

Lactational Phlegmon: An Uncommon Clinical Entity Affecting A Breastfeeding —A Case Report and Comprehensive Review of Literature

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Abstract

Introduction: Our goal was to highlight the clinical manifestations and treatment approaches of lactational phlegmon, a distinctive complication associated with breastfeeding that can be effectively managed conservatively.

Case report: We report a case of a 28-year-old breastfeeding female who presented with breast pain, erythema, and swelling. Imaging studies revealed a localized area of inflammatory infiltration consistent with lactational phlegmon. The patient was managed successfully with antibiotics, ultrasound-guided monitoring that revealed regression and supportive care, avoiding surgical intervention.

Discussion: Lactational phlegmon is still an overlooked condition, different from breast abscess.

Diagnosis depends on clinical suspicion and imaging results, especially ultrasound, to distinguish it from other complication. Treatment with suitable medical care can avert the advancement of abscess development and eliminate the need for unwarranted surgical interventions.

Conclusion: Lactational phlegmon should be considered in breastfeeding women presenting with mastitis without abscess formation. This case highlights the importance of imaging and conservative management in achieving successful outcomes.

Keywords: Lactational; Phlegmon; Breastfeeding; Complications; Breast abscess

Introduction

Infection of the breast during lactation is a common complication of breastfeeding and may manifest as mastitis and/or abscess formation. These complications result from milk stasis and bacterial invasion, involving *Staphylococcus aureus* followed by streptococci species. However, the progression to lactational phlegmon, a localized area of inflammatory infiltration without defined abscess formation, remains an uncommon and under recognized complication. Unlike typical breast abscesses, phlegmon presents unique diagnostic and therapeutic challenges that require careful evaluation. The incidence of lactational phlegmon is not well-documented but is estimated to occur in approximately 0.1% to 0.5% of breastfeeding women, often as a progression from untreated or severe mastitis. Our manuscript discusses a rare case of lactational phlegmon, we aim to share with you our practice in such cases.

Case Presentation

A 28-year-old non-Saudi female is medically and surgically free, breastfed post-partum 5 months back. She was presented to the breast surgery clinic complaining of severe right breast pain for 10 days. The patient sought medical care in another hospital and was diagnosed with mild mastitis. The patient was reassured and discharged home. A few days later she presented with moderate to severe breast pain accompanied by swelling on the same side, No history of fever, No nipple discharge, and no other breast-associated symptoms. No significant gynecological and family history. On examination, the patient was in pain, with a right breast palpable lump in the lower quadrant around 4*3 cm tender to palpation with overlying erythema without fluctuation. The laboratory was within normal limits,

the breast ultrasound revealed that the Lower outer quadrant of the right breast is a seat of diffuse thickening of skin (5 mm), with evidence of interstitial edema in the form of anechoic linear streaks in between the echogenic fat lobules. Multiple ill-defined isoechoic areas are seen representing phlegmon. An ill-defined para-areolar heterogenous lesion with mixed cystic areas of turbid fluid containing internal floating echogenic particles and echogenic inflamed fat lobules. It measures about 32 x 18 mm at its maximal dimensions, opposite 6 to o'clock, right enlarged axillary lymph nodes; and shows preserved fatty hilum and normal hilar vascularity with regular, mildly thickened cortex (**Figure 1**). Antibiotics: Augmentin 625 mg PO TID for ten days, warm massage, discontinuation of breastfeeding, and follow-up after 2 weeks. The patient was seen after 2 weeks. On examination of the right lower quadrant, the phlegmon was completely resolved with minimal residual lump para-aerolar. The second monitoring ultrasound showed regression in extension and severity of previously noted right breast Lower outer quadrant diffuse thickening of the skin (3 mm in today's October 24, 2024, study compared to 5mm in the previous one), with evidence of interstitial edema in form of anechoic linear streaks in between the echogenic fat lobules. Multiple ill-defined isoechoic areas are seen representing phlegmon, it measures about 29 x 11 mm in today's study compared to 32 x 18 mm in the previous one in its maximal dimensions, opposite 6 to 7 o'clock (**Figure 2**). The patient was counseled to do a tru-cut biopsy for a persisting lump to rule out atypia and malignancy, but the patient hesitated to do a breast biopsy and was scheduled for breast outpatient clinic and breast ultrasound monitoring after 3 months. The patient

was seen a few weeks later with no residual lump after 3 months.



