

Tonkoglas A. A., Sykal N. A., Sykal I. N., Kolesnik V. P., Sivozhelezov A. V. The influence of testing algorithm for the tactics of surgical intervention in the breast cysts. *Journal of Education, Health and Sport*. 2016;6(11):680-684. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.212980> <http://ojs.ukw.edu.pl/index.php/johs/article/view/4089>

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 755 (23.12.2015).
755 *Journal of Education, Health and Sport* eISSN 2391-8306 7

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The authors declare that there is no conflict of interests regarding the publication of this paper.
Received: 02.11.2016. Revised 22.11.2016. Accepted: 30.11.2016.

THE INFLUENCE OF TESTING ALGORITHM FOR THE TACTICS OF SURGICAL INTERVENTION IN THE BREAST CYSTS

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Abstract

112 women investigation with cystic forms of mastopathyis performed. It is revealed, that ultrasonic investigations is a highly effective method of mastopathy diagnostics. Ultrasonic diagnostic criteria at suspicion on malignizationagainst the background fibrous-cystic mastopathyare established. The differential order is definedduring pathological conditions, the diagnostic algorithm is developed. Sensitivity of ultrasonic investigation at mastopathyhas made 90,0±2,6 %.

Keywords: cancer of breast, mastopathy, diagnostics, ultrasonography, mammography.

In recent years, we see an increasing number of patients with different diseases of breast.

The most frequent among them are different forms of fibrous-cystic mastopathy suffered by 20-60 % of women between the ages of 30-50. It is known that malignant breast disease is 3-5 times more likely in patients with previous benign breast disease and in 30 % of cases of central forms of mastopathy the phenomenon of proliferation is seen. [1].

According to many authors, malignant breast disease commences at an early age in patients [7]. Thus, it is revealed that 30% of women above 40 have some form of malignant breast disease with proliferation of epithelium. Many researchers consider that the greatest difficulty involved in the diagnostics of malignant breast disease occurs when fibrocystic changes are present. In women with such changes, the "masking" of pathological formations by other formations is possible [8, 9]. According to patient data, only 40 % of tumors are visible when X-ray mammography is used. A majority of researchers also state that the specificity of X-ray mammography in such situations is only 37,8 % [2, 6]. Thus, it becomes obvious that there is the need for more informative diagnostic methods that allow to visualize tumor formations together with the proliferative changes that are so commonly expressed in breast disease.

Purpose of this work: Understanding the scope of operation in patients with fibrocystic disease of breast glands with epithelial proliferation.

Material and methods

112 women from the ages of 30-64 (average age - $43,0 \pm 0,21$ years) with various forms of fibrocystic mastopathy (FCM) were involved in this research. The first group consisted of 45 women on whom radiological research of the breast glands had been conducted. The second consisted of 67 patients who had undergone ultrasound examination along with simultaneous cytologic research proving the presence of cysts. All patients were made to fill a clinical survey. Ultrasonic research was carried out from the 5-8th days of the menstrual cycle (at its regularity) on the device "RadmirUltima Pa" in real time with the bandwidth of the sensor set to a frequency 5-12 Mhz. X-ray mammography was carried out on a "Siemens" device in two projections. Puncture control for ultrasound was done for all nodules. Sensitivity and specificity of methods of diagnostics were estimated, their comparative analysis was carried out. The statistical processing of results was carried out with use of licensed software package "Statistica 6.0". The following was used for the comparison of qualitative signs and nonparametric criteria: Fisher's χ^2 exact criterion with the amendment of Jettsa for two groups; whilst for comparison of quantitative signs, the Mann-Whitney criterion with calculation of confidential intervals was used. Distinctions were considered statistically significant at level $p < 0,05$.

Results and discussion

Comparatively, we were able to study the sensitivities of X-Ray mammography and also sonography in revealing the hyperplasia of the epithelial lining of cysts. During X-ray mammography in the 112 surveyed women, nodules were found in 82 of them, that is, (73,0±3,8 %). Ultrasonic research, however, showed benign tumours are in 99 women (90,0±2,6 %), thus, making ultrasound 17% more sensitive than X-Ray mammography. Cyst sizes generally ranged from 10 to 35mm, and only in one case was a cyst as large as 120mm found. It is generally considered that in women not more than 40 years old, glandular tissue prevails in the mammary glands, therefore, the preferable and more sensitive method of diagnostics of such patients of the given age is the ultrasonic method. However, after the age of 40, fatty involution begins in the mammary glands and, thus, the X-ray method of diagnostics becomes more preferable. The analysis of sensitivities of both methods in revealing benign tumours in various age groups has shown that in women from the ages of 30-40, the sensitivities of the ultrasonic method and X-ray mammography statistically significantly differ from each other and are about 91±2,8 % and 69±4,6 % accordingly ($p=0,05$). In patients of 40-50 years sensitivities of both methods essentially did not differ. In view of this, in above age group, for diagnostics of pathological changes in mammary tissue the use of either mammography or ultrasonic research is equally justified. Women from the ages of 50-62 also took part in the study. However, their number ($n=6$), from the point of view of demonstrative medicine, was insufficient for any form of conclusion and further data set is required. For all patients with cysts of breast gland, a diagnostic puncture was carried out, with subsequent cytologic research carried out on the punctate. Atypical cells were not observed in any case. In 5 % of cases where large cysts were found, sectoral resection of the breast gland had been carried out.

The conclusion

There is not much literature concerning the semiotics and diagnostic algorithms of cancer of the breast glands and other forms of mastopathy. Even where there is data, inconsistencies are seen. As seen during our researches, expressed background pathology of breast glands do not only considerably complicate the visualization of pathological processes and their interpretation, but also creates additional difficulties in getting tissue for morphological research, and further, may also make it difficult to determine the scope of surgical intervention (atypical resection, a sectoral resection of a mammary gland, husking of cysts). The ultrasonic method of research is highly

effective in diagnostics of cancer of the breast gland that developed from epithelial lining of cysts, and possesses high sensitivity and specificity. In our opinion, in all cases after the initial X-ray mammography where total consolidation of breast gland is marked or scope of nodules come to light, it is necessary to conduct ultrasonic research as a mandatory next step. This method (that is, ultrasound research) allows us to carry out layer-by-layer scanning of tissue in order to differentiate between cysts and nodular formations by revealing the syndrome of an internal echo. It is very necessary to consider as an important stage in early diagnostics of cancer of the breast gland. In cases when it is not possible to receive contents of cysts for morphological research and also where there is not sufficient sensitivity of beam methods, for differentiation between cysts and cancer of the breast glands, it is expedient to involve a wider use of techniques of radiological intervention with subsequent morphological research. This allows to define authentically the scope of surgical intervention, to minimize invasion and to reduce long duration of treatment.

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