Assessing Breast Pain

~

Nancy Mohrbacher, IBCLC, FILCA

Disclosure: I earn royalties from book & app sales

Overview

Why exclusive breastfeeding (EBF)?
Impact of breastfeeding self-efficacy
Reasons mothers give formula
Strategies that ↑ rates of EBF

Many assume deep breast pain between feedings that is not mastitis indicates ductal candidiasis

Research tells us

Most likely causes of deep breast pain

Symptoms & groups of symptoms provide clues to its cause

CAUSES OF BREAST PAIN

- Yeast
- Yeast & Bacteria
- Bacteria
- Raynaud's phenomenon
- Other possible causes

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Assessing Breast Pain

Bacterial infection

64% with moderate or severe nipple pain & nipple cracks (& babies <1 mo) cultured positive for *Staph aureus*


Possible symptoms:
- Visible pus (exudate)
- Yellow scabs
- Slowed, no healing
- Pain may increase, become intense


Treatments for Staph Aureus Nipple Infections

- Optimal latch
- Mupirocin
- Fusidic acid
- Oral abx

9% 15% 36% 79%


What resolved burning breast pain from infection & vasospasm?

- Treatment with cloxacillin (500 mg qid/10 days)
- Eliminating nipple compression
- Avoiding nipple exposure to cold


Likely Cause of Ongoing Pain

52 lactating women with nipple &/or breast pain:

- 42% + *S. aureus*
- 19% + *C. albicans*

Amir, et al. Gynecol Obstet Invest 1996; 41:30-34

28 women with nipple pain (w/o mastitis) that often radiated into the breast

- 57% + *S. aureus*
- 0% + *C. albicans*

Assessing Breast Pain

**Likely cause of breast pain**

Bacteria were found ~3x more often than yeast in the milk of mothers with deep breast pain.

“We have prescribed fluconazole...for 7 days to patients with deep, burning pain....The result has not been impressive.”


**Misdiagnosis of breast pain**

8 of 12 mothers with severe, throbbing breast pain treated with repeated courses of diflucan saw no improvement.

Histories revealed all 12 suffered from Raynaud’s phenomenon


**Breast pain occurred ...**

In a cold environment

After opening refrigerator door


**Raynaud’s phenomenon**

Episodic arteriospasm reducing blood flow to extremities

Affects 20% of women of childbearing age

More common with autoimmune disorders

**Nipple compression can cause vasospasm (23%)**

- Nipple blanches after feeding
- Intense, shooting breast pain between feedings


**Vasospasm**

http://www.breastfeedinginc.ca/content.php?pagename=vid-vasosp
Other triggers include:
- Cold
- Nicotine
- Caffeine
- Emotional stress
- Vibrating machinery
- Medications: Ergot alkaloids, beta blockers, oral contraceptives, stimulants, pseudoephedrine

Prevention:
- Breastfeed in warm area
- Use blanket, wear warm clothing
- Apply dry heat after nursing, don’t air-dry nipples
- Massage nipple
- Avoid cold & other triggers

Treatment:
- Warmth, massage
- 30 mg sustained-release nifedipine 1x/day for 2 wk
- Vitamin B6 — 100 mg bid for 2 wk

Incidence of Candida infections
At 2 wk, 23/100 positive for Candida infection, 8/23 symptomatic
By 9 wk, 20/23 (87%) symptomatic
No controls tested positive or developed symptoms

Possible symptoms in mother:
- Plaque
- Redness
- Slowed/no healing
- Pain may be intense
- No visible symptoms

Possible symptoms in baby:
- White plaques in mouth
- Diaper rash
- No visible symptoms

Is ductal candidiasis even possible?
93% of physicians do not use lab testing to diagnose Candida

Why? No Candida growth with lactoferrin

But new methods of diagnosing Candida growth measure (1→3)-β-D-Glucan (comprises 40% yeast’s cell wall, very sensitive)

New growth medium: CHROMA-gar Candida (CAC)

Hale study
18 asymptomatic controls
16 mothers with symptoms
• Nipple trauma
• Stabbing, burning breast pain
• Painful breastfeeding with no other diagnosis

Areola & nipple washed & rinsed well to remove infant saliva
Then pumped milk to culture

Results
No elevated levels of (1→3)-β-D-Glucan found in control or symptomatic moms whether or not iron was added to milk.
When pure Candida samples were added to the milk, it grew both with & without added iron

“It is possible that this symptom constellation represents a different pathology or multiple pathologies.”
Long-term nipple & breast pain
Chart review of 64 mothers over 5 yr w/chronic breast &/or nipple pain that is not mastitis
50% of 60 cultured positive for pathogenic bacteria
None grew Candida

Combination of S. aureus & C. albicans implicated in persistent, relapsing infections
Symptoms
- Chronic nipple lesions do not heal
- Deep breast pain
- Tender breasts

69% had been treated for breast candidiasis
43% of this group reported antifungals had partly relieved their pain

Antibiotics taken 3-6 wk; choice based on allergy, frequency preference, milk culture results & cost:
- Cephalexin 500 mg qid
- Dicloxacillin 500 mg qid
- Clindamycin 300 mg qid
- Erythromycin 333 mg tid
- Amoxicillin/clavulanate 875 mg bid

