



“Breast Abscesses: Understanding Management, Risk Factors, and Treatment Strategies”

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Patient Presentation

Demographics:

Age: 22

CHIEF COMPLAINT:

“I came because of a painful lump on my left breast”

Patient Presentation

History of Present Illness:

Patient is a 22-year-old female with a past medical history of lupus, presents with a painful lump on the left axilla that started on [REDACTED]. Upon admission to the hospital on [REDACTED], she was also experiencing a warm, reddened, firm to touch mass with a consistent 10 out of 10 burning pain that had expanded to her breast with a minimal purulent discharge. Patient states that moving the arm exacerbates the pain. She tried using Epsom salt with warm cloths to alleviate the pain but was not successful. However, she did say that over the counter painkillers work to alleviate the pain. She is currently taking 20mg of oral Prednisolone two times a day to treat her lupus. There is no history of fever, inversion of the nipple, or peau d' orange.

Past Medical History

No childhood Illnesses

Diagnosed with Lupus on [REDACTED]

No Surgery

Menarche at 12 with regular menstruation

No psychiatric history

Health Maintenance

- Immunizations up to date

No transfusions or broken bones

Medication

- Prednisolone 20 mg po, b.i.d.

NKDA



Review of Systems

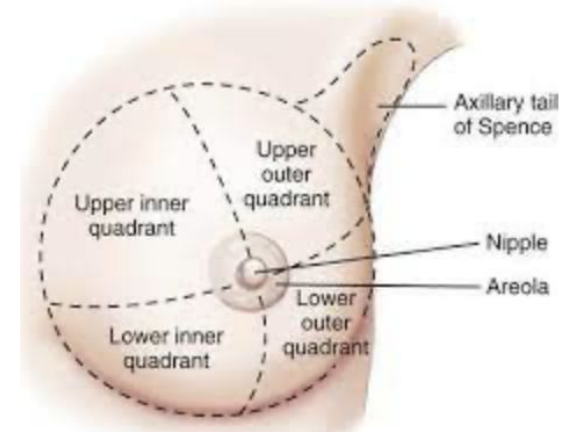
- General - No abnormalities
- **Skin - Red spots when exposed to sun**
- HEENT - No abnormalities
- Neck - No abnormalities
- **Breast - See HPI**
- Respiratory - No abnormalities
- Cardiac - No abnormalities
- **GI - Watery Diarrhea, no nausea or abdominal pain**
- GU - No abnormalities
- MSK - No abnormalities
- Neurologic - No abnormalities
- Hematologic - No abnormalities
- Endocrine - No abnormalities
- Mental Health - No abnormalities

Vital Signs upon arrival

- Temperature: 98°F
- Pulse: 100 b/m
- Respirations: 24 breaths per min.
- O2 saturation: 98%
- BP: 135/70 mmHg

Physical examination Pre-surgery

- Patient was conscious and alert, presenting with mild painful distress. Upon inspection of the left arm, there was a tender, fluctuant mass in the axilla that radiated to the upper outer quadrant of the left breast. The mass was red with increased temperature and a constant pain scaled 10/10. The breast also presented with a mild purulent discharge.
- We consider that in addition the patient should have had, a general survey, an ultrasound and an x-ray before surgery but these were not performed.



(Stanford Medicine. 2025)

Laboratory Values

Test	Results	Normal Range
Neutrophils	76%	50-62
Lymphocytes	17%	25-40
Monocytes	7	3-7
Eosinophils	0	0-3
Basophils	0	0-1

Laboratory Values

Test	Result		Normal Range	
GLUCOSE	80.	mg/dL	65.	125.
UREA	36.8	mg/dL	15.0	50.0
CREATININE	.5	mg/dL	.4	1.3
SODIUM	138.	mmol/L	135.	145.
POTASSIUM	3.9	mmol/L	3.5	5.0
CHLORIDE	100.	mmol/L	98.	108.
CARBON DIOXIDE	27.	mmol/L	22.	30.
ALBUMIN	3.8	g/dL	3.5	5.3
ALKP	76.	U/L	35.	123.
TOTAL BILI	< .1	mg/dL	0.0	1.2
AST	19.	U/L	0.	40.
ALT	HI 36.	U/L	0.	35.
TOTAL PROTEIN	6.7	g/dL	6.2	8.5

Organism Identified	Sensitivity		
	Sensitive	Intermediate	Resistant
1. No organism grown after 48 hours incubation			
2.			

Bacteriology Report was done and there was no organism growth after 48 hours of incubation.



