

Breast pain in lactating women – mastitis or something else?

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BACKGROUND Mastitis is a common problem for lactating women. However, medical practitioners may not recognise that there are also other causes of breast pain during lactation.

OBJECTIVE This article presents a case study that demonstrates several common causes of breast and nipple pain in a lactating woman.

DISCUSSION Once medical practitioners are aware of the presenting features of mastitis, candida infection and vasospasm, they will be able to conduct a careful history and examination and make the correct diagnosis.

Maria struggles into your consulting room with her first baby, one week old Ben. Maria complains that she feels very unwell and the outer aspect of her left breast is red, hot and painful (Figure 1). Maria and Ben are still learning how to breastfeed, and Maria's nipples hurt when she feeds.

What is the most likely diagnosis?

Infective mastitis.

What will you look for on examination?

The source of infection in a postpartum woman may be her breasts, uterus or urinary tract.¹ Her breasts should be examined for any red, hard, tender or hot areas. Her nipples should be checked for evidence of damage. If she has had a caesarean section, her wound should be checked. A midstream urine test may be necessary. Causes of nipple and breast pain are outlined in Table 1.

The baby's mouth should be examined to check the integrity of the palate and assess for the presence of a significant tongue-tie (Figure 2).² Observation of a breastfeed will help in the assessment of

any breastfeeding difficulty. (See *Resources* at end of article for further information).

If observing a breastfeed is not possible, suggest that a local expert observe a feed; this may be the Maternal and Child Health nurse, an Australian Breastfeeding Association (ABA) breastfeeding counsellor or International Board Certified Lactation Consultant. Many maternity hospitals now provide breastfeeding clinics where women and their babies can spend several hours with an experienced lactation consultant.

What will be your management plan?

It is important to maintain drainage of the breasts, either by breastfeeding and/or expressing the breasts at least four hourly by hand or breast pump. It may help to



Figure 1. Breast mastitis



Figure 2. Tongue-tie

Table 1. Causes of nipple and breast pain²³

Infant causes	<ul style="list-style-type: none"> • incorrect attachment • incorrect sucking • misalignment of mother's nipple and baby's mouth • tongue tie • cleft palate
Trauma	<ul style="list-style-type: none"> • pinched nipple • blow to the breast • incorrect use of a breast pump • ill fitting brassiere
Dermatological conditions	<ul style="list-style-type: none"> • dermatitis <ul style="list-style-type: none"> – atopic – contact (irritant or allergic) • psoriasis
Infection	<ul style="list-style-type: none"> • bacterial nipple or breast infection • abscess • fungal • viral, eg. herpes
Lactational conditions	<ul style="list-style-type: none"> • engorgement • blocked duct • forceful milk ejection • rapid refilling of the ducts • galactocele
Other breast conditions	<ul style="list-style-type: none"> • fibrocystic disease • adhesions or surgical scars
Hormonal conditions	<ul style="list-style-type: none"> • premenstrual breast changes • pregnancy
Neurovascular conditions	<ul style="list-style-type: none"> • vasospasm of the nipple • Raynaud's phenomenon • nerve response to damaged nipples
Musculoskeletal conditions	<ul style="list-style-type: none"> • tender costochondral junctions (Tietze's syndrome) • back injury • sleeping in an uncomfortable position • strenuous upper body exercise • uncomfortable position for breastfeeding
Disease	<ul style="list-style-type: none"> • fibromyalgia • lung disease • gall stones

position the baby to maximise breast drainage by pointing the baby's chin toward the blockage.

Women with mastitis should be offered regular analgesia. A nonsteroidal anti-inflammatory, such as ibuprofen, will help relieve inflammation as well as pain and fever. Very little ibuprofen enters the breast milk and it is considered safe in lactation.³ Alternatively, paracetamol may be offered.

In the early postpartum period mastitis associated with damaged nipples is almost always caused by *Staphylococcus aureus*. The Australian Antibiotic Guidelines recommend dicloxacillin or flucloxacillin as the preferred antibiotics for mastitis.⁴ Cephalexin may be used in women who are allergic to penicillin, or clindamycin if she is highly allergic to penicillin.⁴ Dicloxacillin may cause phlebitis when given intravenously, so flucloxacillin should be used if the antibiotic is required parenterally.

