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MODERN ASPECTS OF DIAGNOSIS AND TREATMENT OF LACTATION MASTITIS

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Abstract. Lactation mastitis remains one of the most common inflammatory pathologies of the postpartum period, significantly affecting the mother's health and the duration of breastfeeding. Despite the development of modern diagnostic and treatment methods, the frequency of mastitis among breastfeeding women remains high - from 5 to 12%, and in some regions reaches 20%. This work presents clinical observations of 630 patients with various forms of lactation mastitis, analyzes risk factors, the timing of the inflammatory process, clinical features, and treatment outcomes. Special attention is paid to modern diagnostic criteria, including the role of ultrasound in the early detection of abscessing forms. Modern approaches to therapy according to international recommendations (ABM Clinical Protocol#36, ACOG, CDC, RCOG) are summarized, emphasizing the need to preserve breastfeeding and apply minimally invasive treatment methods. The analysis confirmed the key role of early application to the chest, prevention of nipple injuries, and correction of anemia in reducing the frequency of mastitis.

Keywords: lactational mastitis, postpartum period, purulent mastitis, breast abscess, breastfeeding, ultrasound diagnostics, inflammation, MRSA, antibiotic therapy, postpartum complications.

Lactation mastitis remains one of the most significant problems of the postpartum period and continues to be a leading cause of morbidity in breastfeeding women. According to current literature (WHO, ABM, ACOG, 2021–2024), the incidence of mastitis averages 5–12%, but in countries with limited access to skilled postpartum care, the rate reaches 15–20%. Mastitis causes severe pain, disrupts lactation, deteriorates the woman's quality of life, and often leads to premature cessation of breastfeeding, which negatively impacts the health of the child. In recent years, there has been a trend toward an increase in complicated forms of mastitis, including abscesses, cellulitis, and septic conditions. This is due to several factors: late presentation to medical care, an increase in the number of operative deliveries, a high prevalence of anemia in pregnant women, stress, poor feeding techniques, and a lack of proper postnatal care.

Nipple trauma plays a significant role in the pathogenesis of mastitis. Cracks serve as entry points for infection, most commonly caused by Staphylococcus aureus and Streptococcus spp. In recent years, there has been an increase in cases caused by methicillin-resistant Staphylococcus aureus (MRSA), complicating the selection of antibacterial therapy.

Recent literature has highlighted that up to 60-90% of women in the early postpartum period exhibit signs of anemia, which reduces the body's immune response and increases the risk of inflammatory complications. Combined with fatigue, stress, the inconvenience of caring for a newborn, and disrupted sleep patterns, this creates favorable conditions for the development of mastitis.

Ultrasound diagnostics is particularly important in modern clinical practice, having become the "gold standard" for assessing mastitis. Ultrasound not only confirms the diagnosis but also differentiates between infiltrative and abscessing forms, determines the size and location of

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purulent cavities, monitors the treatment process, and performs punctures under visual control. This has significantly reduced the number of surgical interventions and accelerated patient recovery.

Current clinical guidelines emphasize that stopping breastfeeding during mastitis is an erroneous approach and contributes to worsening the condition. On the contrary, regular breast drainage is an important part of treatment. Antibacterial therapy is prescribed based on the prevalence of MRSA, and the use of minimally invasive techniques (ultrasound-guided puncture) for abscesses allows for high results without hospitalization.

Thus, the relevance of the problem of lactational mastitis is due to: the high prevalence of the disease, frequent complications and an increase in the number of abscesses, an increase in the frequency of MRSA infections, the lack of adequate postnatal support for lactating women, the significant impact of mastitis on the cessation of breastfeeding, and the need to implement modern standards of diagnosis and treatment.

All this determines the need for further improvement of approaches to early diagnosis, prevention and treatment of mastitis, which served as the basis for this work.

Purpose of the study. To determine the clinical and diagnostic features of lactational mastitis and identify risk factors for its development.

