



Dermatoses of the Breast During Lactation

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Disclaimer:

This module uses terminology related to race and ethnicity in order to describe fictional patients and discuss medical conditions. We recognize that “race” (i.e. an individual’s socially-constructed phenotype, which is often viewed as biologic) and “ethnicity” (i.e. an individual’s geographic birthplace or cultural/national heritage) are imperfect terms that do not fully encapsulate the breadth of human diversity.

Additionally, we recognize that race, ethnicity, sex, and gender have traditionally been attributed as risk factors for certain health condition, when in reality, many of these risks may be more accurately explained by underlying socioeconomic and sociocultural factors.

In efforts to emphasize patient-centered care and autonomy, this module assumes that all racial-, ethnic-, sex-, and gender-related terms utilized are those specifically preferred by the patient. We are also committed to dissecting potentially biased risk factors in order to promote more equal, just, and comprehensive healthcare for all persons, regardless of their identity, beliefs, or background.

Physiologic Change: Lactation

- Increased epithelial cell proliferation and differentiation in milk-producing alveoli secretory gland
- Number of adipocytes decreases and vascularization increases in mammary gland

Image unavailable

[Breast imaging of the pregnant and lactating patient.](#) American Journal of Roentgenology. Updated February 2013. Accessed December 15, 2022.

BREAST MASSES



Breast Masses in Lactating Women: DIFFERENTIAL DIAGNOSIS

- Mastitis (with or without abscess formation)
- Fibroadenoma
- Lactational adenoma
- Breast infarction
- Galactocele
- Fibrocystic changes
- Pregnancy associated breast cancer

Fibroadenoma

- **Background:**
 - One of the most prevalent benign breast lesions in women younger than 35 years
 - Infarction may occur in larger ones
- **Clinical Presentation:**
 - Painless firm, mobile, rubbery masses with smooth rounded borders in a young woman
 - Rapidly growing
 - Often multiple and bilateral
 - Infarcted fibroadenomas present as tender, nonmobile masses
- **Diagnosis:**
 - Breast ultrasound for younger patients (<30) and mammography for older patients (>40)
 - Ultrasound-guided biopsy should be considered for any new solid mass in a pregnant or lactating woman despite benign ultrasound experience
- **Treatment:**
 - None
 - If results from imaging test or biopsy are concerning, may need surgery
- **Management:**
 - Clinical surveillance
 - Refer highly suspicious lesions for imaging

Fibroadenoma

Image unavailable

[Breast cysts and fibroadenoma medical illustration.](#) News Medical. Updated October 9, 2019. Accessed December 15, 2022.

Image unavailable

[Fibroadenoma of the breast.](#) Radiopaedia. Accessed December 15, 2022.

Lactating Adenoma

- **Background:**
 - Benign lesion usually occurs in third trimester or lactation period
 - Often in women in their 30s
- **Clinical Presentation:**
 - Soft, mobile lesion, usually painless
 - May be multiple and bilateral
 - May become infarcted and present as firm tender mass
- **Diagnosis:**
 - Breast ultrasound
 - Ultrasound-guided biopsy should be considered for any new solid mass in a pregnant or lactating woman despite benign ultrasound experience
- **Treatment:**
 - Treated conservatively as most resolve spontaneously after cessation of breastfeeding
 - If lactating adenoma increases in size or persists, surgery may be required
- **Management:**
 - Clinical surveillance

Lactating Adenoma

May be indistinguishable from a fibroadenoma on sonography

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[Lactating Adenoma.](#)

Radiopaedia. Updated August 5, 2022. Accessed December 15, 2022.

Breast Infarction

- Palpable painful ill-defined mass with variable consistency
 - Sometimes misinterpreted as carcinoma
- Due to hypertrophic physiologic changes within prior lesions like fibroadenomas and lactating adenomas

Galactocele

- **Background:** Most common benign breast lesion in lactating women (generally diagnosed after delivery)
 - Usually appear after cessation of breastfeeding or when milk is not completely evacuated from lactating breast
 - Cystic structure filled with milk-like fluid (sometimes multiloculated)
- **Clinical Presentation**
 - Painless palpable round swelling, either unilaterally or bilaterally
- **Diagnosis**
 - Ultrasound: round well-delimited structure (appearance depends on content proportion of fluid, fat, and protein)
 - Fine needle aspiration resulting in milky fluid (both diagnostic and therapeutic)
- **Treatment**
 - Conservative - usually resolves spontaneously on cessation of lactation
- **Management**
 - Breast massage is preventative and therapeutic

Galactocele

Image unavailable

[Galactocele](#). Radiopaedia.
Accessed December 15, 2022.

