Infant & Toddler Feeding Case Files 嬰幼餵哺檔案

Baby Friendly Hospital Initiative Hong Kong Association

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Breast Pain Without A Lump

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Case History



Ms. Lovely, with good past health, had an uneventful delivery of her second baby. She resumed work while continuing with direct breastfeeding, supplementing with pumping and bottle-feeding. At about 6 months postpartum, she began to experience bilateral breast pain. The pain was deep and shooting, scoring 7 out of 10 in severity. It occurred soon after milk removal and lasted for an hour. She was afebrile and without other flu-like symptoms. She consulted a doctor 2 weeks later. Breast examination was essentially normal. There was no local tenderness or palpable

lump. Further exploration revealed that she had completed a course of an antibiotic due to a urinary tract infection a week before onset of the pain. The baby was otherwise well, without oral or perineal thrush. Observation of her breastfeeding showed good positioning and attachment. Based on the clinical presentation, she was diagnosed Intraductal Candidiasis, likely triggered by antibiotics. Topical

anti-fungal treatment (2% miconazole cream) for the mother with prophylactic treatment (Nystatin suspension) for her baby were prescribed.

After 2 weeks' treatment, the breast pain got worse. The areolae were swollen and slightly abraded (Fig. 1). Further enquiry revealed that Ms. Lovely had switched to a larger breast shield for a week after heeding her friend's advice that the breast pain might have been due to an under-sized breast shield. Observation of her pumping showed that the breast



Fig.1 Swollen Abraded Areola Photo Credit: Dr Fung Wai Han

shield was actually over-sized. Too much areola was pulled into the tunnel resulting he tunnel resulting in areolar swelling and abrasion, which might have aggravated the Intraductal Candidiasis. She was advised to use an appropriate-sized breast shield to prevent further nipple trauma. Daktacort® (2% miconazole cream and 1% hydrocortisone) and topical mupirocin ointment were prescribed. Follow-up a week later showed good healing of the areolar lesion but her breast pain reduced only slightly. A 2-week course of oral anti-fungal (fluconazole) treatment was given after which she had complete recovery.

Breast Pain - A Common Reason for Early Cessation of Breastfeeding

Sustained exclusive breastfeeding rate has been increasing globally in the recent 20 years. Hong Kong is no exception. Exclusive breastfeeding rate at 4 months increased from 6% in 1997 to 30.7% in 2016. In a US survey¹ of 1177 mothers within one year postpartum, about 60% stopped breastfeeding earlier than their desired duration. Among them, 15.2% reported painful breastfeeding, while 20.3% reported sore, cracked or bleeding nipples as the reasons for breastfeeding cessation. Prompt professional support is necessary to address these challenges and to help mothers meet their desired breastfeeding goals.

Differential Diagnoses of Breast Pain Without a Lump²⁻⁴

The potential causes are numerous which may occur concurrently or sequentially, and include the following:

- Nipple damage
- Oversupply
- Dermatoses
- Infection: candida, bacteria
- Others: vasospasm, musculoskeletal problem, allodynia

Nipple damage can be caused by suboptimal positioning and attachment, infant biting, improper pumping or tongue tie. The pain usually happens during milk removal.

- Although **suboptimal positioning and attachment** occur more commonly in the early weeks when mother-baby dyads are learning the skill, it should not be overlooked in older infants.
- **Infant biting** or jaw clenching at the breast may be associated with teething, nasal congestion, clavicle fracture, torticollis, etc.

- **Improper pumping** can be due to an **under-sized** breast shield or **mis-placement** in a breast shield where the nipple is abraded during pumping. Too much areola can also be pulled into the tunnel causing abrasion during pumping if a breast shield is **over-sized**. Excessive high-pressure or prolonged suction may damage the breast tissue.
- **Tongue tie** may lead to difficulty in attaining a deep latch and may be associated with nipple pain. Not all babies with tongue tie have feeding problem.

Oversupply can cause breast pain when the breast is very full. A mother with breastmilk oversupply may experience the pain soon after milk removal when the breasts are refilled soon afterwards, or when complicated by recurrent blocked duct or mastitis. The baby may choke at the breast because of exaggerated let down reflex, vomit or pass frequent watery stool.

Dermatoses on the chest such as atopic eczema and psoriasis may simulate breast pain. Painful lesions of Herpes simplex or zoster at the nipple or breast warrant temporary avoidance of breastfeeding until the skin lesion has resolved.

Infection of the lactiferous ducts by Candida and/or Staphylococcus is controversial as both organisms are commonly found on nipples and in breastmilk, even in mothers without breast pain. Their role in breast pain remains unclear. Some have found a correlation between symptoms and the identification of Candida species while others have not. [Bacterial etiology will be discussed in the next newsletter in this series.]

Others:

- **Vasospasm** is arteriolar vasoconstriction in the nipple. It may occur in mothers with connective tissue disorders or Raynaud's phenomenon. They typically experience nipple pain with cold exposure or nipple trauma. The pain can occur during, after or in-between breastfeeding. The classical tri-colour change is pallor, followed by cyanosis, and then erythema.
- **Musculoskeletal** problem in the chest region, such as costo-chondritis, may present as breast pain.
- **Allodynia** is defined as a sensation of pain in response to a stimulus, such as light touch, which would not normally elicit pain. Breast allodynia can occur in isolation or together with other pain disorders, such as irritable bowel syndrome, migraines, etc.