Average duration of antibiotic treatment: 5.7 wk
Those with negative milk cultures improved at same rate
Pain resolution: 94%

Small colony variants of Staph Aureus
Slow-growing, colony one-tenth the size
Implicated in persistent, relapsing, antibiotic-resistant infections
May take weeks of antibiotics to clear
Chronic nipple lesions, deep breast pain, tender breasts
Sendi & Proctor. Trends in Microbiology 2009; 17(2):54-58
The role of biofilm

Coating grown to protect bacteria colony
May be stimulated by saliva
Can grow on pacifiers
Highly resistant to topical & oral antibiotics


Birth to 8 wk

- ≤6 questionnaires
- ≤6 cultures from nipple, breast & nose, baby’s nose & mouth

Culture not widely available
Oral anatomy not checked
Breastfeeding not observed


- 79% reported nipple pain
- 54% breast pain, radiating & not
- 42% burning nipple pain

Burning nipple pain & radiating breast pain can be caused by nipple damage


- Weeks 2-8, significant relationship between pain & presence of *Candida*
- Link between *Candida* & pain independent of trauma or *Staph aureus*
- Pain of *Candida*
  - Persistent, mild to severe
  - Not relieved by nipple shields, pumping, heat


At 4 weeks, >50% with & without symptoms were colonized with *Staph aureus*

“...clinicians should be cautious about diagnosing infection (whether fungal or bacterial) in every woman with nipple damage.”

Assessing Breast Pain

Comparing approaches

Conservative (CTX)
- Improve latch
- Topical ointment

Oral antibiotics (OTX)
- CTX failed
- Narrow-spectrum antibiotic chosen based on culture results & allergies/sensitivities


Failed CTX if pain not reduced ≤5 days
In those who failed CTX:
- Greater pain at first
- Latch fix reduced pain less
- With OTX, pain dropped quickly


At 6-12 weeks, groups comparable
- CTX group had no more complications
- Pain levels low
- Breastfeeding rates equal

Median length of antibiotics: 14 days


Assessment
- Baby’s age
- Breast (lumps, firm areas, red streaks, fever)
- Nipple (trauma, pus, discharge)
- History (nipple trauma, color changes [fingers], breast surgery)
- Location of pain (one breast, both)

Mohrbacher. Breastfeeding Answers Made Simple, 2010

Location & timing of pain

<table>
<thead>
<tr>
<th>Breast Pain Occurs</th>
<th>During Feedings</th>
<th>Between Feedings</th>
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</thead>
<tbody>
<tr>
<td>In one breast</td>
<td>Nipple trauma</td>
<td>Referred pain from nipple trauma</td>
</tr>
<tr>
<td></td>
<td>Mastitis</td>
<td>Mastitis</td>
</tr>
<tr>
<td></td>
<td>Infection (bacterial or fungal)</td>
<td>Infection (bacterial or fungal)</td>
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<tr>
<td></td>
<td>Referred pain from elsewhere</td>
<td>Referred pain from elsewhere</td>
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<tr>
<td></td>
<td>Internal scarring from breast surgery/injury</td>
<td>Internal scarring from breast surgery/injury</td>
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<tr>
<td></td>
<td>Ruptured breast implant</td>
<td>Ruptured breast implant</td>
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<tr>
<td></td>
<td>Galactocele</td>
<td>Galactocele</td>
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<td></td>
<td>Ductal ectasia</td>
<td>Ductal ectasia</td>
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<tr>
<td></td>
<td>Breast cancer</td>
<td></td>
</tr>
<tr>
<td>In both breasts</td>
<td>Engorgement (if baby ≤ 2 wk)</td>
<td>Referred pain from nipple trauma</td>
</tr>
<tr>
<td></td>
<td>Strong milk ejection</td>
<td>Raynaud’s/Vasospasm</td>
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<tr>
<td></td>
<td>Premenstrual pain</td>
<td>Muscle strain from large breasts</td>
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Unusual causes of breast pain

- Strong milk ejection
- Premenstrual pain
- Muscle strain from large breasts

Mammary Constriction Syndrome

http://www.breastfeedinginc.ca/product.php?prodID=42

“A still hypothetical and newly described set of symptoms that address breast and nipple pain caused by the tightening of chest muscles leading to a lack of blood flow to the breast and nipples. May be treated with Pectoral Muscle Massage.”

—Edith Kerneman, IBCLC, “The Pain Algorithm for Sore Nipples & Breasts


Mammary Constriction Syndrome

http://www.breastfeedinginc.ca/product.php?prodID=42

The mother should do these stretches gently and it is best to hold them for at least 30 seconds if possible. It is reported that the mother not bend forward from the hips but rather gently push her upper body forward while keeping her armpit placed against the doorway or wall. The mother should then use her opposite hand to hold her head so her arm is parallel to the floor; one arm of her pectoral muscles will stretch. By lifting her hand up over her head, so her arm is extended, other parts will stretch.

Unusual causes of breast pain

- Referred pain from injury elsewhere
  - Galactoceles: Movable lump
  - Ductal ectasia: Multi-colored discharge

Internal scarring from breast surgery

- Ruptured breast implant
- Breast cancer
  - Inflammatory
  - Paget’s disease
  - Other types

Questions?

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