

## 1-MINUTE CONSULT

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# Q: Does every patient with lactational mastitis require antibiotic treatment?

*My 4-week-postpartum lactating patient calls into clinic with a complaint of 12 hours of a tender, hot, swollen breast. Because of these symptoms, she is less motivated to continue breastfeeding. Does this patient require antibiotic treatment?*

**A:** Not all patients with lactational mastitis require antibiotics. Depending on the duration and severity of symptoms, some patients can be managed conservatively, while others should receive empiric antibiotics.

## DEFINITION

Lactational mastitis is inflammation of the mammary gland ducts, alveoli, and surrounding tissue that occurs during breastfeeding or feeding with breast milk expressed via pumping.<sup>1</sup> Lactational mastitis affects approximately 1 in 4 breastfeeding patients.<sup>2</sup>

The spectrum of mastitis encompasses a progression of conditions including hyperlactation (production of breast milk beyond the infant's current needs), dysbiosis, ductal narrowing, inflammatory mastitis, bacterial mastitis, phlegmon, infected galactoceles, and abscess.<sup>1</sup> Timely treatment with appropriate conservative measures or empiric antibiotics when indicated is crucial to prevent progression along the aforementioned mastitis spectrum. Management should also include counseling for continued breastfeeding, if desired by the patient.<sup>1,3</sup>

## CAUSES OF LACTATIONAL MASTITIS

Though the exact pathophysiology of lactational mastitis remains unclear, several factors are associated with its occurrence, including hyperlactation, nipple

injury, improper fitting of breast pump flanges, high pump suction, dysbiosis, and abrupt or semi-abrupt breastfeed weaning.<sup>3,4</sup> Hyperlactation causes prolonged breast engorgement that, when coupled with insufficient drainage of milk, can cause the breast to become inflamed (eg, inflammatory mastitis) or, in some patients, can result in bacterial growth within the lactiferous ducts (eg, bacterial mastitis).<sup>1-3</sup>

## CLINICAL FEATURES AND DIAGNOSIS

Patients with lactational mastitis, whether inflammatory or bacterial, may present with symptoms of breast pain and tenderness, redness, swelling, decreased breast milk production, and constitutional symptoms such as fever, chills, and body aches. When diagnosing lactational mastitis, a physical examination should be conducted with an in-person office visit or, at minimum, a virtual visit, keeping in mind that erythema may present less conspicuously on darker skin. Examination findings concerning for inflammatory or bacterial mastitis include diffuse breast tenderness, induration, erythema, and warmth. A check of vital signs may reveal tachycardia, fever, or hypotension in a patient who is septic or dehydrated, though this is rare.<sup>1</sup>

If symptoms are ongoing or progressing for more than 24 to 48 hours and are coupled with a focal, discrete area of swelling and erythema, the clinician should consider a phlegmon, abscess, or infected galactocoele. A phlegmon is a localized inflammatory mass of the soft tissue. An abscess is an enclosed collection of pus within tissue. A galactocoele, which can become infected, is a soft cystic collection that forms in the breast after obstruction of a milk duct. Ultrasonography is useful for diagnosing these conditions. Breast milk

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culture can be helpful in cases of mastitis not responding to first-line antibiotics.<sup>1</sup>

### ■ MANAGEMENT OF INITIAL AND MILD SYMPTOMS

Patients with mild systemic symptoms and focal breast findings that resolve in 24 to 48 hours can be managed with a number of conservative measures and without the need for antibiotics. The clinician should reassure the patient that stopping breastfeeding is unnecessary. Continued breastfeeding with ongoing mastitis does not endanger the infant's health.<sup>1</sup>

The patient may apply light sweeping motions in the direction of the lymph nodes that drain the breast (axillary and supraclavicular) to assist with lymphatic drainage, with the same amount of pressure used to pet a cat. Deep breast tissue massage, vibrating devices, or other aggressive massage techniques should be avoided to prevent capillary and tissue injury.<sup>1,3</sup>

If the breast is very swollen, the patient may find that hand expression is more effective than pumping. The clinician should reiterate proper breast-pump technique if pumping is necessary and offer the following recommendations:

- If pumping exclusively, aim to pump the equivalent volume of fluid consumed by the infant (28–30 ounces of milk/day/infant from 1–6 months of age) to reduce hyperlactation; if the infant is directly breastfeeding and gaining weight appropriately, pumping should be minimized or avoided to prevent hyperlactation<sup>3</sup>
- Aim for a moderate suction pressure to avoid traumatizing breast parenchyma<sup>1</sup>
- Consult a lactation specialist to ensure the pump flanges are the appropriate size<sup>1</sup>
- Clean equipment by hand with soap and water or in the dishwasher with hot water<sup>5</sup>

The patient should wear an adequately sized and fully supportive bra to minimize worsening edema from gravity.<sup>1,6</sup> Also, the patient may promote pain relief and decrease inflammation by using cold compresses while lying on her back after breastfeeding and by taking nonsteroidal anti-inflammatory medications around the clock to help reduce inflammation.<sup>1,3</sup> There is no evidence for the use of cabbage leaves, which can be contaminated with *Listeria*.<sup>7,8</sup>

The patient should avoid excess breastfeeding or pumping beyond the infant's needs. Also to be avoided are breast soaks (which can cause skin ulceration and irritation), aggressive massage, and prophylactic antibiotics.<sup>1,3,8</sup>

### ■ MANAGEMENT OF SEVERE OR PERSISTENT SYMPTOMS

Patients with severe local symptoms or with systemic symptoms such as fever, myalgias, and rigors who do not improve within 24 to 48 hours of initiating proper conservative measures should be managed promptly with the following measures.<sup>3</sup>

#### **Empiric antibiotic treatment for bacterial mastitis**

First-line treatments include dicloxacillin 500 mg 4 times daily and cephalexin 500 mg 4 times daily, each for 10 to 14 days.<sup>3</sup> Second-line treatment is clindamycin 300 mg 4 times daily or trimethoprim-sulfamethoxazole 160 mg/800 mg twice daily, each for 10 to 14 days.<sup>3</sup> Avoid trimethoprim-sulfamethoxazole in patients with pregnancies complicated by prematurity, neonatal hyperbilirubinemia, or glucose-6-phosphate dehydrogenase deficiency.

