extent, at the same time, histological differences appear, characteristic of the structure of benign and malignant tumors. In some cases, in the area of malignization, cysts are covered with elongated cells and mesothelial epithelium and basaloides.

Among benign tumors of the borderline type, mucinous tumors were more common (42.7%). These tumors were equally common in women of all ages, that is, from 15 to 85 years old. Often occurs in a unilateral form, the simultaneous appearance of this tumor in both ovaries is a casuistic condition. This is determined by its location in the inner layer of the ovary, that is, between the nucleus and the cortical layers. Microscopically, cysts usually look, sometimes with intussusception, and adenofibroma resembles cystoadenoma. In the cavity of the cyst, mucous substance slowly accumulates, as a result of which the cavity of

the cyst expands, the parietal suction epithelium passes into keratinized cells. In some cases, the hair epithelium covering small cysts secretes specific inclusions into the cytoplasm and turns into an endocervical type epithelium.

Repeated reproduction of epithelial cells is observed in the composition of the mucinous type of borderline tumors. That is, a single-layer prismatic epithelium is sometimes metaplastic with a multi-layer one. In these foci of metaplasia, signs of epithelial dysplasia appear. Histologically, cells differ in shape and color, and heterogeneous substances are formed in the cytoplasm (Fig. 2). Symptoms of dysplasia of the nucleus, a change in their shape, staining in light and dark colors and a histotopographically chaotic arrangement are observed. When borderline tumors of the mucous membrane with dysplasia of this degree are examined under a microscope, it is observed that the mucous substance filling the cyst cavity is absorbed into the surrounding tissues and even enters the abdominal cavity. As a result, a state of false mucinosis develops in the abdominal cavity. Both in the ovary and in the abdominal cavity, the development of macrophage and lymphoplasmacytic infiltrates in the tissues surrounding the sites of false mucinosis is observed. In our material, among all mucinous tumors of the ovary, a malignant tumor - mucinous cancer - was 1.6%.

Endometrioid cysts are found in borderline ovarian tumors. Usually these cysts are also called chocolate cysts based on the contents of the inside. Usually they are two-sided, rarely one-sided. The causes of this type of cyst are menstrual irregularities. In the presence of such cysts, women cannot get pregnant for a long time. Women complain of pain in the lower abdomen. Ultrasound examination

detects cysts in both ovaries and clinically confirms the presence of hormonal discomfort.

According to clinical and morphological signs, the periods of endometrioid cysts are divided into initial, moderate, severe and complicated degrees. The mechanism of formation of endometrioid cysts is as follows: the appearance of endometrial epithelium in other tissues and organs. At the beginning, the cyst appears in the female genital organs, and then in the tissues of the abdominal cavity. Histologically, endometrioid cystoadenopapilloma consists of enlarged cystic lymph nodes and endometrioid suckers located on their walls, from a delicate stroma and thin connective tissue. If the endometrioid adenofibroma has grown, its stroma consists of thick fibrous connective tissue. The glandular epithelium consists of broad and light cytoplasm rich in fats, and these cells resemble the process of luteinization. When this tumor falls into the borderline category, it resembles endometrial hyperplasia and consists of irregularly positioned glandular tubular and small cysts. Sometimes the presence of foci of flat epithelial metaplasia is detected.

Another borderline ovarian tumor is Brenner's tumor. It is a fibroepithelial tumor of the ovary with hormonal activity, macroscopically hard, like a stone. The tumor occurs accidentally, with pain in the epigastric region and small pelvis, an increase in the abdomen, respiratory disorders, and decreased working capacity. This leads to feminization and masculinization due to the overproduction of the hormone. Morphologically, this tumor develops from a variable epithelium and consists of an epithelial parenchyma and a well-developed stroma. In our material, this tumor was found only in 3

cases, mainly in girls 9, 13, 16 years old, which amounted to 1.8%. It was found in one ovary, in another case, in the second ovary, the tumor developed in parallel with the serous cyst. Histologically, it was noted that the coelomic epithelium covering the outer surface of the ovary grew from Waldhard's urothelial nodes into a variable epithelium, and in some places a stratified epithelium resembling the urothelium was formed (Fig. 3). In the epithelium of these areas, proliferative activity and atypical cells are found, but there is no invasion into the surrounding tissue.

Mesonephroid ovarian tumor is so called because it consists of light cells. Tumors often occur on one side. The surface is smooth, firm in cross-section, glandular and tubular. It is noted that the light structure consists of cells resembling renal epithelium that retain glycogen. Borderline ovarian tumors of the mixed type are characterized by the joint development of the above 2-5 types of tumors. However, a predominance of one type of histological structure over another was found in a mixed tumor. Endometrioid tumors are often found to develop in conjunction with light-colored tumor cells.

CONCLUSIONS

Among borderline ovarian tumors, serous (46.8%) and mucinous (42.7%) types were more common, while endometrioid, mesonephroid, Brenner and mixed tumors accounted for a low percentage.

It was confirmed that serous-cystic tumors are more often bilateral, a common cyst, cystadenoma, papillary adenoma, histologically consisting of two different epithelial cells, i.e., from mesothelial and

secretory cells during malignization, exhausted and basaloid cells are metaplastic.

It was observed that mucinous tumors of the borderline type were mainly unilateral, in the form of disabled adenofibroma, cystoadenoma, filling of the cyst cavity with a

mucous substance and metoplasia of unilamellar epithelium into multilayer.

