# ABM Protocols

A central goal of **The Academy of Breastfeeding Medicine** is the development of clinical protocols for managing common medical problems that may impact breastfeeding success. These protocols serve only as guidelines for the care of breastfeeding mothers and infants and do not delineate an exclusive course of treatment or serve as standards of medical care. Variations in treatment may be appropriate according to the needs of an individual patient.

# Protocol #4: Mastitis

## INTRODUCTION

Mastitis is a common condition in lactating women, with an estimated prevalence of 20% in the 6 months postpartum.[1] The majority of cases occur in the first 6 weeks, but mastitis can occur at any time during lactation. There have been few research trials in this area.

## DEFINITION AND DIAGNOSIS

The usual clinical definition of mastitis is a tender, hot, swollen, wedge-shaped area of breast associated with fever of 38.5° C or greater, chills, flulike aching, and systemic illness.[2] However, mastitis literally means, and is defined herein, as an inflammation of the breast; this may or may not involve a bacterial infection.[3,4] Redness, pain, and heat may all be present when an area of the breast is engorged or "blocked"/"plugged," but an infection is not necessarily present.

## Predisposing factors

The follow factors may predispose a lactating woman to the development of mastitis.[4,5] Other than their being factors that result in milk stasis, the evidence for these associations is inconclusive.

- Infrequent feeds or scheduled frequency or duration of feeds
- Missing feeds
- Poor attachment leading to inefficient removal of milk
- Damaged nipple, especially if colonized with *Staphylococcus aureus*
- Illness in mother or baby
- Oversupply of milk
- Rapid weaning
- Pressure on the breast (e.g., tight bra, car seatbelt)
- White spot on nipple or blocked nipple pore or duct: milk blister, granular material, *Candida*
- Maternal stress and fatigue
- Maternal malnutrition or anemia

## INVESTIGATIONS

Laboratory investigations and other diagnostic procedures are not needed and are not performed routinely for mastitis. The WHO publication on mastitis suggests that breast milk culture and sensitivity testing "should be undertaken if there is no response to antibiotics within two days, if the mastitis recurs, if it is hospital-acquired mastitis, or in severe or unusual cases."[4] Breast milk culture may be obtained by collection of a hand-expressed midstream clean-catch sample into a sterile urine container (i.e., a small quantity of the initially expressed milk is discarded to avoid contamination of the sample with skin flora and subsequent milk is expressed into the sterile container taking care not to touch the inside of the

container.) Cleansing the nipple prior to collection may further reduce skin contamination and false positive culture results.

# MANAGEMENT

## Effective milk removal

Because milk stasis is often the initiating factor in mastitis, the most important management step is frequent and effective milk removal. Mothers should be encouraged to breastfeed more frequently, starting on the affected breast. If pain prohibits letdown, feeding may begin on the unaffected breast, switching to the affected breast as soon as let-down is achieved. Positioning the infant at the breast with the chin or nose pointing to the blockage will help drain the area. Massaging the breast during the feed with an edible oil or nontoxic lubricant on the fingers may also be helpful. Massage should be directed from the blocked area moving outward toward the nipple. After the feed, expressing by hand or pump may also augment milk drainage and hasten resolution of the problem.[6]

There is no evidence of risk to the healthy, term infant of continuing breastfeeding.[4] Women who are unable to continue breastfeeding should express the breast by hand or pump, as sudden cessation of breastfeeding leads to a greater risk of abscess development than continuing to feed.[7]

## Supportive measures

Rest, adequate fluids and nutrition, and practical help at home are essential measures. Application of heat—for example, a shower or a hot pack—to the breast prior to feeding may help the milk flow. After feeding or expressing, cold packs can be applied to the breast in order to reduce pain and edema.

Hospital admission should be considered in cases in which the woman is extremely ill and does not have supportive care at home. Rooming-in of the baby with the mother is mandatory so that breastfeeding can continue. In some hospitals, rooming-in may require hospital admission of the infant.

## Pharmacologic management

Although lactating women are often reluctant to take medications, women with mastitis should be encouraged to take appropriate medications as indicated.