Clinical Approach to Breast Pain Without a Lump^{2,3}

Current views about Intraductal Candidiasis in lactating women are diverse, from "it doesn't exist at all" to "all breast pain is due to candida". The diagnosis of Intraductal Candidiasis is challenging. The nipple and breast in affected mothers may look normal. More than one-third of symptomatic mothers have negative culture of their breast milk.³ Besides, there are numerous causes of breast pain. Currently, a diagnosis of Intraductal Candidiasis is based on the clinical presentation with exclusion of other potential causes (Table 1). Clinical assessment should include history taking, physical examination of both the mother and baby, and observation of breastfeeding and/or pumping. A comprehensive history includes characteristics of the pain, associated symptoms, past maternal and infant health and a 24-hour feeding/pumping diary.

Characteristics of pain:		
Onset		Any time in the postpartum period
Nature		Tingling, shooting, burning or deep
Relation to milk removal		After, sometimes during
Duration		Seconds to hours
Degree of severity		Mild to severe
Other sign*:		
Onset	White bleb(s) at the nipple, nipple damage, itchy skin rash	
Nature Oral thrush		n, diaper rash with thrush
Predisposing factors ⁸ :		
Nipple damage		
• Diabetes		
• Anaemia		
• Use of antibiotics in the mother or baby ²		
Use of steroids in the mother or baby		
Use of oestrogen-containing contraceptives in the mother		

Table 1: Intraductal Candidiasis: Symptoms and Signs

*Remarks: It is not uncommon that both the mother and baby have a normal physical examination.

Management of Intraductal Candidiasis

High quality clinical trials to delineate the most effective treatment of Intraductal Candidiasis for the mother-baby dyad are lacking. Current management regimes are usually based on expert opinions^{2,10} (Table 2). To prevent cross-infection (between the mother and baby), some authorities^{7,8,10} recommend treating a mother-baby dyad simultaneously even when either one is asymptomatic. Drug compliance is essential for successful treatment.

Table 2: Treatment of Intraductal Candidiasis

First line: Anti-fungal topical treatment **2% Miconazole or Clotrimazole cream** onto mother's nipples and areolae (>40% of candida species are resistant to nystatin⁵) Right after milk removal

At least 6-8 times/day •

•

For at least 2 weeks or until pain free for 1 week •

No need to wash nipples before the next breast feed or pumping

Nystatin suspension (1 in 100,000) 1ml painted onto baby's oral mucosa after each feeding

- Asymptomatic baby: 4 times/day, for 1-2 week
- Symptomatic baby: 4-6 times/day until lesion subsides •

II. Second line: Anti-fungal topical treatment

0.5-1% Gentian violet for mother's nipples and baby's oral mucosa, once a day for a maximum of 4 days

III. Anti-bacterial topical treatment

Mupirocin or Bacitracin^{2,3,5,6} as topical antibiotic if there is nipple damage.

A mid- or low-potency topical **steroid** cream^{5,6} can also be added to facilitate healing.

IV. Anti-fungal oral treatment

Add oral **Fluconazole** if symptoms fail to respond to topical treatment.^{2,3,5,6,8,9,10}

- 200mg loading, then 100mg daily for 7-10 days², or •
- 400mg loading, then 200mg daily for 14 days³, or
- 200-400mg loading, then 100-200mg daily for 14-21 days, until pain-free for 1-2 week⁶ •

Fluconazole is a synthetic fungistatic agent and is frequently used for vaginal, oropharyngeal and esophageal candidiasis. Side effects include nausea, vomiting, diarrhea, abdominal pain, headache, dizziness, skin rash, hypokalemia, changes in liver function, QTc prolongation.¹¹ Before prescribing fluconazole, review maternal medications:

Do not use fluconazole in combination with medications also known to prolong the OT interval (www.qtdrugs.org) e.g. domperidone, erythromycin, etc.

Fluconazole increases plasma concentration of phenytoin, warfarin, cisapride and some sulfonylureas⁶

Others:

Diet modification^{6,8,10} (anecdotal recommendation): Reduce sugar, refined carbohydrates, yeasty food

(e.g. bread, alcohol, mushrooms), dairy products (except unsweetened yoghurt)

Adjunctive measures⁸⁻¹⁰: Probiotics lactobacillus acidophilus, Grapefruit seed extract

Frozen breastmilk⁸: La Leche League advises against storing frozen breastmilk to prevent re-infection

because freezing does not kill candida.

Key Messages:

- 1. Early identification with timely management of breast pain can prevent early cessation of breastfeeding.
 - 盡早診斷及治療乳房痛症,能預防過早斷奶。
- Diagnosis and management of Intraductal Candidiasis is a controversial issue. Diagnosis relies more on the clinical presentation than microbiological testing.
 乳管真菌感染的診斷及治療是具爭議性的醫學課題。醫生多會依據臨床表癥而非微生物檢測來診 斷。
- 3. To minimize over- or under-treatment of Intraductal Candidiasis, a systematic approach to excluding other differential diagnoses of breast pain is important. 醫生在診症時,有系統地考慮其他乳房痛症的可能性,是減少過度或錯過治療乳管真菌感染的重要門徑。
- 4. Mother with Intraductal Candidiasis is safe to breastfeed. 哺乳媽媽若患上乳管真菌感染,繼續哺乳仍是安全的。

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