Materials and methods of research. The study is based on an analysis of clinical observations of 630 women with lactational mastitis who were followed up in the postpartum period. The patients' ages ranged primarily from under 30 years. Of the total number of women examined, 427 (67.7%) were primiparous, and 203 (32.3%) were multiparous. Most patients were admitted to the clinic within the first 10 days after delivery, which corresponds to the most vulnerable period for the development of inflammatory breast diseases.

A retrospective-prospective, cross-sectional clinical and instrumental study was conducted, including an analysis of complaints, anamnesis, clinical picture, laboratory parameters, and ultrasound diagnostic data. Patients were distributed according to the forms of mastitis according to the clinical classification: serous mastitis - 264 (41.7%), infiltrative mastitis - 301 (47.5%), abscessing (purulent) mastitis - 35 (5.5%), phlegmonous mastitis - 12 (1.9%).

This stratification allowed for a detailed assessment of the characteristics of the disease, the frequency of complications, and the effectiveness of various treatment methods.

The inclusion criteria were: women in the postpartum period aged 18–40 years, clinical signs of mastitis (pain, infiltration, hyperemia, fever), the presence of lactation, the possibility of performing an ultrasound examination of the mammary gland.

Exclusion criteria: non-oncological diseases of the mammary gland that mimic inflammation (eg, inflammatory cancer), autoimmune systemic diseases, the presence of concomitant purulent-septic processes in other locations.

All patients underwent a standard clinical and physical assessment, including: examination and palpation of the mammary glands, assessment of local pain, hyperemia, and infiltration, temperature measurement, assessment of nipple condition (cracks, maceration), and determination of the quality and volume of breastfeeding. The timing of the first breastfeeding was documented and considered an important predisposing factor.

The mandatory workup included a complete blood count (leukocyte count, ESR, neutrophil intoxication index), C-reactive protein (CRP) level, and procalcitonin in severe cases. In the presence of purulent discharge, a microbiological study with antibiotic susceptibility testing was performed. According to current protocols, special attention was paid to identifying Staphylococcus aureus, including MRSA strains, and group A and B streptococci. Ultrasound was performed on all patients to assess parenchymal structure, the presence of infiltrative

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changes, determine the size and location of fluid formations, evaluate vascularization using color Doppler imaging, and monitor puncture procedures.

The diagnosis of an abscess was established by the presence of a hypoechoic cavity with a capsule, heterogeneous contents and signs of hyperemia at the periphery.

In patients with suspected purulent mastitis, purulent discharge was collected with a sterile swab and cultured on nutrient media. Particular attention was paid to identifying antibiotic-resistant forms of staphylococci.

Research results. An analysis of 630 cases of lactational mastitis yielded the following clinical, epidemiological, and diagnostic data, reflecting the structure, risk factors, timing of disease onset, and complication rate. Mastitis developed primarily in the early postpartum period: within the first 7 days after birth in 268 patients (65.5%), within the first 2–3 days in 104 women (24.6%), on days 4–7 in 96 women (16%), and after 10 days in 58 patients (9.6%).

Thus, the peak incidence occurred in the first week of lactation, which coincides with the maximum load on the mammary gland and a high risk of developing galactostasis and cracked nipples.

Based on the analysis of the anamnesis and clinical data, the following predisposing factors were identified (Table 1).

Table 1.

Main risk factors in women with mastitis

Risk factor	Frequency	Percent
Anemia of varying degrees	571	90.6%
Cracked nipples	386	61.3%
Late attachment (≥3 days)	401	63.7%
Complicated childbirth/operations	110	17.5%
Toxicosis of pregnancy	204	32.4%

Note: % calculated from the total number of surveyed

The late start of breastfeeding deserves special attention: among all patients, only 62 (9.9%) put the newborn to breastfeeding on the first day, while the overwhelming majority (50%) put the baby to breastfeeding for the first time on the 3rd day or later.