### Analgesia

Analgesia may help with the milk ejection reflex and should be encouraged. An antiinflammatory agent such as ibuprofen may be more effective in reducing the symptoms relating to inflammation than a simple analgesic like paracetamol/acetaminophen. Ibuprofen is not detected in breast milk after following doses up to 1.6 g/day and is regarded as compatible with breastfeeding.[8]

### Antibiotics

If symptoms of mastitis are mild and have been present for less than 24 hours, conservative management (effective milk removal and supportive measures) may be sufficient. If symptoms are not improving within 12 to 24 hours or if the woman is acutely ill, antibiotics should be started.[4]

The most common pathogen in infective mastitis is penicillin-resistant *S. aureus.*[6,9] Less commonly the organism is a streptococcus or *Escherichia coli*.[6] The preferred antibiotics are usually penicillinase resistant penicillins,[2] such as dicloxacillin or flucloxacillin 500 mg qid.[10] Cephalexin is usually safe in women with suspected penicillin allergy, but clindamycin is suggested for cases of severe penicillin hypersensitivity.[10] Dicloxacillin appears to have a lower rate of adverse hepatic events than flucloxacillin.[11] It tends to cause phlebitis if given intravenously, however, and so is preferable for oral treatment unless intravenous treatment is necessary.

Many authorities recommend a 10- to 14-day course of antibiotics[12,13]; however this has not been subject to controlled trials.

# FOLLOW-UP

Clinical response to the above management is typically rapid and dramatic. If the symptoms of mastitis fail to resolve within several days of appropriate management, including antibiotics, differential diagnoses should be considered. Further investigations may be required to confirm resistant bacteria, abscess formation, an underlying mass, or inflammatory or ductal carcinoma.

More than two or three recurrences in the same location also warrant evaluation to rule out an underlying mass.

# COMPLICATIONS

## Early cessation of breastfeeding

Mastitis may produce overwhelming acute symptoms that prompt women to consider cessation of breastfeeding. Effective milk removal, however, is the most essential part of treatment.[4] Acute cessation of breastfeeding may exacerbate the mastitis and result in an increased risk of abscess formation; therefore, effective treatment and support from health providers and family are important at this time. Mothers may need reassurance that the antibiotics they are taking are safe to use during breastfeeding.

## Abscess

If a well-defined area of the breast remains hard, red, and tender despite appropriate management, then an abscess should be suspected. The initial systemic symptoms and fever may have resolved. A diagnostic breast ultrasound will identify a collection of fluid. The collection can often be drained by needle aspiration, which itself can be diagnostic as well as therapeutic. Serial needle aspirations may be required.[14] Ultrasound guidance for needle aspiration may be necessary in some cases. Surgical drainage may be necessary if the abscess is very large or if there are multiple abscesses. After surgical drainage, breastfeeding should continue. A course of antibiotics should follow drainage of the abscess.

## *Candida* infection

Candidal infection should be considered when a woman develops burning nipple or radiating breast pain after treatment of mastitis.[12] Fungal infection may be either a primary infection or a complication of antibiotic treatment for bacterial mastitis. Diagnosis can be difficult, as the nipples and breasts may look normal on examination and milk culture is not reliable. Antifungal treatment is necessary for both mother and baby.

## PREVENTION[5]

## Effective management of breast fullness and engorgement

- Mothers should be helped to improve infant's attachment to the breast.
- Feeds should not be restricted.
- Mothers should be taught to hand express if the breasts are too full for the baby to attach or the baby does not relieve breast fullness.

## Prompt attention to any signs of milk stasis

- Mothers should be taught to check their breasts for lumps, pain, or redness.
- If the mother notices any signs of milk stasis, she needs to rest, increase the frequency of breastfeeding, apply heat to the breast, and massage any lumpy areas.
- Mothers should seek help from their health care provider if they are not better within 24 hours.

## Prompt attention to other difficulties with breastfeeding

Skilled help is needed for mothers with damaged nipples or an unsettled infant or who believe that they have insufficient milk.

## Rest

As fatigue is often a precursor to mastitis, health professionals should encourage breastfeeding mothers to obtain adequate rest.

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