

Case Report

Bilateral Tubercular Mastitis: A Rare Entity

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Abstract

Bilateral involvement of the breast in tuberculosis is rare. We present a case involving a young multiparous woman with microbiologically confirmed secondary tuberculosis affecting both breasts. The patient showed improvement with anti-tuberculous treatment and needed only minimal surgical intervention.

Keywords: Tubercular mastitis, Breast tuberculosis, Secondary, Bilateral.

INTRODUCTION

Sir Astley Cooper first documented tuberculosis involvement in breasts in the early nineteenth century.¹ Mammary tuberculosis is not a common form of extra-pulmonary tuberculosis, accounting for less than 0.1% of breast lesions in developed nations, but it can represent 3 to 4% of cases in areas with a high incidence of the disease.^{2,3}

The breast tissue is generally an unfavorable environment for the growth of *Mycobacterium tuberculosis* (MTB).² Bilateral involvement of both breasts is exceptionally rare, with only a few documented cases to date.⁴ This report describes a unique case in form of secondary bilateral tubercular mastitis affecting young, multiparous, immunocompetent woman.

Case Report

A 27-year-old married woman having two children came to the hospital with complaints of productive cough, mild fever, weight loss and decreased appetite since the last 6 months. She also noticed lumps in both her breasts for 3 months, which were slowly increasing in size. Over the last one month, the lumps were painful on touch. The patient had no history of diabetes or immunosuppression. However, there was a history of contact with a known tuberculosis case. She denied any history of breast cancer in the family.

She received antituberculosis treatment (ATT) on a clinical and radiological basis from a peripheral health center, for which the patient showed poor compliance due to intolerance.

On general examination, pallor was noted. Bilateral axillary lymph nodes were enlarged. Inspection of the breast showed no gross swelling, redness, or discharge, but on palpation, multiple, soft to firm in consistency, free, mobile and tender lumps were appreciated. Respiratory system examination revealed bilateral discrete crackles on auscultation. Other than the presence of microcytic hypochromic anemia (Hb = 9.4) all her routine blood parameters were within normal limits. HIV was non-reactive. Chest skiagram revealed bilateral infiltrates predominantly in upper zones (Fig. 1). The acid-fast bacilli (AFB) stain of sputum was negative. Cartridge-based nucleic acid amplification (CBNAAT) test of sputum was done in view of previous irregular treatment of tuberculosis and it detected *M. tuberculosis* - sensitive to rifampicin. Diagnosis of microbiologically confirmed Rifampicin-sensitive pulmonary tuberculosis was established.

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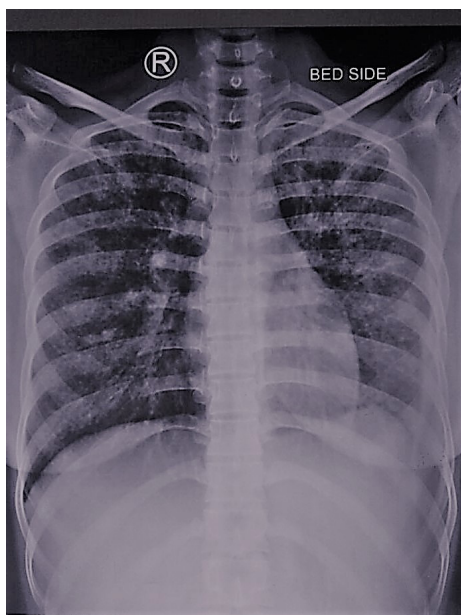


Fig. 1: Chest X-ray shows bilateral infiltrates predominantly in upper zones

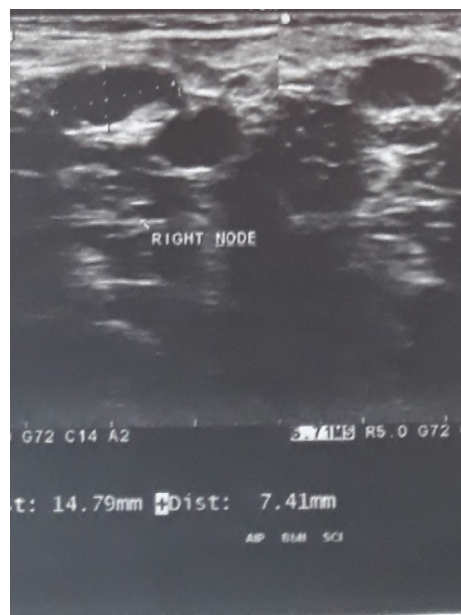


Fig. 2: USG image: several enlarged necrotic lymph nodes were observed in the right axillary region

Keeping a differential diagnosis of fibroadenoma, breast abscess, malignancy and tuberculosis, a workup was done for the breast lesions. USG breast revealed multiple pockets of abscess with surrounding inflammatory changes noted in both breasts with bilateral multiple necrotic axillary lymph nodes (Fig. 2). Fine needle aspiration cytology (FNAC) from the right breast lesion was performed and revealed extensive areas of caseous necrosis along with a few clusters of epithelioid cells and degenerating inflammatory cells. Ziehl Neelsen staining of the FNAC specimen revealed AFB. CB-NAAT of FNA pus was positive for rifampicin-sensitive MTB.

The patient was started on ATT. On follow-up, she showed marked improvement in her respiratory symptoms and her appetite and weight too improved. A repeat chest X-ray revealed a resolution of infiltrates compared to the previous one. A few days later, to FNAC, the patient noted pus discharge from her right breast along with redness. Needle aspiration of pus was done. Her breast pain and swelling decreased gradually and USG breast after 12 months of ATT showed the disappearance of abscesses and a decrease in axillary lymph node size to sub-centimeter size.

DISCUSSION

Breast tuberculosis is an uncommon condition, primarily because sites such as breast, spleen, and skeletal muscle are less susceptible to mycobacterial infection, which impedes the survival and proliferation of *Mycobacterium tuberculosis*. Bilateral involvement is particularly rarer.^{5,6}

Breast tuberculosis can be either primary or secondary. Primary tuberculosis is a rare condition where the infection is limited to the breast itself. Secondary tuberculosis occurs

when there is an existing tuberculosis infection in another part of the body. The main pathways for the spread of the infection are through the bloodstream (hematogenous), the lymphatic system, or by direct extension from the chest wall or pleura. The lymphatic spread is mostly prevalent, with more than half of patients presenting with axillary lymph node involvement at initial diagnosis.⁷

Shinde et al. categorized the condition into three types: nodular, disseminated, and sclerosing. It is essential to distinguish this condition from various types of mastitis, e.g., granulomatous or plasma cell mastitis. It is also important to rule out any malignancy and actinomyces infection of the breast. Ideally, the diagnosis is confirmed through bacteriological analysis of breast tissue using Ziehl-Neelsen staining, nucleic acid amplification test, or culture for mycobacteria. However, since the bacilli are detected in only one-fourth of cases, identifying 'caseating granulomas' in the breast tissue and involved lymph nodes is sufficient enough for making the diagnosis.⁸⁻¹⁰

The primary treatment involves antitubercular therapy, with surgery being an option in some cases.⁷ Our patient had a rare case of bilateral breast tuberculosis (secondary involvement), along with axillary lymph node involvement. Her histopathology, smear, and CBNAAT tests all confirmed the presence of tuberculosis.

CONCLUSION

Tuberculosis involvement in breast tissue is an uncommon form of the disease that must be distinguished from breast carcinoma or abscess. Bilateral involvement of the breast tissue is particularly unusual in tuberculosis, with only a few

reported cases. Diagnosing this condition requires a high level of clinical suspicion.

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