

# Mastopathy Myths and Reality. Good choice for Farm Industry?

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Received: 2018-09-05

Accepted: 2018-10-09

UDC: 616.1

*J Clin Med Kaz* 2018;3(49):28-31

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## Abstract

This article is devoted to the problem of mastopathy in the post-Soviet space. Analysis of clinical observation, literature data shows a different approach in describing this condition, methods of diagnosis and treatment. Often, a purposeful motivational assignment of certain groups of drugs from biologically active food supplements, iodine preparations to the administration of antiestrogens, etc. is often used to correct this condition. This problem requires a careful approach to etymology, diagnosis and principles of conducting similar processes.

**Key words:** mastopathy, breast, antiestrogens, BIRADS system, breast cancer

## МАСТОПАТИЯ АҢЫЗ БЕН ШЫНДЫҚ. ФАРМ ИНДУСТРИЯ ҮШІН СӘТТІ ТАҢДАУ МА?

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### ТҰЖЫРЫМДАМА

Бұл мақала посткеңестік елдердегі мастопатия мәселесіне арналған. Клиникалық бақылау мен әдебиеттерге жасалған шолу барысында мастопатияға берілген сипаттама, диагностика және емдеу тәсілдерінің сан қилы екенін көрсетті. Көп жағдайда бұл патологияны емдеу мақсатында белгілі бір топтағы дәрілер мен биологиялық белсенді қоспалар сияқты тағы басқа әдістерді бағытты мотивациялық тағайындау жасалынады. Бұл айтылған мәселе аурудың этимологиясы мен диагностикасына, емдеу принциптеріне тиянақты қарауды қажет етеді.

**Негізгі сөздер:** мастопатия, маммология, антиэстрогендер, BIRADS жүйесі, сүт безі ісігі

## МАСТОПАТИЯ МИФЫ И РЕАЛЬНОСТЬ. УДАЧНЫЙ ВЫБОР ДЛЯ ФАРМ ИНДУСТРИИ?

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### РЕЗЮМЕ

Статья посвящена проблеме мастопатии на постсоветском пространстве. Анализ клинического наблюдения, литературных данных показывает о различном подходе в описании данного состояния, методах диагностики и лечения. Часто для коррекции данного состояния идет целенаправленное мотивационное назначение определенных групп препаратов от биологически активных добавок к пище, препаратов йода до назначения антиэстрогенов и др. Данная проблема требует тщательного подхода к этимологии, диагностике и принципам ведения подобных процессов.

**Ключевые слова:** мастопатия, маммология, антиэстрогены, BIRADS система, рак молочной железы

## Introduction

Mastopathy is the most frequent medical report of doctors in the post-Soviet space and represents one of the most actively mentioned diseases in the Internet and social networks, which allegedly leads to breast cancer.

Such a trend direction, which is doubtful and difficult to call a disease, could not help attracting the pharmaceutical industry from transnational farm giants to artisanal producers of biologically active food supplements.

## Terminology and definitions

According to the definition published by the World Health Organization (WHO) from 1984, mastopathy - is fibrocystic disease (FCD) of the breast, characterized by the imbalance between the growths of epithelial and connective tissues with high proliferative and regressive changes of the breast tissue.

Mastopathy in the International Classification of Diseases 10 revision denoted as benign breast dysplasia (N60) is enabled: fibrocystic mastopathy, N60.0 Solitary cyst breast, breast cyst, N60.1 Diffuse cystic breast disease, cystic breast, N60.2 Fibroadenoz breast, N60.3 Fibrosclerosis of the breast, Cystic mastopathy with epithelial proliferation.

This formulation of WHO's mastopathy is amorphous. ICD (International Classification of Diseases) 10 also shows a wide range of disease cipher from solitary cysts to fibroadenosis.

## Epidemiology

The frequency of mastopathy according to different authors varies in the range from 20% to 90%. [1-4]. We have taken the extreme statistical figures that we met in the literature. That is, just as in the ICD 10, the scatter of opinions of various researchers large from solitary cysts to multiple cysts is considered to be this disease.