Summary

- Patient is a 22 year old Female that came to the hospital complaining about a painful lump on her left axilla radiating towards the breast. She described the lump as warm, reddened, firm to touch mass with a mild discharge. She expressed the pain towards her axilla region as 10/10. Upon moving the arm the pain exacerbates and painkillers help relieve it. She presents with mild purulent discharge and swelling of the left breast axilla. No history of fever, inversion of the nipple, or peau d' orange. On [REDACTED] she had a surgical drainage of a breast lump (250ml of accumulated purulent fluid). Patient is diagnosed with Lupus since [REDACTED]. She is currently on steroids for Lupus management. Upon ROS, red spots on skin, left sided lump on breast and watery diarrhea were present. Laboratory findings shows an increased neutrophil, decreased lymphocytes, and pus cell present.

Assessment and Plan

Patients current medications:

- **Lasix:** [redacted] - [redacted]
 - 40 mg po od
- **Spironolactone:** [redacted] - [redacted]
 - 25 mg po od
- **Metoprolol:** [redacted] - [redacted]
 - 25 mg po od
- **IFA:** [redacted] - [redacted]
 - Half a tab po od
- **Prednisolone:** [redacted] - [redacted]
 - 20 mg po bd
- **Amlodipine:** [redacted] - [redacted]
 - 10 mg po od
- **Lisinopril:** [redacted] - [redacted]
 - 10 mg po od



Assessment and Plan

Drug plan:

- **Ceftriaxone:** [redacted] - [redacted]
 - 1g IV every 12 hours for 4 days.
- **Flagyl:** [redacted] - [redacted]
 - 500 mg IV every 8 hours for 4 days.
- **Omeprazole:** [redacted] and [redacted]
 - 40 mg IV OD every 48 hours.
- **Pethidine:** (PRN)
 - 75mg IM.
- **Gravol:** (PRN)
 - 50 mg IM every 6 hours.
- **Tramadol:** [redacted]
 - 50 mg IV
- **Voltaren:** [redacted]
 - 75 mg p.o



Diagnostic plan:

- CBC: [redacted]
- Pathology report of abscess contents: [redacted]

Diagnosis:

- **Pre-operative:** Abscess of Left Breast (Recurrent)
- **Post-operative:** Same

Surgical plan:

- [redacted]:
 - Admitted to surgical ward.
 - OT booked
 - Scheduled Incision and drainage of left breast under general anesthesia.

Post-operative plan:

- [redacted]
 - **Ciprofloxacin:** 50 mg p.o b.d for 1/52
 - **Panadol:** 1g p.o PRN for 4/7
 - Daily wound care

Introduction

Definition: local collection of pus in breast tissue.

- Divided into lactational vs non-lactational
- Can be de novo or secondary to another disease
- High rate of recurrence

Risk Factors:

- Maternal age ≥ 30
- First pregnancy
- Gestational age ≥ 41 weeks
- Tobacco

Epidemiology

Higher Incidence in African American patients

Lactational

- Most common, about 5-11% of women with mastitis will develop breast abscess
- Mostly in women of child-bearing age with mean age of 32 years
- Organisms: *S. aureus*, *Streptococcal* spp.

Non-lactational

- Wider range, peak around 40 years of age
- Associated with smoking and diabetes
- Organisms: mixed flora: *S. aureus*, *Streptococcal* spp., anaerobic bacteria

Pathogenesis:



Localized infection



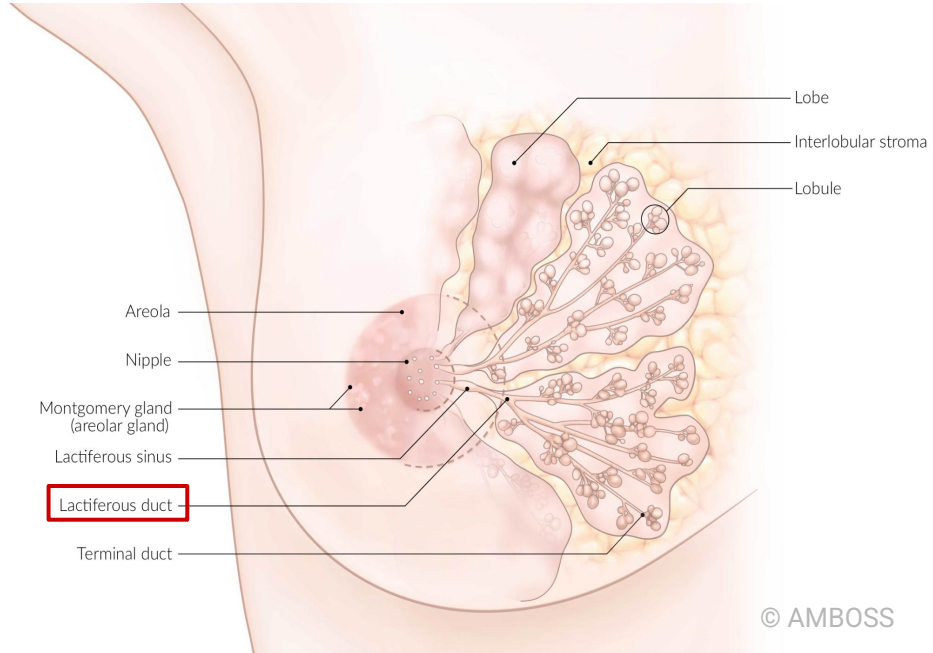
Bacteria reach the lactiferous ducts.