Most women showed an increase in inflammatory markers: leukocytosis - in 414 patients (65.7%), including 26 cases of severe leukocytosis (>18×10⁹/l); busy neutrophil count shift - in 68.9%; increased C-reactive protein - in 78.3%; varying degrees of anemia - in 90.6%. Bacteriological examination of purulent discharge was performed in patients with suspected abscessing process. Staphylococcus aureus was predominant, less frequently isolated were: Streptococcus pyogenes, Streptococcus agalactiae, and mixed microflora. Signs of antibiotic resistance were detected in some patients. During ultrasound examination of the mammary glands, a diffuse infiltrate without a capsule was detected in 516 (82.0%) women, hypoechoic areas with heterogeneous contents were detected in 214 (34.0%), a developing abscess (up to 1.5 cm) - in 74 (11.8%) patients, a formed abscess larger than 2 cm - in 35 (5.5%), and increased blood flow along the periphery of the inflammatory focus was noted in 428 (68.0%) patients. Ultrasound examination made it possible to accurately determine the localization of purulent cavities and guide the puncture in minimally invasive conditions.

It was established that postoperative, complicated, and prolonged forms of mastitis were more common in women with severe anemia, late onset of lactation, deep nipple fissures,

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hypogalactia, and urogenital tract infections during pregnancy. In patients who had undergone prolonged intrapartum and postpartum procedures, mastitis was more severe, accompanied by more pronounced intoxication, and often led to the formation of abscesses.

Discussion of results. The obtained results confirm that lactational mastitis remains one of the most common and clinically significant pathologies of the early postpartum period. An analysis of observations revealed that the peak incidence of the disease occurs in the first 7-10 days after birth, which coincides with the period of lactation establishment and maximum functional load on the mammary gland. These data are consistent with international studies, according to which the majority of cases of mastitis are recorded in the early postpartum period, primarily due to galactostasis and poor feeding technique. It has been established that late lactation initiation significantly increases the risk of mastitis due to the development of congestion, impaired mammary drainage, and an increased likelihood of nipple microtrauma. Current ABM and WHO recommendations emphasize the need to latch the baby to the breast within the first hour after birth, which reduces the risk of mastitis by almost half.

The high prevalence of anemia (90.6%) indicates a significant role for hematopoietic disorders in the development of inflammatory processes. Iron deficiency reduces the body's immune reactivity and impairs tissue regeneration, which predisposes not only to mastitis but also to the development of purulent complications. Anemia as a component of pathogenesis is also confirmed by data from international studies, indicating its impact on the severity of infectious and inflammatory diseases in the postpartum period. Nipple condition is particularly important. Areolar fissures, detected in 61.3% of women, are a direct entry point for infection. International protocols (ACOG 2022, ABM Protocol #36) emphasize that nipple trauma increases the risk of mastitis by 2.5-3 times, and timely correction of breastfeeding position and prevention of fissures are key components of mastitis prevention.

Ultrasound diagnostics have proven highly informative. Nearly one in three patients showed sonographic signs of an incipient or established abscess, and 11.8% had fluid-filled cavities up to 1.5 cm, requiring active treatment. Ultrasound data allowed us to differentiate infiltrative from abscessing forms, determine the location of the pathological lesion, and monitor the effectiveness of therapy. This confirms the leading role of ultrasound as the "gold standard" for diagnosing mastitis, recommended by all modern guidelines.

An interesting feature is the relatively high frequency of infiltrative forms (47.5%), indicating that women seek medical care late. Half of the patients presented to the clinic after several days of self-treatment attempts, which is consistent with trends described in the international literature: patients often underestimate the severity of mastitis, leading to the progression of the inflammatory process.

The obtained microbiological data confirm the dominant role of Staphylococcus aureus in the etiology of mastitis, which is consistent with global data. The presence of antibiotic-resistant strains (including MRSA) emphasizes the importance of rational antibacterial therapy and the need to tailor it to the regional microbial profile. Treatment results demonstrated that timely antibacterial therapy, corrected breastfeeding technique, and regular, effective breast drainage result in improvement in most patients with serous and infiltrative mastitis. In patients with abscess-forming mastitis, the use of ultrasound-guided punctures ensures a favorable outcome and reduces the need for surgical drainage of the abscess.

Thus, the study results confirm that lactational mastitis is a multifactorial disease, in whose pathogenesis a key role is played by impaired lactation establishment, nipple trauma, anemia, and delayed medical attention. Modern diagnostic methods, primarily ultrasound, enable early detection of complications and selection of optimal treatment strategies, significantly reducing

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the incidence of purulent forms of the disease. Adherence to current clinical guidelines, including maintaining breastfeeding, adequate breast drainage, and appropriate antibacterial therapy, ensures highly effective treatment and prevents complications.

