

Modern Methods of Surgical Treatment of Leaf-Shaped Breast Cancer

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Abstract: Phylloid tumor of the breast (PCT) is the rarest tumor type among all types of breast tumors, occurring in 2 to 3% of all fibroepithelial breast tumors or 0.3 to 1.0% of all breast tumors. In 1838, Johannes Müller first reported this tumor and named it cystosarcoma phylloides, which was described as a cystolobular macular and rapidly growing giant neoplasia. Over the years, there has been much controversy among researchers regarding the nomenclature and classification of leaf-shaped breast tumors.

Keywords: leaf-shaped breast cancer, immunohistochemistry, cyst-lobular, nuclear biopsy, neoplasm, cystosarcomaphyllodia, atypia.

Relevance of the topic: Fibroepithelial tumors of the mammary gland are relatively rare in oncological practice. According to various authors, they make up 0.3-2.6% of all breast tumors, as a result of which this pathology has not been sufficiently studied. The etiology and pathogenesis of leaf-shaped tumors are unclear. The group of fibroepithelial tumors includes two-component tumors in which the connective tissue component predominates, which predominates in sarcoma and merges with the epithelium in the group of fibroepithelial neoplasms. Leaf-shaped tumor of the mammary gland (LSCT) is a very rare neoplasm of great interest for cytological studies, however, the small number of observations that researchers usually observe does not allow us to resolve the main issues of the clinical and morphological variety of LSCT. This explains the contradictory information in the literature about the clinical manifestations of the tumor process, duration and growth phase, tendency to relapse, tumor morphogenesis and its relationship with fibroadenomas and sarcomas of the mammary gland. Diagnosed at any age, most often after 40 years. In women, the highest incidence of the disease occurs at 45-49 years of age, but BSC can develop at any period of life: from adolescence to old age.

Currently, more than 60 names for this tumor are known (foliate fibroadenoma, giant myxomatous fibroadenoma, intracanalicular fibroadenoma with cellular stroma, foliate fibroadenoma, giant fibroadenoma and foliate cystosarcoma), but according to the WHO, "foliate tumor of the MCA" is the most appropriate term. The differential morphological sign of a leaf-shaped fibroadenoma tumor is associated with the predominance of the connective tissue component over the epithelium and the clear cellularity of the connective tissue component.

To determine a poor-quality process, histological criteria proposed by J. G. Azzopardi are used. About 15-30% of leaf-shaped tumors are cancerous. An important prognostic factor is the histological type of leaf tumor: according to M. Reinfussetal, 5-year survival rate for benign leaf-shaped tumors is 95.7% for the benign form, 73.7% for the borderline form, 66% for the malignant 0.1% [128]. According to A. W. Chaneyetal, the same figure reaches 91% for benign and borderline leaf-shaped tumors and 82% for malignant tumors. Metastases of malignant leaf-shaped tumors occur in 25-30%, and for all leaf-shaped tumors in no more than 4% of cases.

The main reason is an imbalance of progesterone and estrogen. This disruption occurs at a hormonally active age.

Factors that lead to the appearance of a leaf-shaped tumor:

- ✓ pregnancy;
- ✓ the period of feeding the child;

- ✓ metabolic problems, obesity;
- ✓ chronic liver diseases;
- ✓ disorders in the endocrine system;
- ✓ abortions;
- ✓ mastopathy;

Material and methods. The main distinguishing feature of the clinical picture in this disease is the young age of patients (mainly up to 40 years), large angular contours of the tumor with rapid and intense growth in a very short time. Fibroadenoma has a round or lobulated shape, with variable capsular boundaries, with fibrous or myxoid cut surfaces. Microscopically, it is a biphasic tumor with a clear and prominent contour, with loss of lobular architecture due to an increase in stroma between the epithelial elements, consisting of a mixture of epithelial and stromal elements.

The pericanalicular type of growth involves the growth of stroma around open tubules, while the intracanalicular type involves the pressure of the stroma on the epithelium, forming arcuate forms of the epithelium. Both variants are often observed in the same tumors without clinical significance; recently, the MED12 mutation is more common in intracanalicular fibroadenoma.

