

A rare case of breast tuberculosis: case report

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ABSTRACT

Breast tuberculosis is a rare form of extra-pulmonary tuberculosis. It accounts for less than 0.1% of breast conditions in developed countries but reaches about 3-4% in developing high TB endemic regions. It usually occurs in multiparous and lactating women. The clinical, radiological and pathological presentation may often mimic breast abscess, idiopathic granulomatous mastitis or carcinoma. The most common presentation is that of a lump. Constitutional symptoms are not usually present. The most common site is the right upper outer quadrant of the breast. It also occurs in association with Immunosuppression disorders such as HIV. Here we present a case of a young, multiparous non-lactating woman with tubercular mastitis, confirmed by FNAC of the mass. The Tuberculin skin test was positive and the patient improved with anti-tubercular treatment.

KEYWORDS: Tuberculosis, TB Breast, Case Report, Breast Tuberculosis, Tuberculosis mastitis

INTRODUCTION

Tuberculosis of the Breast is a rare manifestation of extra-pulmonary TB disease and prevalence in India varies between 0.6 to 3.6%.^[1] The first case of Breast Tuberculosis was recorded by Sir Astley Cooper, who described it as "Scrofulous swelling of the Bosom".^[2] Tuberculosis is caused by Mycobacterium Tuberculosis and affects primarily the lungs. It usually affects young lactating multiparous women. It also occurs in association with Immunosuppression disorders such as HIV. Multiparity, lactation, trauma and a history of suppurative mastitis are considered to be the risk factors for breast tuberculosis.^[3]

Most commonly, it presents as a lump in the central or upper-outer quadrant of the breast. The clinician

may misdiagnose breast tuberculosis with either breast carcinoma or abscess.^[2]

CASE DETAILS

A 42 years multiparous female from poor socioeconomic status presented with a history of a palpable lump measuring about 4 cm in the left breast and night sweats with evening rise of temperature for three months. She revealed a three-month history of a gradually growing breast lump, during breast self-examination. A firm lump palpable in the upper outer quadrant of the left breast was noted. No discharging sinuses over the surface. There were no other clinical manifestations such as nipple discharge, retraction and ulceration of the adjacent skin or palpable lymph nodes.

Laboratory tests revealed Hemoglobin - 11 g/dl, lymphocytic white blood cell type, normal liver and kidney function, elevated CRP - 70 mg/l, and Erythrocyte Sedimentation Rate (ESR) was 12 mm/hr. The Tuberculin skin test was positive.

Mammography & Ultrasound of the Left Breast showed well-defined heterogeneously hypoechoic lesions of 19 x 10mm with internal septations; suggestive of benign aetiology. FNAC was done from Left Breast and sent for cytological examination revealing the presence of epithelioid abscess with Langhans giant cells and caseous necrosis and suggestive of granulomatous mastitis possibly of Koch's aetiology.(Figures 1 and 2) The patient was administered anti-TB treatment for 6 months and followed up every month. Clinical improvement with a decrease in the size of the mass was noted.

DISCUSSION

Tuberculosis of the breast is a rare disease, mainly because organs or tissues like the breast, skeletal muscle and spleen are more resistant to infection, making the

survival and multiplication of the tubercle bacilli difficult. [4] Lactating women appear to be at higher risk, probably due to the increased blood supply to the breasts and due to the dilatation of ducts, making them more vulnerable to infection. [5] Tuberculosis mastitis is usually unilateral, seldom infects male patients and should be considered in immunodeficiency states like HIV infection. [6]

Mammary tuberculosis may be primary when no other focus of tuberculosis is detectable or secondary when a source can be identified, mainly located in the lungs. [7]

