

Case Report

Tubercular breast abscess presenting as breast mastitis: a rare case report

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ABSTRACT

Tuberculous breast abscess is an uncommon manifestation of extrapulmonary tuberculosis (TB), often misdiagnosed due to its rarity and resemblance to pyogenic breast abscesses or malignancy. We report the case of a 37-year-old female who presented with unilateral left-sided breast swelling, pain, and fever. Ultrasound findings suggested a breast abscess, and the patient underwent incision and drainage. Pus was sent for culture and CBNAAT testing, which later confirmed a tubercular etiology. The patient was subsequently treated with a 6-month course of antitubercular therapy, with complete resolution of symptoms on follow-up.

Keywords: Breast tuberculosis, *Mycobacterium tuberculosis*, Breast lump, Extrapulmonary TB, Breast abscess

INTRODUCTION

Tuberculosis (TB) is a significant health issue, particularly in endemic regions. While pulmonary TB is the most common presentation, extrapulmonary manifestations account for a considerable number of cases.^{1,2} Breast TB is a rare form of extrapulmonary TB, comprising less than 1% of all breast pathologies.³ It typically affects women of reproductive age and may present as a lump, abscess, or sinus formation.⁴ Due to its rarity and nonspecific clinical presentation, it is frequently misdiagnosed as a pyogenic abscess or carcinoma. Accurate diagnosis relies on microbiological confirmation, such as culture or CBNAAT testing.^{5,6} This report discusses the presentation, diagnosis, and management of a tuberculous breast abscess in a 37-year-old woman.

CASE REPORT

A 37-year-old female from Northeast India, with a history of chronic smoking, presented to the surgical outpatient department with a 7-day history of unilateral

swelling in the left breast, accompanied by dull aching pain and evening rise in temperature.

Examination findings

Inspection revealed a 3×3 cm erythematous area over the upper outer quadrant of the left breast (from 2 to 4 o'clock position near the nipple-areola complex) without discharge. On palpation, a fluctuant, tender swelling was noted in the same region.

Diagnostic imaging

Ultrasound of the breast showed a 22×21 mm mixed echogenic collection, predominantly hypoechoic, located in the retroareolar region of the left breast with increased peripheral echogenicity-findings consistent with a breast abscess.

Surgical intervention

The patient was shifted to the operating room under general anesthesia after obtaining informed written

consent. A circumareolar incision was made, and approximately 30 cc of pus was drained. Hemostasis was achieved, and the area was dressed. Pus samples were sent for culture and sensitivity as well as CBNAAT testing.

Microbiological findings

The culture was positive for *Mycobacterium tuberculosis* and acid-fast bacilli (AFB), confirming the diagnosis of tuberculous breast abscess.

Postoperative management

The postoperative course was uneventful. The patient was started on a 6-month regimen of antitubercular therapy (ATT) and monitored regularly. Follow-ups at 8 and 20 days post-operation showed satisfactory wound healing and clinical improvement.



Figure 1: Pre operative.



Figure 2: Post operative.

DISCUSSION

Tuberculosis of the breast is a rare form of extrapulmonary TB, often misdiagnosed due to its

clinical and radiological similarity to pyogenic abscesses or breast malignancy. It is most prevalent among women of reproductive age, particularly in TB-endemic regions. The disease can arise through lymphatic spread from infected axillary nodes, hematogenous dissemination, or direct extension from the chest wall. In this case, the patient presented with classic symptoms of breast abscess, including localized swelling, pain, and fever. However, the presence of a chronic smoking history and systemic symptoms warranted further investigation. Imaging modalities such as ultrasonography are valuable in identifying abscess formation but lack specificity in distinguishing tuberculous abscesses from other infections.^{1,2}

Previous studies support the diagnostic challenge associated with breast tuberculosis. A retrospective study by Tewari and Shukla involving 52 patients with breast TB emphasized that most cases were initially misdiagnosed as pyogenic abscess or carcinoma.³ Similarly, a study by Khanna et al reported that definitive diagnosis was only established after microbiological or histopathological confirmation in the majority of patients.⁴ In our case, CBNAAT and pus culture confirmed the presence of *Mycobacterium tuberculosis*, highlighting the importance of microbiological tests in persistent or atypical breast infections. The use of nucleic acid amplification techniques like CBNAAT has significantly improved the speed and accuracy of TB diagnosis in recent years.^{5,6}

Management of tuberculous breast abscess typically involves a combination of surgical intervention and anti-tubercular therapy (ATT). As noted in studies by Banerjee et al and Morsad et al incision and drainage followed by a standard 6-month ATT regimen yields excellent outcomes, with minimal recurrence and complications.^{7,8} Our patient responded well to this treatment approach, showing no signs of recurrence during regular follow-ups. Awareness of this rare presentation and timely initiation of appropriate therapy are key to preventing complications and ensuring complete recovery.^{9,10}

CONCLUSION

Tuberculosis of the breast is a rare but important differential diagnosis in breast abscesses, especially in endemic areas. Its clinical resemblance to pyogenic infections or malignancy often leads to misdiagnosis and delayed treatment. Radiological imaging, while useful, is non-specific and must be supported by microbiological or histopathological confirmation. Techniques like CBNAAT have greatly enhanced diagnostic accuracy and speed. In this case, microbiological testing confirmed the diagnosis after clinical suspicion. Early recognition and prompt initiation of antitubercular therapy, along with surgical drainage, led to a successful outcome. Previous studies reinforce the need for heightened clinical awareness. Timely diagnosis can prevent complications

and avoid unnecessary interventions. Regular follow-up is essential to ensure complete resolution. Overall, a high index of suspicion is key in managing atypical breast infections effectively.

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