In Russia, for the diagnosis of non-cancerous diseases of the MF, a clinico-radiological classification of mastopathy, developed by N.I. Rozhkova, according to which 5 forms of diffuse mastopathy are distinguished:

- with a predominance;
- glandular component;
- fibrous component;
- cystic component;
- a mixed form of diffuse fibrocystic mastopathy.

## Sclerosing adenosis

Our country is not an exception and many specialists use a clinical and radiological classification developed by Russian specialists and even share mastopathy in degrees?! In the absence of clear criteria for a radiological report.

Let's try to understand: firstly, it is very difficult or practically impossible to determine the presence of cysts radiographically, if they are certainly not large. Only under ultrasound examination can determine reliably the belonging of tissue or fluid formation in the breast. Affiliation to the fibrous (connective tissue structure) or glandular, X-ray or ultrasound control cannot be reliably determined. For such situations, the term "dense mammary gland" exists in radiological diagnostics. For which criteria for diagnosis and observation have been developed.

Secondly, the degree of mastopathy is as complex and controversial issue that leaves the right to choose a degree for the clinician or physician for instrumental diagnostics.

Radiological examination among diagnostic methods of breast examination occupies a key place. In the United States and Europe, the diagnosis is issued in accordance with the

BI-RADS classification criteria developed by the American College of Radiologists in conjunction with other specialists to standardize the findings, the uniformity of interpretation of mammograms and the facilitation of external audit that is currently time is also used for ultrasound and other radiological methods of investigation.

BI-RADS 0 - additional visualization methods are needed.

BI-RADS 1 - negative: mammary glands are symmetrical, without foci and formations, without violation of architectonics and without calcifications.

BI-RADS 2 - good quality education.

BI-RADS 3 - is probably benign and involves a short period of follow-up.

BI-RADS 4 - suspicion of a malignant process.

BI-RADS 5 - highly suspicious for malignancy with a probability of > 95%.

BI-RADS 6 - is a histologically verified malignant entity.

Interpretation of the classification of BI-RADS in 2013 is supplemented and released by the second version for ultrasound. [5-9].

## Symptoms

A wide variety of symptoms for mastopathy indicates the absence of pathognomonic signs for this disease.

In women with fibrocystic changes, permanent or periodic pain in the glands can be observed, periodic swelling in front of the menstrual cycle, pain localizing in the nipples, the gland itself, the heart area, the axillary region with irradiation into the upper limbs and scapula, skin itching. Such symptoms can be attributed to a variety of other diseases. Pain in patients who are diagnosed with mastopathy is often associated with musculoskeletal changes in the chest. In postmenopausal women who do not receive hormonal support, and who have a confirmed diagnosis of spondylosis or osteoarthritis, the skeletal muscular genesis of pain is more likely than the true pain in the mammary glands. [10].

An interesting study leads the Center for Manual Therapy of the Kaluga Region, Obninsk, Russia. More than half of the participants in the study were unsuccessfully treated for fibrocystic mastopathy. The duration of the disease was in women of the main group from several months to 15-20 years. Manual diagnostics performed in all women revealed the presence of functional biomechanical disorders at the level of cervical, thoracic and lumbosacral spine in the form of functional blockades (FB), local hypermobility, non-optimal motor stereotype, etc. [11].

When clinically examined, doctors often point to the graininess of the tissue, pain in the palpation of the breast, and the presence of nodal seals. The data of palpation research are attributed to the tactile sensations of the researcher and do not give a clear idea of the very structure of the breast. Since the anatomically breast and can normally look palpable in the same way.

## Pathophysiology

The exact mechanism of this condition is not fully understood, although it is known to be associated with hormone levels, since the condition usually subside after menopause and is associated with the menstrual cycle. Women in menopause who have been prescribed hormone replacement therapy (HRT) also report symptoms of mastalgia and discomfort in the breast.

Fibrocystic breast changes are a cumulative process caused by a partially normal hormonal change during a woman's monthly cycle. The most important of these hormones are

estrogen, progesterone and prolactin.

These hormones directly affect the gland tissue, participating in the growth and division of cells [12].

Many other hormones, such as TSH, insulin, growth hormone and growth factors such as TRP beta-1 (transforming growth factor beta-1) have a direct and indirect effect, enhancing or regulating cell growth. As a result of such frequent hormonal fluctuations, eventually lead to the formation of small cysts and / or areas of dense or fibrous tissue.