Clinical data: the nature of tumor growth (fast, slow, biphasic), its size from small to gigantic, spread to surrounding structures (growth into the pectoralis major and its fascia) or does not allow association with this option. Differential diagnosis is difficult and is limited to a cyst, nodular form of mastopathy, and cancer. With small sizes, on the basis of clinical and radiological signs, it is not possible to distinguish a leaf-shaped tumor from benign processes: fibroadenomas and cysts; if the contours become blurred - with a nodular form of cancer; with large and gigantic sizes. Leaf-shaped tumors can be distinguished from sarcoma, and giant tumors from fibroadenoma. Therefore, we agree with the authors who put histological signs at the beginning of diagnosis and describe leaf-shaped tumors ranging in size from 1 to 29 cm; we do not consider large tumor sizes to be a mandatory criterion for diagnosis, since leaf-shaped tumors, fibroadenoma tumors measuring 1 cm, have the same histological structure, and giant a fibroadenoma measuring 15 cm can be considered a leaf-shaped tumor if there are no characteristic changes in the stroma.

During ultrasound examination, a decrease in echogenicity is observed in the form of homogeneous spots of echo signals of a round or oval shape, an area of hypoechoic heterogeneous structure is determined, often the voids represent anechoic zones. The rapid growth of leaf-shaped fibroadenomas is probably associated with the rate of filling of the cavities with fluid. When the size of a fibroadenoma exceeds 1 cm, its contours are usually clear. Depending on the ratio of fibrosis and glandular tissue (with fibrolipoma - the same as fatty tissue), the severity of acoustic amplification behind the formation changes. The smaller the fibrous tissue, the greater the acoustic shadow. Connective tissue areas are brighter because they create more reflective areas, while glandular and fatty areas are less reflective and appear darker. If there are pieces of lime, the build-up is identified as "sparks."

Stromal-dominated phyllodes, often borderline, may resemble fibromatosis. Detection of stromal processes during histological examination allows making the correct diagnosis. The presence of periductal stromal condensation and narrow, elongated ducts with fissures should raise suspicion for a leaf-shaped tumor. CD34 immunohistochemistry typically shows stromal positivity in foliate tumors, high frequency in benign tumors, and negativity in fibromatosis. Nuclear beta-catenin, often described as a diagnostic marker for fibromatosis, is also found in foliate tumors and therefore cannot be used to differentiate the two lesions. Immunohistochemistry for epithelial markers of fibromatosis-like metaplastic carcinoma is positive and nuclear beta-catenin expression may also be detected.

Core biopsy can evaluate stromal cells, stromal cell atypia, mitoses, and the relative ratio of stroma and epithelium is mainly useful for diagnosis. Phylloid tumors are usually distinguished histologically from fibroadenoma by increased stromal cellularity and mitotic activity. However, a benign phyllodes

tumor by definition does not have obvious atypia and excessive mitotic activity in the stromal component, and juvenile fibroadenoma may also have a cellular stroma, which represents a source of diagnostic difficulty. Diagnosis is based on identifying exaggerated intracanal growth of a leaf-shaped tumor. In addition, stromal proliferation in juvenile fibroadenoma is relatively uniform, whereas in phyllodes the tumor is often (though not always) more prominent in peripheral areas. Stromal cells of phyllodes tumors can be heterogeneous. Therefore, surgical removal is recommended to fully evaluate the lesion.

The histological structure of leaf-shaped fibroadenoma reflects three variants of its dynamics:

- ✓ the beginning of the formation of leaf-shaped fibroadenoma;
- ✓ classic leaf-shaped fibroadenoma;
- ✓ leaf-shaped fibroadenoma with sarcomatous stroma.

Results: The study of immune system indicators was carried out in the clinical-biochemical laboratory of the Tashkent city branch of patients with RIO and RIATM. S. I. Zadozhny and I. M. Dozmorov, 1987. Composition of the dye: a 0.01% solution of Azur-11 is prepared with distilled water in a 0.05% solution of Triton x-100. To count leukocytes and lymphocytes, whole blood and dye were mixed in a ratio of 1:10, placed in a Goryaev chamber, and the total number of lymphocytes and leukocytes was counted using a 20 objective.

