HUTT maternity
Hutt Valley Maternity Care

HUTT VALLEY DHB

Document ID: MATY109	Version: 1.0
Facilitated by: Lactation Consultant	Last reviewed: March 2018
Approved by: Maternity Quality Committee	Review date: March 2020

Mastitis, Breast Abscess and Breast Candida during breastfeeding

Hutt Maternity Policies provide guidance for the midwives and medical staff working in Hutt Maternity Services. Please discuss policies relevant to your care with your Lead Maternity Carer.

Purpose

This protocol is for the management and treatment of non-infective mastitis, infective mastitis and breast abscesses.

Scope

- All staff employed by Hutt Valley DHB.
- Access holders/independent practitioners to Hutt Valley DHB.

Definitions

Mastitis

Mastitis is an inflammatory condition of the breast that may or may not be accompanied by infection. Mastitis is a common preventable complication during breastfeeding and can often be self-managed. Initial onset usually occurs from 2 to 6 weeks postpartum, although it can occur at any stage during lactation. The incidence of mastitis ranges from 4 - 27 per cent. The risk of mastitis is higher in women who have a previous history of mastitis.

While poorly functioning milk ducts, engorgement, non-infective mastitis, infective mastitis and breast abscesses are all separate entities, in many cases their pathology is a continuum, one leading to another.

Women experience a drop in breast milk supply during mastitis. With good management the supply can be regained.

Non-infective mastitis

This occurs when there is ineffective drainage of milk from the breast. Small amounts of milk from the alveoli are forced into the surrounding breast tissue causing a localised inflammatory response that is thought to contribute to the flu-like symptoms.

Milk stasis, and blockages, must be relieved or it can lead to the more serious infective mastitis.

Some women may experience frequent blocked ducts, and if they are aware of the early signs and symptoms, may be able to avert mastitis requiring antibiotics. Thorough and frequent drainage of the breast is essential to avoid this.

Infective mastitis
Cellulitis of the interlobular connective breast tissue is the most common form of mastitis. Pus is rarely found in the milk as the infection is outside of the ductal system.

Adenitis is where the infection occurs within the ductal system. Clinical symptoms seem to be less severe than those of cellulitis. Pus may appear in the milk.

Nipple damage has been shown to result in an increased risk of infective mastitis.

The most common organism causing infective mastitis is *Staphylococcus aureus*.

Diagnosis
Symptoms
- Painful red, swollen, inflamed area of the breast
- Breast is hot to touch
- Fever > 38.5^{o}C
- Flu-like symptoms (chills, headache, muscles aches)Painful lump (blocked duct)

Risks and precautions
Mis-management of mastitis may lead to a breast abscess or cessation of breastfeeding.

Physical management of symptoms should be used first if appropriate.

Causes of mastitis
Maternal
Nipple problems
- Poorly functioning (blocked) milk ducts
- Cracked or damaged nipples
- Inappropriate use of nipple shields

Feeding problems
- Suboptimal positioning and attachment
- Missed feeds
- Oversupply of milk
- Insufficient milk removal and engorgement

Maternal health
- Fatigue and stress
- Poor health, anaemia, malnutrition, infections elsewhere
- Breast trauma
- Tight bra, restrictive clothing

Baby
- Tongue tie in the infant causing inefficient milk removal and nipple trauma
- Pacifier or teat use
- Inefficient suck technique

Mastitis management

Inflammatory mastitis

Inflammatory mastitis is not yet infected so should be treated conservatively with meticulous breastfeeding technique. Not all mastitis requires antibiotics immediately. Women with inflammatory mastitis will require timely support to prevent infection developing and can remain at home at this stage, with good support.

If after 12 - 24 hours these self-help techniques have not helped, or the symptoms are severe or worsening then the woman should seek urgent medical advice and antibiotics initiated.