Fibrocystic changes

- **Background:** most common in women who are 35-50 years; due to hormonal activation of breast tissue
- **Clinical presentation:**
 - Ranges from nodular breasts to discrete masses, usually in upper outer quadrants
 - Swelling, pain, tenderness of breasts
- **Diagnosis**
 - Diagnosis of exclusion
 - >35 years: Mammogram
 - Any other age: Ultrasound -> Multiple cysts that are different sizes, enlarged ducts
- **Management**
 - Follow-up closely to rule out cancers
 - Concerning features on ultrasound -> MRI, image-guided core biopsy
- **Treatment**
 - Benign features -> Conservative
 - Concerned for malignancy -> Excision

Pregnancy Associated Breast Cancer (PABC)

- **Definition:** Breast cancer that occurs in pregnancy and or in the first postpartum year
- **Clinical presentation:**
 - Most commonly presents as a painless, palpable breast mass that persists
 - Can also present with swelling and skin thickening
- **Diagnosis/management**
 - Mammogram and ultrasound
 - If ultrasound suspicious, perform core needle biopsy
- **Treatment**
 - Depends on stage and trimester during diagnosis
 - Suggestions for surgery:
 - First semester: Total mastectomy
 - Second and third semesters: Breast conservation surgery
 - Chemotherapy - contraindicated in first trimester, usually discontinued 3-4 weeks before delivery

Image unavailable

[Pregnancy-Associated Breast Cancer](#). Cureus. Updated September 9, 2020. Accessed December 15, 2022.

Infections



Mastitis

- Inflammation of ducts, alveoli, and/or connective tissue
- Encompasses a spectrum of conditions

Ductal narrowing

Inflammatory mastitis

Bacterial mastitis

Phlegmon

Abscess

Galactocele

Subacute mastitis

- **Clinical Presentation:**

- Unilateral breast tenderness/warmth/redness
- Setting of fever and often generalized myalgias

- **Diagnosis:** clinical (no imaging or laboratory tests)

- **Management for all conditions:**

- Encourage hydration, cool compresses in between expression, NSAIDs, and application of breast milk for cracked nipples. Treat symptomatically.
- Continue to breastfeed from both breasts (even while taking antibiotics). Apply ice between feeding sessions.
 - Infant is not at risk of getting the infection
 - Exception: patients with HIV (lactational mastitis can increase risk of HIV transmission)
 - *In the developed world, do not recommend breastfeeding if mothers have HIV.
- Recurrence happens in almost 50% of patients so decrease risk factors by improving breastfeeding technique, considering a lactation consultation

- **Bacterial mastitis:**

- Use first line antibiotics dicloxacillin or flucloxacillin 500 mg four times a day for 10-14 days **only** for bacterial mastitis.
- If there is no improvement after 48 hours, get a milk culture.

Mastitis

- In darker skin colors, erythema may appear violaceous/brownish. Ask patients if their skin looks different than their normal skin color.
 - Applying brief gentle pressure with fingertip to blanch the involved skin can accentuate subtle erythema
- Postinflammatory hyperpigmentation is more prominent and lasts longer in darker skin colors

Image unavailable

[A markedly enlarged breast postpartum with a brownish and somewhat violaceous hue above the areola and an erythematous plaque beneath it.](#) VisualDx. Updated March 09, 2022. Accessed September 24, 2022.

Image unavailable

[A deep red plaque with overlying crusting of the right chest.](#) VisualDx. Updated March 09, 2022. Accessed September 24, 2022.

Abscess

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[Subareolar breast abscess on a woman](#). Healthline. Updated June 27, 2023. Accessed July 6, 2023.