#### **Breast milk culture**

If symptoms persist after 48 hours of antibiotic treatment, obtain a breast milk culture from the affected breast to rule out methicillin-resistant *Staphylococcus aureus* and other resistant pathogens.<sup>1</sup> To do this, clean the nipple with a topical antiseptic (eg, an alcohol pad), and avoid contact between the nipple and the sterile container when collecting the sample for culture. The clinician or the patient can put on sterile gloves and hand-express breast milk into a sterile container. The clinician should submit 5 to 10 mL of breast milk to the laboratory as a "body fluid culture." Patients can continue to breastfeed or pump while awaiting culture results, as breastfeeding with mastitis is considered safe.

#### **Ultrasonography**

When an abscess, phlegmon, or infected galactocele is suspected, ultrasonography and prompt (same-day) consult with radiology and breast surgery are recommended. Fluid collections may be surgically drained under ultrasonographic guidance.<sup>1</sup> Referral to a breast specialist is advisable to rule out inflammatory breast cancer in patients whose symptoms do not respond to antibiotics.

#### **Avoid deroofing nipple blebs**

Avoid popping or deroofing nipple blebs (papules that can occur in association with ductal inflammation from mastitis), and prescribe triamcinolone 0.1% topical steroid cream twice daily for a week.<sup>1</sup> Advise the patient to wipe off the cream with a towel before feeding.

## ■ PREVENTION AND MANAGEMENT OF RECURRENT MASTITIS

Clinicians should provide anticipatory counseling regarding proper breastfeeding techniques and recommend that the patient feed their infant “on demand” with direct breastfeeding, as this encourages more physiologic breast milk removal.

Consider referral to a lactation consultant or breastfeeding medicine specialist who can help downregulate supply safely if the patient has an oversupply or hyperlactation. Also, consider a psychology or psychiatry consult for mental health management, as mastitis, especially if recurrent, is associated with a history of anxiety and depression.<sup>1</sup>

Although evidence is mixed, prophylactic probiotics can be considered for the breastfeeding parent (*Limosilactobacillus fermentum* or, preferably, *Ligilactobacillus salivarius*).<sup>1</sup> Clinicians may also recommend oral sunflower or soy lecithin 5 to 10 g daily to help emulsify the

milk to prevent clogging of ducts.<sup>1</sup> When appropriate, clinicians can promote healthy mammary microbiota by avoiding prophylactic antibiotics.<sup>8</sup>

If pumping is necessary, ask the patient to pump only in place of feeds to produce what the infant needs and to avoid creation of a “stash” of milk that exceeds the infant’s needs. Patients should avoid nipple shields (silicone devices worn over the nipples) when latching the infant because the shields can lead to inadequate milk transfer.

The healthcare team should support the patient when breastfeeding challenges are encountered, as doing so helps ensure that the patient will continue to provide human milk to the infant, which has health benefits for both parent and child. ■

## ■ DISCLOSURES

The authors report no relevant financial relationships which, in the context of their contributions, could be perceived as a potential conflict of interest.

## ■ REFERENCES

1. Mitchell KB, Johnson HM, Rodríguez JM, et al. Academy of Breastfeeding Medicine Clinical Protocol #36: the mastitis spectrum, revised 2022 [published correction appears in Breastfeed Med; 17(11):977–978]. Breastfeed Med 2022; 17(5):360–376. doi:10.1089/bfm.2022.29207.kbm
2. Wilson E, Woodd SL, Benova L. Incidence of and risk factors for lactational mastitis: a systematic review. J Hum Lact 2020; 36(4):673–686. doi:10.1177/0890334420907898
3. Louis-Jacques AF, Berwick M, Mitchell KB. Risk factors, symptoms, and treatment of lactational mastitis. JAMA 2023; 329(7):588–589. doi:10.1001/jama.2023.0004
4. Weaning from the breast. Paediatr Child Health 2004; 9(4):249–263. doi:10.1093/pch/9.4.249
5. Centers for Disease Control and Prevention. How to keep your breast pump clean. Updated February 21, 2023. <https://www.cdc.gov/hygiene/childcare/breast-pump.html>. Accessed April 18, 2024.
6. Crepinsek MA, Taylor EA, Michener K, Stewart F. Interventions for preventing mastitis after childbirth. Cochrane Database Syst Rev 2020; 9(9):CD007239. doi:10.1002/14651858.CD007239.pub4
7. Moreb N, Murphy A, Jaiswal S, Jaiswal AK. Cabbage. In: Jaiswal AK, ed. Nutritional Composition and Antioxidant Properties of Fruits and Vegetables. London, UK: Elsevier; 2020:33–54.
8. Fernández L, Pannaraj PS, Rautava S, Rodríguez JM. The microbiota of the human mammary ecosystem. Front Cell Infect Microbiol 2020; 10:586667. doi:10.3389/fcimb.2020.586667

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