Cysts of small size and an increasing level of discomfort and pain in the breast usually develop in women mainly after 30 years.

## Pathomorphology

Histologically, there are no clear parameters for describing a given condition or diagnosis - it is a variable combination of some major proliferative and regressive lesions caused by hormonal factors affecting both the epithelium and the connective tissue, and in the 1980s, Hughes introduced the concept of ANDI (Aberrations of normal development and involution) [13].

## Diagnostics

Diagnosis includes the collection of complaints, anamnesis, and physical examination data. The arsenal of diagnostic activities includes ultrasound, mammography, MRI with contrast and other methods of research. The diagnosis is established based on the BIRADS conclusion. When cysts are found, many specialists in the post-Soviet space aspirate the contents of the cysts. In Western countries, the puncture of simple cysts is very rarely used in practice. Because they are guided by the BIRADS system. Biopsy or fine needle aspiration rarely gives a clear idea of the nature of the process [14]. Often cysts after puncture and aspiration of the contents increase in size and the risk of infection even under sterile conditions is high.

## Treatment

Most women with fibrocystic changes without symptoms do not need treatment, follow-up is recommended. [15]. Treatment of this condition / disease is empirical, as there are no clear criteria for monitoring, classification, histological interpretations. In the world literature, a large number of treatment approaches are often provided with a controversial effect. In general, the data of the research results pursue the purposeful motivational assignment of certain groups of drugs from dietary supplements, diets, iodine preparations, to hormone replacement therapy and antioestrogens, while warning of special control of this condition when prescribing drugs [16-20]. There are also a large number of unspoken recommendations of specialists that prohibit thermal and physiotherapy, massage, insolation without clinically proven data.

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## The risk of developing breast cancer

There are a lot of articles in the literature about the risk of developing breast cancer if there is a history of fibrocystic mastopathy. But there are no reliable results to date. The article New England Journal of Medicine [21] describes that for women with a family history of breast cancer, the risk of developing breast cancer in the future approximately doubles, regardless of histological status. Also, the relative risk of developing breast cancer persisted for at least 25 years after biopsy. Women without family history and non-proliferative results were not found to have an increased risk.

## Key concepts:

1. In the world the diagnosis of mastopathy is exhibited in any disputable and incomprehensible situations, as well as intestinal colic in surgery and neurocirculatory dystonia in therapists. Definition of the diagnosis Mastopathy from WHO 1984 is amorphous.
2. In the International Classification of Diseases 10 revision, this condition also has a wide choice of the cipher of the disease from benign dysplasia to cystic changes.
3. Pain in the mammary gland is not a manifestation of mastopathy, this symptom is mastalgia and the cause is intercostal neuralgia and spine problems.
4. Histologically diagnose mastopathy, is a controversial process, since there are no clearly described standards for histologists, and experts freely interpret the histological material.
5. To date, no specific risk factor for this disease has been identified, since mastopathy is a multifactorial disease associated with both genetic factors and environmental factors. Accordingly, mastopathy as a precancerous state is also unreasonable.
6. It is incorrect to expose X-ray fibro-cystic mastopathy. Since this conclusion should be confirmed histologically. And the interpretation of radiological conclusions should correspond to the BIRADS system.

## Conclusions

Today in the world there is a process of transition from medicine "impressionistic", based on the opinion and impressions of specialists, to "evidence-based medicine". In view of the lack of evidence base, blurring of the definition of this state / disease makes it possible to freely interpret both diagnostic conclusions and therapeutic tactics. In this situation, the medical report "mastopathy" creates a lot of questions both of diagnostic tactics of conducting, and legal justifications of prescriptions, which creates prerequisites for pseudopharm treatment of this condition. This problem requires a careful approach to the etymology, diagnosis and treatment of such processes.

**Disclosures:** There is no conflict of interest for all authors.

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**How to cite this article:** Gulbarshin Darisheva, Bolat Saktashev, Aigul Brimova. Mastopathy Myths and Reality. Good choice for Farm Industry? *J Clin Med Kaz*. 2018; 3(49):28-31