Among rare borderline tumors, endometrioid, mesonephrioid tumors, Brenner's tumors and mixed tumors were identified.

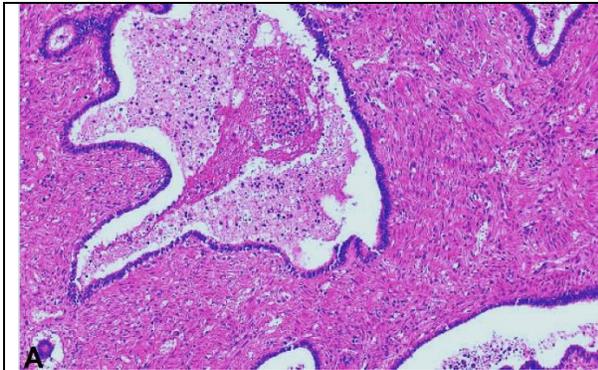


Figure 1. 36-year-old female M. Cyst is lined with cells resembling the epithelium of the fallopian tube, fibrous stroma. Paint: G-E. X: 10x10

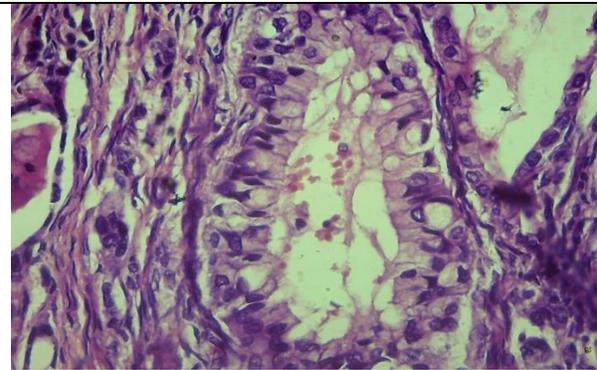


Figure 2. 42-year-old woman C. Cells of any shape, cysts, covered with a wide cytoplasmic mucinous epithelium. Paint: G-E. X: 10x40.

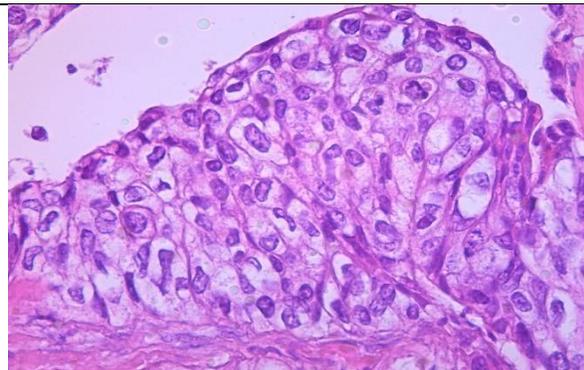


Figure 3. 13-year-old girl. Brenner's tumor looks like a urothelial epithelium. Paint: G-E. X: 10x40.

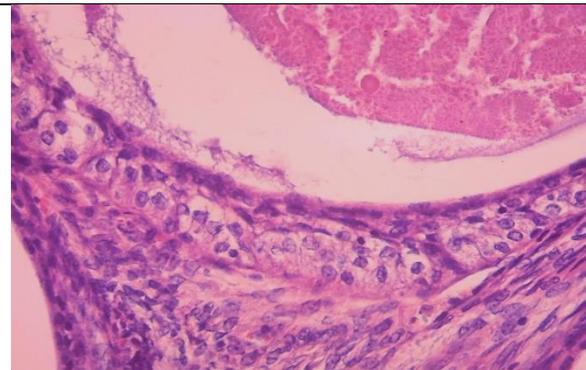


Figure 4. 37-year-old A. Mesonephrioid cyst, ovarian tumor. Paint: G-E. X: 10x40.

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REFERENCES

1. Grigorieva N.Yu. Genetic and biochemical aspects of hyperplastic processes of the myometrium: Author's abstract. diss. ... Cand. honey. sciences. -M., 2003.-21s.
2. Krasnopeeveva Yu.V. Optimization of endosurgical tactics in children and women of reproductive age with ovarian cysts and tumors: Author's abstract. dissertation of doc. of medical sciences. Irkutsk. - 2006 .-- 27s.
3. Kuznetsova E.P. Restoration of reproductive function in ovarian cysts after endoscopic surgery on an outpatient basis: author. dis. Cand. honey. sciences. Izhevsk. - 2001.
4. Kulakov V.I., Askolskaya S.I. Treatment of benign tumors and tumor-like formations of the ovaries // New

technologies in gynecology. M .: Pantori. - 2003. - P.82-84.

5. Orazmuradova L. D. The role of genetic and immune factors in the development of endometrioid ovarian cysts: Author's abstract. Diss. Cand. honey. sciences - M., 2002. 26s.
6. Rovensky Yu.A. Cellular and molecular mechanisms of tumor invasion. "Biochemistry". 1998. - Volume 63. - issue. 9. - S. 1204-1221.
7. Serov VN Benign tumors and tumor-like formations / V N. Serov, LN Kudryavtseva M: Triad - X, 2001. - 152 p.
8. Sidorova I.S., Kogan E.A., Unanyan A.L. and other Clinical and morphological features of ovarian endometriosis // Midwife. and gyno. -2005. No. 6. - S.43-46.