Mastitis and Breast Abscess in the Postnatal Period

Scope: Management

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Contents

Background

Mastitis

Is a painful inflammatory condition of the breast. It usually occurs in lactating women ('lactational' or 'puerperal mastitis') but can also occur in non-lactating women ('non-lactational mastitis')

Mastitis can be classified as:

- Non-infectious — breast inflammation due to a non-infectious and/or idiopathic cause.
- Infectious — infection of breast tissue which usually occurs by retrograde spread through a lactiferous duct or a traumatized nipple. Very rarely, the infection occurs through the lymphatics or by haematogenous spread.

Worldwide, up to around 30% of lactating women develop mastitis. Most women who develop lactational mastitis do so within the first 2–3 weeks postpartum, although it can develop at any stage of lactation and is often reported during weaning.

Breast abscess

Is a localized collection of pus within the breast.
A lactational abscess is usually located in the peripheral region of the breast, more commonly in the upper and outer quadrant.

A breast abscess is a severe complication of mastitis, although it may occur without apparent preceding mastitis.

Breast abscesses develop in 3–11% of women with mastitis, with a reported incidence of 0.1–3% in lactating women.

Mastitis Causes

In lactating women, milk stasis is usually the primary cause of mastitis. The accumulated milk causes an inflammatory response which may or may not progress to infection.

The most common organism associated with infectious mastitis in breastfeeding women is *Staphylococcus aureus*, including strains of meticillin-resistant *S. aureus* (MRSA) if the infection was hospital-acquired.

Signs of Mastitis:

- A localised area in the breast, which is painful to the touch. Some mums might notice a change of colour or a red area on their breast.
- A lumpy breast which feels hot to touch[2]
- The whole breast aches and may appear swollen and skin may be reddened or darker, depending on skin tone.[1 2]
- Flu like symptoms - aching, increased temperature, shivering, feeling tearful and tired. This feeling can sometimes start very suddenly and get worse very quickly.[1 2]
- Nipple fissure that looks infected[1]
- Purulent discharge[1]

Predisposing factors for mastitis in lactating women

Milk stasis is the primary cause of mastitis in lactating women. Predisposing factors include:

- **Poor infant attachment to the breast**, this may also lead to nipple damage which can cause pain and provide an entry point for bacteria[2].
- **Reduced number or duration of feeds[2]**, for example due to:
  - Partial bottle feeding, changes in feeding regime (common when the infant first starts to sleep through the night), and rapid weaning from breast milk.
  - Painful breasts.
  - Use of a dummy or bottle — this may also result in poor infant attachment to the breast.
  - Having a preferred breast for feeding, leading to milk accumulation in the other breast.
  - Maternal stress and fatigue.
  - Pressure on the breast, for example from tight clothing or bra, baby sling straps, or prone sleeping position.
- **Age**
  - women aged 21–35 years are more likely to develop mastitis than those outside this age group.
  - women aged 30–34 years as having the highest incidence of mastitis, even when parity and full-time employment were controlled for[3]

Predisposing factors for breast abscess include:

Previous mastitis — this association is thought to be due to:

- Delayed, inadequate, or inappropriate treatment of previous mastitis — can lead to complications, including a breast abscess.
- Sudden cessation of breastfeeding in women with lactational mastitis — without effective milk removal, infectious mastitis is likely to progress to an abscess.

Immunosuppression: Women with diabetes mellitus or HIV infection, and those on immunosuppressive therapy, are at risk for developing recurrent breast infections.

Staphylococcus aureus carriage — asymptomatic carriage of *S. aureus* on a person's skin or mucous membranes (colonisation) is implicated in recurrent infections.

Socio-economic status — there is some evidence of a higher incidence of breast abscess (especially lactational) in low income women compared with higher income women.

Poor hygiene — better maternal and infant hygiene reduces the risk of abscess formation.

Age Breast abscess may also be more common in women who are primiparous, aged over 30 years, and following post-term delivery.

Management of mastitis and breast abscess in lactating women

Primary Care

Reassure the woman that her breast should return to normal size, shape, and function after treatment.

To relieve pain and discomfort:

- Advise to use a simple analgesic, such as paracetamol or ibuprofen.
- Send breast milk for MC&S using the ICE system. Please put as much detail in as possible as the microbiologist may choose to perform additional tests based on the history.
- Advise the woman to place either a warm or cold compress on the breast, or bathe or shower in warm or cool water. It will depend on each woman to find which is most soothing. This should relieve pain and help milk to flow.
- Advise to keep bras off and allow milk to drain freely
- **Advise the woman to continue breastfeeding if possible (including from the affected breast).**
- Refer to the Infant feeding team (infantfeedingteam@nbt.nhs.uk) to assist the woman in improving the infant's attachment to the breast. This will improve milk removal and prevent nipple damage.
- If breastfeeding is too painful, or the infant refuses to breastfeed from the affected breast, advise the woman to express sufficient milk to match the infant needs until she is able to

resume breastfeeding from that breast. Mothers using breast pumps should express only the volume their infant consumes.
- If the woman does not wish to continue breastfeeding, give advice on stopping breastfeeding.
- Identify and manage any **predisposing factors** for mastitis.