Extraction of leukocyte suspension: 1 ml of 2% gelatin prepared in Hank's medium was added to the remaining blood and placed in a thermostat at 37°C for 30 minutes. The supraspinous layer containing leukocytes was collected into a centrifuge tube and centrifuged at 200 rpm. / min for 10 minutes, the supraspinatus fluid was drained. 0.5 ml of Hanks' medium was added to the leukocyte sediment and mixed well, after which the leukocyte suspension was ready to start the reaction. To detect T lymphocytes, 50 µl of a cell suspension and 50 µl of a 0.5% eb suspension prepared in Hanks' medium were added to the wells of a round-bottomed plate. After centrifugation at 200 rpm for 5 minutes, it was placed in a refrigerator at 4°C for 1 hour. They were then fixed with a 1% solution of glutaraldehyde in isotonic monosodium chloride solution for 20 min, adding 50 µl of distilled water for 10 min to stop fixation. The glutaraldehyde solution was removed by vigorous shaking and the dye was added to the precipitate by S. I. Zadozhny and I. M. Dozmorov. The pellet was resuspended by pipetting twice, a crush slide was prepared using slides and coverslips, and microscoped under a conventional light microscope using a 40x objective. For 100 or more lymphocytes, the number of lymphocytes that included three or more erythrocytes was counted, and the percentage of E-rosette-forming, i.e., T-lymphocytes was calculated. Based on the number of leukocytes and the percentage of lymphocytes, the absolute number of T cells was 1 µl.

The number of β-lymphocytes circulating in the blood was determined by the complementary rosette formation method (Eak-rock). The method is based on the ability of human erythrocytes, sensitized with anti-erythrocyte serum (a), loaded with complement (C), to bind to the membrane of β-cells with complement receptors of the 0th blood group (1) and form rosettes. Determination of T-helpers, T-suppressors and natural killer cells. The relative composition of immunoregulatory subpopulations of T lymphocytes was determined using monoclonal antibodies CD4, CD8, CDK16 and CD95 produced by the Institute of Immunology of the Russian Ministry of Health. (Moscow). Human erythrocytes are sensitized in vitro with appropriate monoclonal antibodies using the rosette method with blood group 0 (1). After combining the lymphocyte suspension with sensitized human erythrocytes, incubation and fixation, determination of the percentage of rosette cells was performed under a simple light microscope, as for the detection of E-Rock.

The picture of peripheral blood in the main and control groups is presented in Table 1.

Indicators of peripheral blood composition in patients with BSCO (n=36)

Показатели	S.R.(n=20)	E(n=13)	O.M(n=3)
Hemoglobin , g/l	103,5+3,0	102,7+2,94	107,5+1,82
Platelets, x 10 ³	186,7+2,02	189,7+2,22	188,7+1,23
Erythrocyte, x 10 ¹² /л	3,9+0,19	3,9+0,15	3,8+0,23
Leukocyte, x 10 ⁹ /л	4,6+0,24	4,7+0,17	4,5+0,32
Lymphocytes, %	23,1+1,21	21,9+1,01	22,7+1,15
T/ kernels	7,0+0,3	6,5+0,4	6,8+0,8
S/ kernels	69,9+0,8	69,7+0,7	69,7+0,3
ESR, mm/sek	10,7+1,0	11,7+1,0	10,6+2,1

Note: * r<0.05 – statistically significant interval.

Table 2. Biochemical blood parameters in patients with BSKO (n=36)

Indicators	S.R-20	E-13	O.M-3
Total protein	64+1,3	62,3+1,8	65,2+2,3
Urea, m.mol/l	8,0+1,6	7,9+1,7	7,7+2,1
creatinine, m.mol/l	0,115+1,5	0,109+2,71	0,111+1,51
Alt, m.mol/l	0,66+2,56	0,66+2,57	0,66+1,45
Ast, m.mol/l	0,44+3,01	0,45+3,24	0,42+2,11

Note: * r<0.05 – statistically significant interval.

Conclusion: The results of the scientific study show that the optimal treatment for benign and leaf-shaped breast fibroadenoma is tumor enucleation.

In pseudosarcomatosis type II, the median postoperative recurrence-free period was significantly improved after the breast sector resection size of simple mastectomy depending on the surgical volume, and the recurrence-free period was correspondingly better.

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