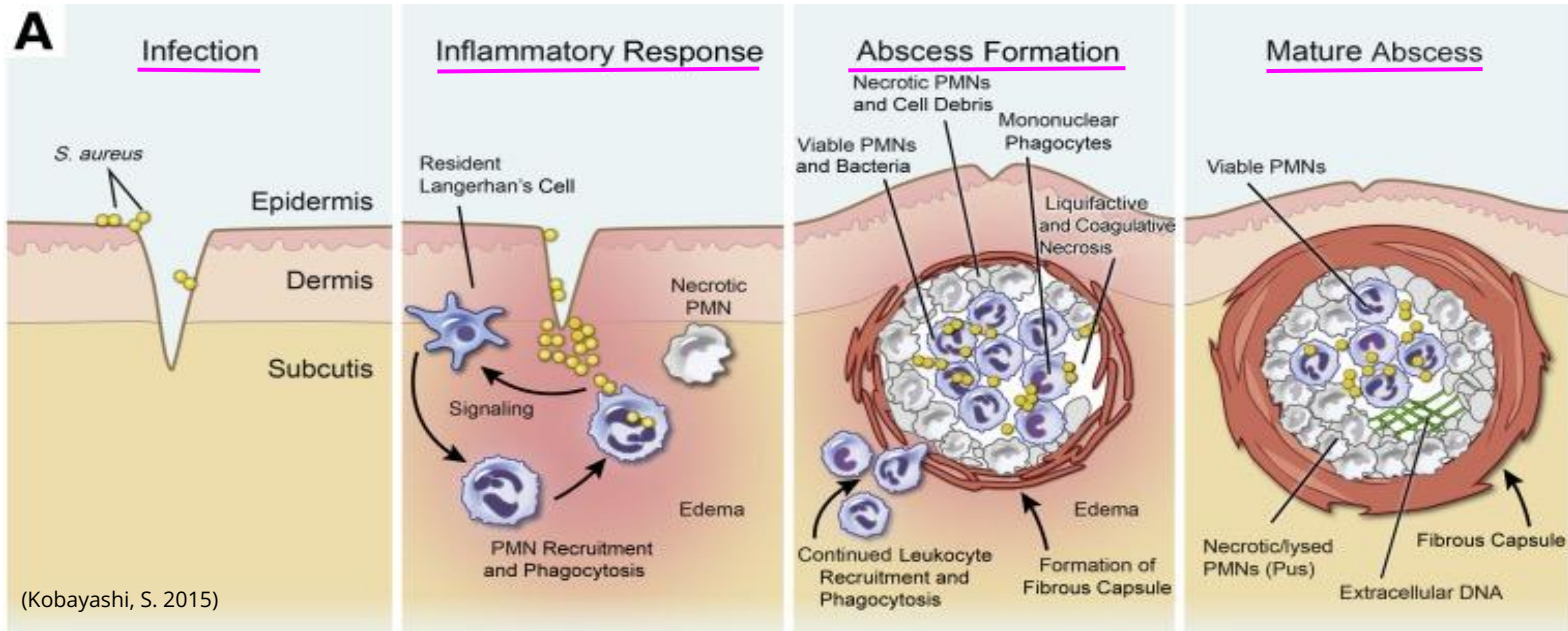
Women that are lactating developed the abscess due to stagnation of milk.



Non lactating women can be because are immunosuppressed.



Pathophysiology



Entry of
microorganism

Immune cells
migrate

Tissue damaged, pus formation
and with a fibrous capsule.