Women with mastitis need to rest, so Maria should be encouraged to ask any relatives or friends for practical help at home. Suggest to Maria that she return to see you if she has not improved within 48 hours.

Ten days later Maria returns to see you because her nipples and breasts are still painful. On further questioning, she describes her nipples as feeling sunburnt and she experiences shooting, stabbing pains in the breast, especially after feeds.



Figure 3. Candida infection



Figure 4. Breast abscess

What is the most likely diagnosis?

Candida infection of the nipples and breasts (Figure 3).⁵

What will you look for on examination?

When breast pain persists after an episode of mastitis, it is important to examine the breasts in order to exclude an abscess (Figure 4). Sometimes an ultrasound is helpful in excluding a deep abscess or other breast pathology. An abscess can usually be managed by repeated needle aspiration.⁶ Women with breast lumps that don't resolve should be referred for a surgical opinion, as breast cancer may present during lactation.⁷ Inflammatory breast cancer presents as an enlarged, red breast; a lump may not be present.⁷

If nipple damage is still present, check for any yellow exudate, which may indicate a bacterial infection.⁸ Candida infection of the nipple usually appears as redness only, with white growth on the nipple being unusual.⁵

Examine the baby under a good light, looking for oral thrush. Oral candida may appear only as a white filmy appearance on the buccal mucosa. White spots on the gums are usually Epstein's pearls, rather than thrush.

What will be your management plan?

First, explain the pathophysiology of candida infections. Many women will be

familiar with vaginal thrush following a course of antibiotics, but may not have heard about nipple or breast thrush. It is useful to explain that the treatment may take a week or more to be effective, and that the baby should be treated even if asymptomatic to prevent mother and baby passing candida back and forth between each other.⁹

The preferred treatment for the baby is oral miconazole gel, one quarter of a teaspoon after feeds, four times per day. Parents can apply this directly onto the tongue and inside the cheeks with a clean finger. If the oral gel upsets the baby, nystatin oral drops, 1 mL four times per day after feeds can be used. If clinically indicated, the baby's bottom can be treated with an antifungal ointment, eg. miconazole with zinc oxide ointment.

Oral miconazole gel can also be applied topically to the nipples after feeds. Mothers should be advised to use a small amount of gel and rub it in well. The gel can irritate a small proportion of women, so suggest a change to nystatin ointment if this occurs. If nipple thrush is persistent, gentian violet 0.5% aqueous may be tried. It only needs to be applied twice a day, usually for seven days. Gentian violet is no longer used in babies' mouths because overuse may cause ulceration.¹⁰ It is a dye which is hard to remove from the skin and clothing and concerns about carcinogenicity have reduced its use¹¹ with many pharmacies no longer stocking it. Although not first line treatment, careful use of gentian violet is considered safe.¹²

In addition to topical nipple treatment, oral antifungals are usually given to the mother. Traditional treatment for symptoms of nipple/breast candidiasis is oral nystatin capsules two capsules three times per day taken after meals.¹³ Women will usually need to continue nystatin for at least two weeks. If breast pain is severe or does not respond to nystatin, fluconazole 150 mg capsule can be given once per day for up to 10 days (depending on level of pain and ability to afford these expensive capsules). In the USA, 14 day courses

of fluconazole are used for breast candidiasis.^{5,12,14} Fluconazole is considered safe for breastfeeding mothers.³ My routine is to prescribe nystatin for at least a week following the fluconazole. Treatment for nipple and breast candidiasis is based on clinical experience, as trials are lacking.¹⁴

Maria brings Ben to see you when he is five weeks old because she has noticed spots on his face and wonders if this is thrush. She followed the thrush treatment for more than two weeks and she is no longer experiencing breast pain after feeds. However, her nipples are still painful. On questioning, it appears that the pain usually occurs after feeds or when she is cold and her nipples blanch. In cold weather, she experiences painful fingers which she attributes to poor circulation.

Most likely diagnosis?

Ben's face

Acne neonatorum.¹⁵ These self limiting papular lesions tend to develop on the face.¹⁵ Candida tends to occur in moist, occluded areas, not on the face.