- Good hand washing technique
- Breast examination to identify the nature of any lumps/masses. Any lumps suspicious of breast abscess (i.e. not reducing in size and softening with breast emptying, fluctuant) indicate the need for a medical review +/- ultrasound scan
- Take a full breastfeeding history, covering frequency of feeds, whether demand feeding, whether using one or both breasts, pain and breast damage.
- Identify possible causes of mastitis and give advice to mitigate them
- Advise the woman to continue breastfeeding. Frequent effective milk removal is required to treat mastitis and prevent complications such as breast abscesses or recurrent mastitis. The most reliable method of milk removal is usually effective feeding by the baby. If feeding is not possible or not sufficient to ensure good breast emptying the woman should express milk from the affected breast by hand or by pump or both. Hand expression is often more effective although more laborious for the woman. The breast may not feel 'soft' after expressing, due to inflammation rather than just milk stasis. If the breast is very oedematous, the oedema may be pressed back towards the sternum and axilla using gentle hand pressure "reverse pressure softening" (see Cotterman 2004)
- Ensure there is no pressure on breast from bra or hands when feeding
- Before feeding and expressing, stimulate the oxytocin reflex with gentle massage over the inflamed area. Milk let down may be enhanced by the use of heat (wheat pack, shower, bowl of water), Observe positioning and attachment technique, and improve if necessary. It may help drain the inflamed area more efficiently to position the baby so that the chin is pointing towards the affected area. If the nipples are damaged, notify Lactation Consultant on ext. 2556 or pager 432 to assess feeding and assist with correct latching
- Feeding from the affected side first may be more efficient at emptying the breast. However, starting a let-down before latching the baby may be more comfortable for the woman
- Alternate warmth and cold. Warmth before and during feeding to help let down and comfort, cold after feed to help reduce swelling and inflammation.
- Encourage the mother to rest, stay in bed and feed baby frequently
- Frequent fluid intake and nutritious snacks (at least 6-8 glasses of water a day)
- Live yoghurt or Vitamin C or E tablets may be taken
- Check or ask the woman to check her temperature 4 hourly
- Anti-inflammatory analgesia regularly to reduce inflammation and aid breast emptying

Probiotics
There is some evidence that the use of a probiotic which contains *Lactobacillus Salivarius* or *Lactobacillus fermentum* may be an effective treatment for mastitis (Jiménez et al 2008)

This may be started at the onset of symptoms, alongside good breastfeeding technique physical management. It may be taken alongside antibiotic treatments, should they become necessary. It has been suggested that these probiotics may also be taken prophylactically in the case of recurrent mastitis.

Commercially available preparations of probiotic containing Lactobacillus salivarius that can be purchased by the woman from retail pharmacies or health food stores are:

- Nutralife Probiotic 50 Billion (preferred)
- Lifestream BowelBiotics + Advanced Probiotics

Infected mastitis
Infected mastitis first requires treatment of the underlying cause of milk stasis and identification of the pathogen (see recommendations above). Probiotics should be commenced at the onset of symptoms. Should these prove ineffective, or if the woman is acutely unwell, then antibiotics will be required to facilitate quick resolution and reduce the risk of recurrence.

Drug treatment
Pain management
Prescribe regular analgesia:

- Paracetamol
- Non-steroidal anti-inflammatory drugs are useful to reduce inflammation and facilitate breast emptying

If there is no improvement or the woman continues to have symptoms such as:

- A temperature over 38.5°c
- Systemic symptoms such as chills, aches or pain
- Painful, reddened area on the breast, chills

Then antibiotic treatment should be started.

Antibiotic treatment
The initial antibiotic recommendation is:

- Flucloxacillin 1gPO THREE times a day (does not need to be taken on an empty stomach)
- Cephalexin 1g PO THREE times a day for patients with mild penicillin allergy (i.e. rash)
- Erythromycin 500mg PO FOUR times a day for patients with severe penillin allergy (i.e. anaphylaxis)

All patients known to be colonised with MRSA should be discussed with the ID service so the most appropriate antibiotic can be chosen.

Antibiotics should be prescribed for 10-14 days.

If there are severe symptoms, admission to a ward may be necessary for administration of intravenous antibiotics.

- Flucloxacillin 2g IV q6h
- Cephazolin 2g IV q8h for patients with mild penicillin allergy
- Clindamycin 450mg oral q8h for patients with severe penicillin allergy

Change to oral antibiotics as soon as the patient is clinically improving, tolerating oral fluid, temperature < 38 °c over the preceding 24 hours. Antibiotics should continue for total 10 - 14 days (IV + oral).

It is safe to continue breastfeeding whilst taking these antibiotics. The baby may be unsettled due to both the mastitis and the antibiotics. Diarrhoea, rashes and Candida are common side effects in the baby.