Ask GP to prescribe an oral antibiotic if:

- The woman has a nipple fissure that is infected, symptoms have not improved (or are worsening) after 12–24 hours despite effective milk removal.
- Breast milk sample has shown infection is present.
  If breast milk culture results are available, you may need to change the antibiotic that the organism is sensitive to. However, if breast milk culture results are not available, treat with flucloxacillin 500 mg four times a day for 10–14 days. If the woman is allergic to penicillin, prescribe either erythromycin 250–500mg four times a day or clarithromycin 500 mg twice a day for 10–14 days.

Hospital admission

Arrange hospital admission if:

- There are signs of sepsis (such as tachycardia, fever, and chills).
- The infection has progressed rapidly.
- The woman is haemodynamically unstable or immunocompromised.
- If symptoms fail to settle after 48 hours of antibiotic treatment, considered treatment failure.

Management if treatment failure or recurrence in a woman with lactational mastitis?

Treatment if symptoms fail to settle after 48 hours of first line antibiotic treatment, requiring hospital admission:

- Commence Sepsis Screening Tool. *(NBT guideline on Sepsis in the maternity setting)*
- Enter full set of vital sign observations onto Postnatal MEOW Obs on badger.
- Bloods for FBC and CRP
- Send a sample of breast milk for microscopy, culture, and antibiotic sensitivity (if this has not already been done)
- Consider nasal swabs from both the woman and infant to identify nasal carriage of S. aureus (current guidance states only indicated if recurring mastitis)
- Check that the woman has taken the antibiotic correctly
- Consider the possibility of an alternative diagnosis (such as breast cancer or a breast abscess) and the need for admission or referral.
- If an abscess is suspected, be aware that malaise and fever may have subsided if antibiotics have been started.
- Prescribe a second-line antibiotic (co-amoxiclav 500/125 mg three times a day) for 10–14 days; review this choice when breast milk culture results become available. Seek specialist advice if the woman is allergic to penicillin.

Recurrence of lactational mastitis is common. Predisposing factors include:

- *Staphylococcus aureus* carriage — asymptomatic carriage of *S. aureus* on a person's skin or mucous membranes (colonization) is implicated in recurrent infections.

- Previous mastitis — this association is thought to be due to inadequate treatment of previous mastitis (which can lead to a recurrence of more severe mastitis or a breast abscess) and/or inadequate management of predisposing factors.

Specialist Referral

Refer urgently to a general surgeon if a breast abscess is suspected. Contact Breast Care Centre ext 47000 to ask for review by Breast Care Surgeon.

Arrange an urgent 2-week wait referral if there is an underlying mass or breast cancer is suspected. A referral can be made via breastcareadmin@nbt.nhs.uk

Recurring Mastitis

If mastitis recurs, manage as per treatment failure and in addition:

Identify and manage any predisposing factors, such as:

- Nipple damage
- Staphylococcus aureus carriage — send nasal swabs from both the woman and the infant to identify nasal carriage of S. aureus.
- Ensure that the woman is aware of measures to prevent recurrence, such as having a good breastfeeding technique and maintaining good hygiene.

Recurrence Prevention

Prevention advice should include:

- **Explain that good breastfeeding technique is necessary to prevent mastitis. Advise the woman to:**
  - Make sure the infant is attached to the breast correctly.
  - Feed on demand, both in terms of frequency and duration.
  - Avoid missed feeds, especially when the infant starts to sleep through the night.
  - Finish the first breast before offering the other.
  - Breastfeed exclusively for 4–6 months, if possible.
  - Avoid the use of a dummy, which may result in poor attachment to the breast.
  - With future pregnancies, start to breastfeed within an hour of delivery.
- **Ensure that the woman knows:**
  - How to express milk manually
  - How to check breasts for lumps, redness, and tenderness.
  - How to recognise milk stasis.

  - What to do if milk stasis develops — rest, breastfeed frequently, massage any lumpy areas, and seek medical help if problems do not resolve within 24 hours.
- **If the woman does not wish to continue breastfeeding,** advise that she should:
  - Not stop breastfeeding abruptly.
  - Support the breasts with a comfortable bra.
  - Express enough milk to keep the breasts comfortable.
  - Take paracetamol or ibuprofen if pain occurs.
- **Give advice on hygiene measures, such as:**
  - Thorough and frequent hand washing.
  - Ensuring that the breast pump is washed thoroughly with soap and hot water (and air dried) after every use.
  - Rinsing the nipple area with water before and after each feed.
  - Ensuring that potentially contaminated nipple ointments or creams are discarded.

References

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