Maria's nipples

Vasospasm is likely (Figure 5).¹⁶ Differential diagnoses for persistent nipple pain would be incorrect attachment, persistent candida infection or nipple eczema/dermatitis. Dermatitis of the nipple/areola appears as a red itchy rash with a well demarcated edge and responds to a potent cortisone ointment



Figure 5. Nipple vasospasm

(eg. mometasone furate ointment once per day) within several days.¹⁷

Management

Explain to Maria that nipple vasospasm can occur as a reaction to nipple damage or pain. Exposure to the cold can exacerbate the pain. The principal management strategy is to keep the nipples warm: don't expose them to air, wear extra layers of clothes. Breast warmers (Flectalon, from Sweden) are breast pads made from insulating material and may be helpful; they are available from ABA or pharmacies. Magnesium has been found useful for relieving vasospasm of coronary and cerebral arteries and improving peripheral circulation in vasospastic patients.¹⁸ Although studies are needed to assess the effectiveness of magnesium in the treatment of nipple vasospasm, clinical experience has found magnesium and calcium supplements effective. If these measures don't help, nifedepine slow release 30 mg tablet once per day may be prescribed.^{5,16}

When Maria brings Ben for his immunisations at eight weeks, you tentatively ask how breastfeeding is going. Finally, feeding is now pain free, Maria responds with a smile. Congratulations to mother and doctor for clearing some of the common hurdles in initiating breastfeeding.

A high proportion of women in Australia initiate breastfeeding with 82% of women breastfeeding at hospital discharge.¹⁹ Although women have a range of expectations regarding how long they will breastfeed, they generally plan to breastfeed for months, rather than weeks.²⁰ Yet many women give up breastfeeding in the early weeks for a range of reasons. The most common reason given for early cessation of breastfeeding is 'not enough milk',²¹ but nipple and breast problems may also force some women to wean prematurely. Some women who give up

breastfeeding early experience this as a personal failure.²⁰

Several months later, Maria rings to say that one breast is sore and she has a headache. Ben slept through the night and she woke up with engorged breasts.

Most likely diagnosis?

Noninfective mastitis.

Management

Maria should aim to improve drainage of her painful breast by increasing the frequency of feeds or expressing in addition to feeding until this episode resolves. Most women find heat and massage of the area helps to relieve the blockage. Analgesia, such as ibuprofen, should be taken regularly.

Antibiotics are not required at present, unless symptoms last more than 24 hours.²² A prescription can be given with instructions to begin if the problem is not improving in 24 hours. The addition of nystatin capsules, two capsules four times per day with the antibiotic, may help avoid a recurrence of breast thrush.

Women are at risk of mastitis whenever there is a reduction in breast drainage, eg. baby is unwell and not feeding properly or external pressure on the breasts, eg. tight clothing, car seatbelt. Antibiotics are not necessary in inflammatory mastitis.²² Anticipatory guidance can help women overcome these episodes.

Conclusion

Many women who give up breastfeeding in the early postpartum period are disappointed they were unable to breastfeed for longer. General practitioners can support women to breastfeed by treating their problems and referring them to the Australian Breastfeeding Association (formerly Nursing Mothers' Association of Australia) for mother-to-mother support. Many maternity hospitals offer breastfeeding clinics staffed by qualified lactation consultants.

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Resources

Australian Breastfeeding Association website: <http://www.breastfeeding.asn.au/bfinfo/care.html>

Material from Canadian paediatrician, Dr Jack Newman: <http://users.erols.com/cindyryn/31.htm>.

SUMMARY OF IMPORTANT POINTS

- Mastitis is an inflammation of the breast. Antibiotics are necessary in severe cases or when the nipple is damaged or if symptoms persist longer than 24 hours. The recommended antibiotic is dicloxacillin or flucloxacillin, 500 mg four times per day.
- Burning nipple pain and shooting breast pain may be caused by candida infection. Antifungal treatment is needed for mother and baby.
- Vasospasm of the nipple causes pain associated with nipple blanching. Nipples should be kept warm to reduce vasospasm, oral nifedipine may be needed to break the cycle of vasospasm.

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