Clinical Features and Diagnosis

Clinical Features:

- Pain
- Edema and Erythema
- Palpable mass
- Purulent Discharge

Diagnosis:

- There was no diagnostic testing performed (CT/X-Ray/Ultrasound) on the patient we saw. The diagnosis of a breast abscess was made using clinical reasoning and physical examination.

According to UpToDate, the diagnosis of a breast abscess should be suspected based on clinical manifestations. The diagnosis may be confirmed via **ultrasonography** which would demonstrate a fluid collection (See image to the right). Also **ultrasound-guided FNA** may be used for aspiration of the discharge.



Differential Diagnoses

In Undifferentiated Female Patients:

- **Cellulitis**
 - Features: Area of erythema and edema that can progress to an abscess.
 - Distinguishing Feature: **No purulent discharge** and would respond to antibiotic treatment.
- **Mastitis**
 - Features: Inflammation of the mammary tissue. There would be erythema and edema as well and localized swelling. Can progress to a breast abscess.
 - Distinguishing Feature: **No purulent discharge** and would respond to antibiotic therapy.
- **Inflammatory Breast Cancer**
 - Definition: Secondary breast inflammation/infection caused by breast cancer.
 - Symptoms: Breast infection that does not resolve with appropriate treatment. Skin thickening due to edema and erythema.
 - Distinguishing feature: **Peau d'orange appearance**

Differential Diagnoses

In Lactating Female Patients:

- **Plugged duct**

- Definition: a localized area of milk stasis within the milk duct that causes distention of the mammary tissue.
- Symptoms: Palpable lump with tenderness
- Distinguishing Feature: **Absence of systemic findings and occurs in lactating patients**

- **Galactocele**

- Definition: (also known as a milk retention cyst) is a cystic collection of fluid that is caused by an obstructed milk duct.
- Features: Soft cystic mass that is nontender to palpation.
- Distinguishing Feature: **Nontender to palpation**

- **Lactational Mastitis**

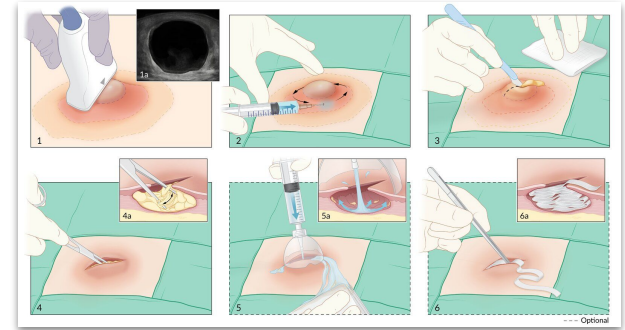
- Features: Edema and erythema of the breast that usually presents within the first 3 months of lactation. Systemic symptoms (fever, chills, tachycardia) can present.
- Distinguishing Feature: **Occurs in lactating patients**

Treatment: Incision and Drainage

Incision and drainage are the gold standard treatment for breast abscesses. Needle aspiration may be done in abscesses smaller than 3 cm and lactational abscesses.

I & D:

- ❖ Incision:
Make a small incision with scalpel blade (Number 11 or 15) over the softest part of the abscess to allow spontaneous drainage of pus
- ❖ Culture Swab:
Obtain a culture swab from the cavity
- ❖ Extension of the incision:
Extend incision and insert a curette to clear out any loculations
- ❖ Irrigation:
Irrigate the cavity with sterile normal saline
- ❖ Wound Packing:
A sterile gauze is inserted into the cavity to absorb purulent material and promote healing by secondary intention. It also prevents the skin incision from healing before drainage is complete.



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Aftercare:

- ❖ IV Antibiotics
- ❖ Daily wound care
- ❖ Assessment of healing by secondary intention

Course, Prognosis and Prevention

COURSE

- > An inflammation around the breast tissue.
- > Starts the collection of pus around the area.
- > Symptoms presentation: redness, swelling, painful to touch and fluctuant.

PROGNOSIS

- > This diagnosis has a favorable prognosis.
- > With proper drainage and administration of appropriate antibiotics, it can be effectively managed.

PREVENTION

- > Lactating women should practice proper breastfeeding techniques to prevent nipple trauma.
- > Seek medical attention promptly upon noticing any abnormalities.
- > Woman who are not breastfeeding but develop a breast abscess should undergo further evaluation to rule out potential malignancy or underlying conditions like diabetes.
- > Recommended to quit smoking.
- > Study the correlation with corticosteroids.

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THANK YOU!

