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MASTITIS IN LACTATING PATIENTS- A LITERATURE REVIEW

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ABSTRACT

Abstract: Mastitis is a common and significant complication affecting breastfeeding women worldwide. It can substantially impact maternal health and infant feeding, frequently resulting in premature cessation of breastfeeding. If inadequately managed, mastitis can progress to more severe outcomes such as breast abscess, recurrent infection, or in rare cases, be mistaken for inflammatory breast cancer. Due to prevalence of the condition, potential complications and the need for effective treatment, mastitis still poses a big challenge for clinical practitioners.
Aim of the study: This review aims to summarize current knowledge on the etiology, clinical presentation and management of symptoms, which includes both pharmacological and nonpharmacological treatment of the condition.
Materials and Methods: A literature review was conducted focusing on the epidemiology, risk factors, clinical presentation, prevention and management strategies of mastitis in lactating women.
Results and conclusions: Mastitis in lactating women varies widely- ranging from around 3% to over 30% due to differences in diagnostic criteria, duration of follow-up, and type of population. It is characterized by breast pain, swelling, erythema, and can often be accompanied by systemic flu-like symptoms such as fever and malaise. Optimal management hinges on early recognition, combined with non-pharmacological strategies such as maintaining direct breastfeeding, correcting latch issues, providing adequate rest and hydration, completed by a pharmacological treatment that includes: use of non-steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen and in confirmed or persistent bacterial cases- a targeted use of antibiotics.

KEYWORDS

Mastitis, Lactating Women, Breastfeeding, Treatment

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1. Introduction

Mastitis is a frequent and in some cases severe inflammatory condition occurring in lactating women, generally manifesting within the first several weeks postpartum but is possible at any time during lactation. It impairs maternal well-being and is a leading cause of premature cessation of breastfeeding, with an estimated 10–20% of breastfeeding women affected, although reported incidences vary based on population and diagnostic criteria [1-3]. While the majority of cases resolve with conservative and timely management, mastitis can, if unrecognized or undertreated, progress to abscess, systemic infection, or permanent disruption of lactation [4-5].

2. Predisposing Factors

Predisposing factors for mastitis encompass a range of biological, mechanical, microbial, social and psychological contributors.

2.1. Biological and mechanical factors

Mechanical and biological factors play a pivotal role in predisposing breastfeeding women to mastitis. Mechanically, milk stasis is a primary contributor and commonly results from poor infant latch, infrequent or missed feeds, sudden weaning, or blockage of milk ducts, all of which hinder effective milk drainage and promote local inflammation [4; 6]. Nipple trauma, such as cracked or injured nipples, further increases vulnerability by providing a portal of entry for pathogenic bacteria [6-7]. Biologically, a prior history of mastitis or breast abscess is associated with a significantly heightened risk of recurrence, likely due to persistent anatomical or microbial vulnerabilities [1]. Primiparity is also recognized as a risk factor, with first-time mothers more frequently experiencing difficulties in technique or milk removal [8]. While the use of breast pumps has been debated, contemporary evidence suggests that proper use aids in milk stasis prevention, whereas excessive or improper use may contribute to tissue injury and subsequent mastitis [9]. Together, these mechanical and biological determinants underscore the importance of effective breastfeeding techniques and vigilant maternal care to mitigate the risk of mastitis.

2.2. Microbial factors

Microbial factors play a significant role in the development of mastitis, with the condition commonly involving bacterial infection, particularly with *Staphylococcus aureus*, including an increasing prevalence of community-acquired methicillin-resistant *Staphylococcus aureus* (MRSA) strains [10-12]. In certain cases, mastitis may result from mixed or polymicrobial infections, with streptococci, enterococci, or Gram-negative species also implicated in the pathogenesis [10].

2.3. Social and psychological factors

Social and psychological factors further contribute to the risk of mastitis. Maternal stress and depression have been independently associated with an increased susceptibility to mastitis [13]. Inadequate breastfeeding support or insufficient knowledge regarding breastfeeding techniques can also predispose women to developing mastitis [14-15]. Additionally, socioeconomic disadvantage and limited access to maternity leave may promote suboptimal breastfeeding practices, thereby heightening the risk of mastitis in affected populations [1].

3. Symptoms and Diagnosis

The characteristic sign of mastitis is the abrupt onset of localized, painful inflammation of the breast. Common symptoms include a wedge-shaped area of redness, warmth, swelling, and tenderness- often accompanied by systemic signs such as fever (>38.5°C), myalgias, chills, malaise, and occasionally rigors or flu-like symptoms [5; 16-18]. Milk flow may be reduced from the affected area, and, in severe cases, pus may be evident in expressed milk [17].