- Often complication of lactational mastitis
- **Clinical Presentation:**
 - Painful, red, warm breast
 - Lump or swelling in breast
 - May also have fever
- **Diagnosis:** Often clinical, can use ultrasound
- **Treatment:**
 - Incision and drainage
 - Continue to breastfeed from affected breast.
 - Use antibiotics usually for 10-14 days.

Educate patients about signs/conditions that warrant an emergency: fever > 102 F, lethargy, nausea, abscess

Nipple candidiasis

- **Clinical presentation:**
 - Flaky skin on nipples; sore nipples, sometimes with sharp, shooting breast pain; can also be asymptomatic
- **Diagnosis:**
 - More rare than previously thought
 - Clinical
 - History of candidal infection in mother or infant
 - Breast pain out of proportion to physical exam
 - Scraping for Candida or milk culture that is positive for Candida
- **Management:**
 - Nipple/breast pain: Topical miconazole or clotrimazole
 - Refractory symptoms: Oral fluconazole 400 mg on Day 1 -> 200 mg per day for 14 days to achieve peak level in breast milk is 4.1 mg/L
 - For infant: Oral nystatin 0.5 mL four times a day

Herpes on nipple

- **Causes:** Herpes simplex virus
- **Clinical presentation:** Vesicles on erythematous base
- **Diagnosis:** Viral culture of vesicles
- **Management:**
 - Avoid breastfeeding due to risk of transmission of virus to infant!
 - Can pump milk if it does not come in contact with vesicles
 - Can express with unaffected breast
- **Treatment:** Acyclovir, Valacyclovir

Image unavailable

[Herpes simplex of the nipple.](#)
DermNet. Updated July 2021.
Accessed September 24, 2022.

Nipple Discharge

Nipple Discharge

Physiologic	Pathologic
Bilateral	Unilateral
Non-spontaneous	Spontaneous
White, green, yellow, or brown	Bloody, serous, or clear
Resolves spontaneously (may continue up to 1 year after childbirth or ending lactation)	Persistent
Arises from multiple lactiferous duct orifices	Arises from one duct orifice
	Can be associated with a mass

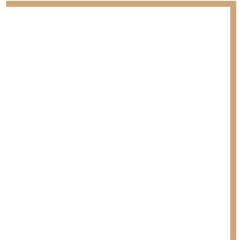
Bloody nipple discharge

- Bloody nipple discharge in pregnancy or lactation is uncommon
 - Likely due to vascular engorgement and trauma (i.e. poorly fitting flanges, poor latch-on)
- Normal in up to 15% of nursing mothers
 - If not associated with trauma, investigate further
 - Also order further workup if continues for more than 2 months after delivery
- Rule out papilloma/breast cancer
- Management
 - Can continue to breastfeed
 - Will not harm baby if there is a small amount from nipple trauma
 - If medical conditions like hepatitis B/C, stop breastfeeding temporarily until nipples have healed

Image unavailable

[Nipple Discharge](#). Breastlink.
Updated July 23, 2015.
Accessed December 15, 2022.

Other



Nipple dermatitis

- **Causes:** Associated with breastfeeding or contact to irritants to nipples
- **Clinical presentation:**
 - Acute onset
 - Red, scaly plaques along with possible crusting, fissuring, and oozing; can be unilateral or bilateral
- **Diagnosis:** Clinical
 - Look for atopic dermatitis elsewhere on body
- **Management:**
 - Use fragrance free soaps and laundry detergents.
 - Apply warm compresses and then Vaseline (petroleum jelly)
 - Can use topical steroid ointments (low or medium potency)

Image unavailable

[A scaly, eroded, crusted plaque with overlying similar papules over and around the areola.](#)
VisualDx. Updated August 10, 2021. Accessed September 24, 2022.

Image unavailable

[An oozing, scaly and crusted, pink and violaceous plaque on the nipple and areola.](#)
VisualDx. Updated August 10, 2021. Accessed September 24, 2022.

Image unavailable

[A markedly scaly plaque on and around the areola.](#)
VisualDx. Updated August 10, 2021. Accessed September 24, 2022.