Staphylococcus aureus is the most common organism to cause mastitis. Failure to respond after 24 - 48 hours of antibiotic treatment should prompt review of therapy. Chronic mastitis or worsening mastitis may be caused by unusual organisms, and management should be discussed with a microbiologist or infectious diseases physician.

If there is **no improvement in the symptoms after 24 hours** of antibiotic treatment, then either breast abscess or resistant organism should be suspected.

- Ultrasound may be used to diagnose the presence of any breast abscess
- If not already taken, a clean catch midstream specimen of breast milk should be cultured to confirm the organism and an appropriate antibiotic prescribed

Inflammatory breast cancer, a very aggressive type of breast cancer, can mimic chronic infection. If mastitis does not resolve, then review by a breast surgeon may be required.

Women should be encouraged to finish the course of antibiotics as incomplete courses can lead to recurrence of mastitis. Recurrent mastitis may also occur if the cause has not been corrected. The management of woman with recurrent or chronic mastitis should be discussed with on-call infectious diseases physician or clinical microbiologist. More than two or three recurrences in the same location also warrant evaluation to rule out an underlying mass.

Breastmilk cultures

Occasionally it may be necessary to consider taking a breastmilk sample if the patient's clinical picture suggests further investigation i.e. has had recurrent mastitis or is not responding to treatment. This should be considered on a case by case basis and not as routine general practice.

Candida Infection

Following treatment with antibiotics, a woman is at risk of *Candida albicans* (Thrush) on the nipples or in the baby's mouth.

How to recognise Candida

- Nipple and areola thrush presents with a red shiny appearance that is often itchy with sharp stabbing pain on feeding. The nipple should also be carefully observed to assess for white spots.
- White coating on the baby's tongue or white spots in the mouth which does not rub off
- Sore red nappy rash on the baby

Management of topical Candida

Treat both the woman and baby as Candida will pass back and forth between them.
Women should:

- Wash hands frequently, especially after changing nappies
- Hot wash and dry towels at home daily, or use paper towels
- Avoid soap on nipples
- Boil expressing equipment and feeding equipment for 20 minutes daily – cold water sterilizing is not effective against Candida
- Keep nipples dry and change breast pads frequently, as soon as they become damp
- Reduce sugary food intake

Options for treating Candida

Non-pharmaceutical

- 1 teaspoon of Sodium Bicarbonate in a cup of warm water to bathe the nipples
- 1 tablespoon of vinegar in a glass of water can have the same effect
- Natural live yoghurt contains bacteria, which act against Candida. Take orally and apply some to nipples

Pharmaceutical

Continue treatments for minimum 2 weeks even if symptoms improve.

- Mother: Antifungal creams – miconazole (Daktarin) 2% gel or cream applied after each feed
- Mother: check also for vulvovaginal candida and treat if present
- Baby under 4 months: nystatin drops, 1ml smeared over the oral mucosa with a clean finger
  Baby 4 months and over: miconazole 2% gel smeared over the oral mucosa with a clean finger

If a ductal candida infection is suspected (i.e. breast pain that does not resolve with the above measures), then discuss management with the on-call Infectious Diseases physician via switchboard.

- Oralfluconazole has a number of toxicities and the benefits and risks need to be considered prior to prescribing. This discussion should occur with the ID physician or Clinical Microbiologist, and may result in a one off dose of fluconazole 150 mg.

Breast abscess

A breast abscess is a complication of mastitis, and occurs in about 3% of cases. It is important to diagnose promptly as it causes pain and destruction of breast tissue. An

abscess is a localised collection of pus that the body walls off. Once encapsulated it must be surgically drained/aspirated, as it is not connected to the ducts.

Most common organism is *Staphylococcus aureus*. Occasionally other organisms may be cultured such as MRSA.

Symptoms

- Redness, fluctuant tender swelling
- Pain, often severe enough to prevent sleep
- Systemic symptoms and fever may have resolved
- It is not always possible to confirm or exclude the presence of an abscess by clinical examination alone, a diagnostic breast ultrasound will identify a collection of fluid

Breast abscess management

Admission is not always required if the abscess is treated by needle aspiration (see below). However, if required, then admission should be under the Breast or General Surgeon to the appropriate ward as per the following criteria:

Admission into a maternity bed

This is restricted to patients who require treatment for mastitis on postnatal day 1- 10; they should be admitted to a postnatal bed in the first instance. However, if there are no postnatal beds available then the woman should be admitted to a gynaecology bed after consultation with the Charge Midwife Manager/Charge Nurse Manager.