Diagnosis is largely clinical, based on maternal symptoms and physical examination. Routine bacterial culture of breast milk is not generally warranted but may be useful in atypical, severe, or antibiotic-refractory cases or in high-prevalence areas for MRSA [11-12; 19]. Ultrasound can aid in differentiating mastitis from abscess when a fluctuant mass or non-resolving symptoms are present [20-21].

4. Management and treatment

The management and treatment of mastitis require a multifaceted approach incorporating both non-pharmacological and pharmacological strategies.

4.1. Non-pharmacological measures

Continued breastfeeding or regular removal of milk from the affected breast is fundamental; frequent and effective drainage remains the cornerstone of therapy, as cessation of breastfeeding increases the risk of milk stasis and worsened clinical outcomes [4; 5; 16; 19].

Optimizing breastfeeding technique is equally important, involving the correction of latch issues, avoidance of scheduled feeds, thorough emptying of each breast, and prompt resolution of any positioning problems [4; 20].

Supportive measures such as maternal rest, adequate hydration, and optimal nutrition are essential to foster recovery [4; 22].

For local discomfort and engorgement, warm compresses applied prior to feeding and cool packs used afterward can provide symptomatic relief [16; 18].

Referral to a lactation consultant is advised when breastfeeding difficulties persist despite initial interventions [19].

4.2. Pharmacological management

Pharmacological management is warranted if symptoms persist beyond 12 to 24 hours or if systemic and severe manifestations are present. Empiric antibiotic therapy should target *Staphylococcus aureus*, with consideration of methicillin-resistant strains (MRSA) in relevant settings [10; 11; 18; 16; 19].

Pain and inflammatory symptoms are best addressed with nonsteroidal anti-inflammatory drugs such as ibuprofen [4; 16].

If a breast abscess is established, prompt drainage- either via ultrasound, guided aspiration or surgery is necessary for effective source control [20; 21; 23].

In addition, emerging evidence supports the use of specific probiotic strains, such as *Lactobacillus salivarius PS2*, for the prevention of mastitis in high-risk women, though these are not currently recommended as primary treatment options [14; 24].

5. Possible Complications

Mastitis can give rise to a number of potential complications if not promptly and properly managed. One of the most significant complications is the development of a breast abscess, which typically presents as a fluctuant and tender mass, often accompanied by persistent systemic symptoms. Definitive management of breast abscess requires drainage, either by needle aspiration or surgical intervention, in conjunction with appropriate antibiotic therapy; notably, breastfeeding can often be safely continued on the unaffected or better-drained breast during treatment [4; 20-21; 23].

Should underlying risk factors or precipitating issues remain unresolved, patients may experience recurrent or chronic mastitis, further complicating breastfeeding outcomes. Additionally, mastitis is a leading cause of premature breastfeeding cessation, a consequence linked to both adverse infant health outcomes and negative effects on maternal mental well-being [2; 5]. In rare instances, especially if the infection is left unaddressed or occurs in immunocompromised individuals, mastitis may progress to systemic complications such as sepsis, which carries significant morbidity and requires urgent intervention [25].

6. Prevention

Prevention of mastitis centers on comprehensive education and support, including thorough prenatal preparation, ready access to lactation consultants in the postnatal period, and the implementation of prompt interventions for any breastfeeding challenges that arise [5; 24]. The establishment of proper feeding technique is essential, encompassing early initiation of breastfeeding, frequent feeds, effective removal of milk from the breast, and timely correction of any latch or positioning issues [4; 19]. Early management of nipple trauma or breast engorgement further reduces the risk of developing mastitis and supports ongoing successful lactation [6-7]. Additional preventive strategies include avoiding restrictive clothing that can impede milk flow and moderating the use of breast pumps, as excessive or improper use may contribute to tissue trauma and milk stasis [6; 9; 18]. While current research into the use of probiotics for the prophylaxis of mastitis demonstrates encouraging preliminary results, the routine incorporation of these agents into preventive care protocols awaits stronger supporting evidence [14].

Conclusions

Mastitis remains a significant but largely manageable barrier to successful breastfeeding. Prompt recognition of symptoms, understanding risk factors, individualized non-pharmacologic and pharmacologic interventions, and patient-centered support are essential to optimize outcomes and prevent complications. Multidisciplinary care- embracing education, psychosocial support, and access to skilled clinicians (lactation consultants, obstetricians, and family physicians)- can reduce recurrence, improve maternal well-being, and help mothers achieve their breastfeeding goals [1; 2; 4; 19].

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