Substances that can cause nipple dermatitis

AVOID Lanolin/aquaphor cream due to concerns of skin hypersensitivity

AVOID using APNO, all purpose nipple ointment (Dr. Jack Newman's cream)

- Contains:
 - Mupirocin ointment
 - Betamethasone ointment
 - Miconazole powder

Instead, pinpoint the actual diagnosis and use more **targeted** treatments

Paget's disease of breast

- **Background:**
 - Usually presents in women > 50 years
 - Most also have underlying ductal carcinoma in situ or invasive cancer while a few have isolated Paget's disease of breast
- **Clinical Presentation:**
 - Flaky or crusty nipple with hardened skin (*can be confused with eczema*), erythema, itchings, nipple discharge, flattened or inverted nipple, lump in breast
 - Usually occurs in one breast only
 - Insidious; gradual expansion over months or years
 - Does not respond to regular breast dermatitis treatment -> investigate with biopsy
- **Diagnosis:** Biopsy
- **Treatment:** Surgery (mastectomy, lumpectomy) with or without adjuvant therapy

Image unavailable

[A scaly brown plaque on the nipple and areola.](#) VisualDx. Updated April 22 2019. Accessed December 13 2022.

Image unavailable

[A well-demarcated, pink and violaceous, scaly and crusted plaque on the nipple and areola.](#) VisualDx. Updated April 22 2019. Accessed December 13 2022.

Image unavailable

[A large, well-demarcated, pink, crusted plaque over the nipple and areola, extending onto the breast.](#) VisualDx. Updated April 22 2019. Accessed December 13 2022.

Image unavailable

[A deep red papule on the nipple.](#) VisualDx. Updated April 22 2019. Accessed December 13 2022.

Nipple erosion/trauma

- Causes: poor latch-on, not using the right size flanges, pumping issues (i.e. too much suction)
- May lead to nipple ulcer
- Rule out Paget's disease
 - Biopsy only in extremely suspicious cases

Fitting Flanges

- Incorrectly sized flanges can cause nipple damage
 - TOO SMALL
 - Bruising at base of nipple
 - Cracks at base of nipple
 - Skin breakdown from excessive friction
 - TOO LARGE
 - More chance for nipple swelling and damage
 - Areola goes into tunnel and can swell

Image unavailable

[Choosing the right flange size.](#) Updated January 14, 2022. Accessed September 24, 2022.

Nipple blebs

- **Causes:** Inflammation of lining of ducts, usually occur with poor latch, hyperlactation, pumping, and c-sections
- **Clinical presentation:** Hard, whitish papules on surface of nipple that are painful; may be described as “blisters, scabs, shards, stones, pebbles”
- **Diagnosis:** Clinical
- **Management:**
 - BAIT (Breast rest, Advil, Ice, Tylenol), therapeutic ultrasound
 - Therapeutic ultrasound
 - DO NOT squeeze out blebs or rupture them with needles! This can lead to increased inflammation.

Image unavailable

[Blebs](#). Physician Guide to Breastfeeding. Updated 2022. Accessed September 24, 2022.

Image unavailable

[Persistent pinpoint bleb](#). Physician Guide to Breastfeeding. Updated 2022. Accessed September 24, 2022.

Image unavailable

[Unroofed bleb](#). Physician Guide to Breastfeeding. Updated 2022. Accessed September 24, 2022.

Vasospasm

- **Causes:** Alteration in blood flow; common in patients with Raynaud syndrome
- **Clinical presentation:** Changes in nipple color from white to blue to red along with nipple hardening and pain; worsening pain with trauma and cold environments
- **Diagnosis:** Clinical
- **Management:**
 - Keep nipples warm at all times.
 - Use calcium channel blockers or selective serotonin receptor inhibitors (SSRIs)

Lymphatic Massage

Avoid deep massage of the lactating breast and commercial deep massagers. Can recommend lymphatic massage to reduce swelling/engorgement in patients by assisting the movement of lymph fluid.

Technique: Use a very gentle touch/traction of skin similar to petting a cat. The purpose is to lift the skin to allow the flow of lymphatic drainage.

- Make ten small circles above the collar bone
- Make ten circles in the underarm area
- Continue with light touch massage from nipple towards the collarbone and underarm

Image unavailable

[Lymphatic drainage.](#)
Physician Guide to
Breastfeeding. Updated
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Others

- Dilated lactiferous sinuses
- Montgomery glands - common
- Supernumerary nipples

Resources

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