Conclusions. Lactation mastitis develops primarily in the early postpartum period, particularly in the first 7-10 days, due to high functional load on the mammary gland, insufficient emptying, and disrupted lactation. In the study, mastitis developed within the first 7 days in 65.5% of women. Key risk factors for mastitis include anemia, delayed breastfeeding, and nipple trauma. Varying degrees of anemia were detected in 90.6% of women, and cracked nipples were found in 61.3% of patients. These factors significantly increase the likelihood of infiltrative and purulent forms of the disease.

Infiltrative mastitis is the most common, occurring in 47.5% of patients, with abscess formation occurring in 5.5%. The results indicate a high rate of late presentation, leading to inflammation progression and an increased incidence of complicated cases. Breast ultrasound is a key diagnostic method, allowing for the reliable determination of the presence of infiltrates, the degree of inflammation, and abscess formation. Ultrasound confirmed the presence of fluid-filled masses in 11.8% of women and formed abscesses in 5.5%, thereby ensuring an accurate diagnosis and the selection of optimal treatment strategies.

A comprehensive treatment approach, including breastfeeding modification, regular breast emptying, early initiation of antibiotic therapy, and the use of ultrasound-guided minimally invasive interventions, ensures a high rate of positive outcomes and avoids surgical drainage of the abscess in most cases. Timely diagnosis and adherence to current recommendations from the American Breast Association (ABM), ACOG, WHO, and RCOG significantly reduce the risk of mastitis developing into an abscess, improve the duration of breastfeeding, and decrease the incidence of postpartum complications.

REFERENCES |

1. Academy of Breastfeeding Medicine Protocol Committee. ABM Clinical Protocol #36: The Mastitis Spectrum. Breastfeeding Medicine. 2022;17(8):595–613.
2. World Health Organization. Infant and young child feeding: Model Chapter for textbooks. WHO Press; Geneva, 2021.
3. Amir LH Managing common breastfeeding problems in the community. BMJ. 2022;376:e065801. doi:10.1136/bmj-2021-065801.
4. Dixon JM Breast infection. BMJ. 2021;372:n218. doi:10.1136/bmj.n218.
5. Spencer JP Management of mastitis in breastfeeding women. American Family Physician. 2020;102(8):472–478.
6. Foxman B., D'Arcy H., Gillespie B., Bobo JK, Schwartz K. Lactation mastitis: occurrence and medical management among 946 breastfeeding women in the USA. Obstet Gynecol. 2020;135(1):132–141.
7. Mitchell KB, Johnson HM Ultrasound evaluation and management of lactational mastitis and breast abscess. Journal of Ultrasound in Medicine. 2023;42(5):1041–1052.
8. Kvist LJ Toward prevention of mastitis: an intervention study in breastfeeding women. Neonatal Network. 2021;40(3):142–150.
9. Lawrence RA, Lawrence RM Breastfeeding: A Guide for the Medical Profession. 9th ed. Elsevier; 2022. 1120 p.
10. ACOG Committee Opinion No. 820. Breastfeeding Challenges. Obstetrics & Gynecology. 2021;137(2):e42–e53.
11. Royal College of Obstetricians and Gynecologists (RCOG). Postnatal Care Guidelines. London; 2021.

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INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 6. No 02. February ,2026

12. Walker M. Breastfeeding Management for the Clinician: Using the Evidence. 5th ed. Jones & Bartlett Learning; 2020.
13. Cullinane M., Amir LH, Donath SM Resistance patterns of Staphylococcus aureus isolates in lactational mastitis. Breastfeeding Medicine. 2023;18(2):128–135.
14. Ngo M., Cho E., Moon W. Breast abscess: Clinical manifestations, diagnosis, and treatment. Ultrasonography. 2022;41(1):42–56.
15. WHO. Anemia in women and children: global report 2023. Geneva: World Health Organization; 2023.