Figure 1: (A) Breast ultrasound revealed multiple ill-defined isoechoic areas are seen representing phlegmon, it measures about 32.1x18.3 at 6-7 o'clock.



Figure 2: Ten days later as a compression to the previous study at first presentation (B) revealed inflammation improved after the antibiotics.

Discussion

Lactational phlegmon is a rare and under diagnosed complication with no discrete abscess formation but with significant clinical challenges. No clear guidelines are yet available for the treatment of lactational phlegmon pre-sye, though not well described in the literature review. Early detection and treatment of puerperal mastitis complicated by phlegmon are vital. The initial option is conservative management with a course of antibiotics, superficial warm massage and supportive care, weaning from breastfeeding, and close follow-up ultrasound is the

cornerstone. Amoxicillin–clavulanate (Augmentin) is generally safe to take during breastfeeding. It is an oral penicillin-type antibiotic combination containing amoxicillin and clavulanic acid, a beta-lactamase inhibitor. The following are important points regarding its use during breastfeeding: Amoxicillin is secreted into breast milk in small amounts and is considered safe for breastfeeding infants. Side effects in the infant are rare but may include diarrhea, rash, or thrush—clavulanic Acid: Also excreted in small amounts and is generally well-tolerated. The typical appearance of a phlegmon in the ultrasound is a

poorly circumscribed, hypoechoic area, with ill-defined borders. The second highlight is the interval breast ultrasound. The patients need close monitoring to ensure complete resolution after 2 weeks of proper treatment and in three months as we did in our case. The third highlight is that a biopsy is warranted in persistent lumps, atypical, or refractory cases, and all patients should be consulted before a biopsy. Tissue biopsy is indicated to rule out atypia, malignancy, and other underlying pathology. Histopathology can differentiate between infection, inflammatory process, and malignancy, allowing accurate diagnosis and specific management. The patient can be discharged from the clinic once clinical and radiological findings are completed. It is important to distinguish lactational phlegmon from other breast pathologies through careful diagnostic evaluation. Conditions can mimic or be associated with other complications, and therefore, extensive imaging and clinical correlation are essential. The modality of choice is breast ultrasound since it is readily available and highly efficient in defining the ill-defined hypoechoic areas corresponding to phlegmon. Treatment options should focus on conservative measures first, with more aggressive intervention in refractory cases. This includes the use of appropriate antibiotics, e.g., amoxicillin-clavulanate that is safe and effective in lactating women. Supportive therapy, including warm compresses and close observation, is crucial for patient recovery. For our patient, she did well with this regimen, significantly improving her symptoms and imaging findings. The decision to refer to a biopsy of chronic swelling indicates the need to exercise prudence in ruling out rare or malignant conditions. The step, while met with patient resistance, demonstrates the value of good communication and collaborative decision-making in

managing complex cases. In addition, the lack of clear guidelines for lactational phlegmon also demonstrates the need for further study and clinical expertise. By reporting and publishing these cases, we can contribute to a better understanding of the condition and ideal management. It has been stressed through studies that early detection of lactational phlegmon is important, as timely intervention will have a significant impact on patient outcomes. Clinicians and patients must collaborate in surveillance of symptoms, adherence to treatment protocols, and making informed decisions about surgical intervention if necessary. As the science in this condition continues to advance, so will its management, ultimately contributing to improving the care and support provided to breastfeeding women [1-9].

Conclusion

This study stresses the importance of early diagnosis, appropriate antibiotic therapy, and serial follow-up with breast ultrasound in the treatment of lactational phlegmon. It also validated the necessity of biopsy in atypical or persisting cases to rule out malignancy, allowing for comprehensive patient management. Our findings encourage the creation of standard protocols and further research to enhance clinical outcomes for breastfeeding women with this uncommon complication.

Highlights

- This article represents a rare case of lactational phlegmon as a different complication from breast abscess.
- Emphasizes that diagnosis is based essentially on clinical suspicion and imaging.

- Demonstrates successful conservative management with antibiotics and ultrasound-guided monitoring.
- It highlights that early interventions might prevent abscess formations and avoid surgical interventions altogether.
- Early intervention prevents abscess formation.
- It encourages further awareness of lactational phlegmon to improve outcomes in breastfeeding women.

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