Admission to Gynaecology/Surgical

Maternity women who are from 10 days postnatal and up to a **maximum** of 8 weeks postnatal.

Admission to Non-Maternity Beds

Even if accompanied with a baby, all women requiring admission for a non-obstetric/gynaecology related condition/treatment must be allocated a bed within the appropriate service e.g. GSG

On admission the woman requires:

- An urgent medical review
- An ultrasound to confirm the abscess, its position and size
- Referral to a breast/general surgeon for assessment must occur within 24 hours
- Prior to review by surgeon, women should be nil by mouth to avoid delaying intervention if it is required. Prompt drainage is necessary to minimise tissue destruction
- Morphine may be prescribed. It is safe with breastfeeding, but observe for sleepiness or poor feeding in the infant. Pethidine is not recommended
- When discussing surgery with the woman, please ascertain whether she wishes the incision to be as far from the areola as feasible, to enable breastfeeding to continue unhindered
- Most women are only in hospital overnight and the baby can stay with them so they can continue breastfeeding

- If breastfeeding is awkward post-surgery, please ensure that expressing equipment, information and support are provided. Referral to lactation consultant (Ext. 2556 or pager 432) for breastfeeding assessment may be beneficial. Support may be gained from the assistant charge midwives on Maternity Unit.

Aspiration

The abscess can be aspirated by using a needle under local anaesthetic. This will usually need to be repeated 2-4 times until the abscess stops reforming and all of the infection is controlled. This will only be suitable if the woman is able to come to the hospital and her abscess is not too loculated. Breastfeeding is encouraged while the abscess is being treated.

Surgical incision and drainage

- Usually performed under general anaesthetic
- The breast is painted with a cleaning solution. An incision is made over the abscess. The pus is allowed to drain. The wound is then gently probed to break up any loculations in the pus
- The wound is sometimes packed or, more commonly, a soft latex Penrose drain is placed in the abscess. The drain is usually removed 2-5 days after the operation by district nurses. Milk may drain from the wound for up to two to three weeks post-operatively
- Usually the first dressing in place post-surgery is very bulky to absorb exudate. This should be changed for a light dressing, avoiding covering the areola if possible so that breastfeeding can continue unhindered as soon as possible.
- Dressings will need to be changed frequently as the wound will leak milk out of the incision site. Women may need support and reassurance that this is normal and will get better.
    - Encourage breastfeeding as soon as the woman or baby are ready after surgery, ideally within 3-4 hours. It will be necessary to remove any bulky dressings and replace with a temporary compact dressing, such as a small gauze folded twice and secured over the incision wound with a tegaderm. This will need to be changed after feeding as it will be saturated with milk.
- Women should be encouraged to remove the dressing daily and shower normally, washing the wound with copious warm water. A dry dressing is applied afterwards
- Breastfeeding can continue unless the incision encroaches on the areola. If it is not possible to breastfeed the milk must be expressed. If the nipples are damaged, notify the Lactation Consultant on pager 432 or ext. 2556 to assess feeding and assist with correct latching

Follow up

- Referral to District nurse for dressing changes
- Follow up outpatient appointment in breast clinic for removal of Penrose drain
- Referral to LMC midwife (if still involved) or lactation consultant on discharge for follow up care and breastfeeding assessment is recommended (contact lactation consultant on ext. 2556 or pager 432 for advice)
- Surgical follow up in clinic until fully resolved

If things are not getting better then refer to surgical outpatient's clinic, as inflammatory breast cancer is possible but rare in this age group.

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Informed Consent

The right of a consumer to make an informed choice and give informed consent, including the right to refuse medical treatment, is enshrined in law and in the Code of Health and Disability Consumers' Rights in New Zealand. This means that a woman can choose to decline treatment, referral to another practitioner, or transfer of clinical responsibility. If this occurs follow the process map on page 18 of the Referral Guidelines (Ministry of Health, 2012).