Breast tuberculosis may be caused by hematogenous spread, lymphatic spread, direct extension from contiguous structures, direct inoculation, and/or ductal infection. Of these, centripetal lymphatic spread from lungs to breast tissue appears to be the most common. [4] The commonest clinical presentation is that of a lump. Most commonly, a lump is located in the central or upper outer quadrant of the breast. The lump can mimic breast carcinoma. [1] Fistula formation may occur, much as nipple or skin retraction, but breast discharge is uncommon. The lump may cause abscess formation, skin ulceration and diffuse mastitis. Symptoms like fever, malaise, night sweats and weight loss are present in less than 20% of the cases. [1] Based on radiological and clinical characteristics, the disease can be described in three forms: nodular, diffuse and sclerosing. [2] The nodular form is well circumscribed; slow growing, with an oval tumour shadow on mammography, which can hardly be differentiated from breast cancer. The disseminated form is characterized by multiple lesions associated with sinus formation. This form mimics inflammatory breast cancer on mammography. The sclerosing form of the disease is seen in elderly women and is characterized by an excessive fibrotic process. [2]

The gold standard for the diagnosis of breast tuberculosis is the detection of *M. tuberculosis* by Ziehl - Neelsen staining or by culture. Tuberculin skin test confirms exposure of the patient to tubercle bacilli. [4]

A chest radiograph is helpful to rule out any evidence of active or old healed pulmonary lesions or miliary TB, calcified axillary lymph nodes are evident on the chest radiograph. [2] Mammography detects mass, coarse calcifications, spiculated margins of mass, skin thickening, nipple retraction, and axillary lymphadenopathy. In TB abscess, a dense tract connecting an ill-defined breast mass to a localised skin thickening and bulge may be seen. It is not helpful, especially in young women, due to the high density of the breast tissue and in elderly women, generally indistinguishable from breast carcinoma. [4] Ultrasonography is used for differentiating cystic from solid breast mass and it may identify a fistula or a sinus tract which can be seen in cases of tuberculosis mastitis. [7] The CT scan may reveal any underlying rib osteomyelitis or fistulous connection with the pleura. [8]

In developing countries like India, based on the clinical history and other features, Fine needle aspiration cytology showing epithelioid granulomas with or without necrosis

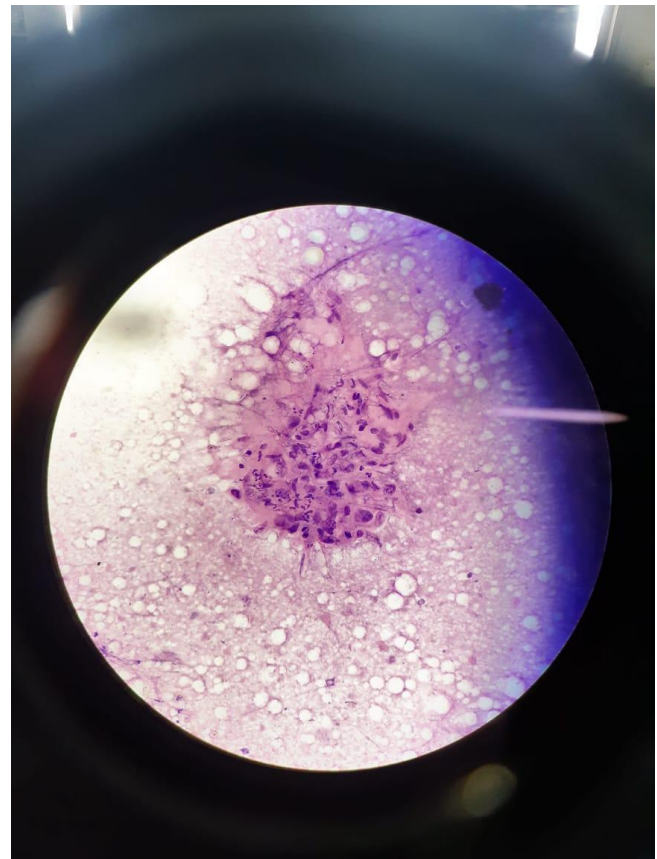


Figure 1: showing Langhans giant cells and caseous necrosis suggestive of granulomatous mastitis possibly of Koch's aetiology.

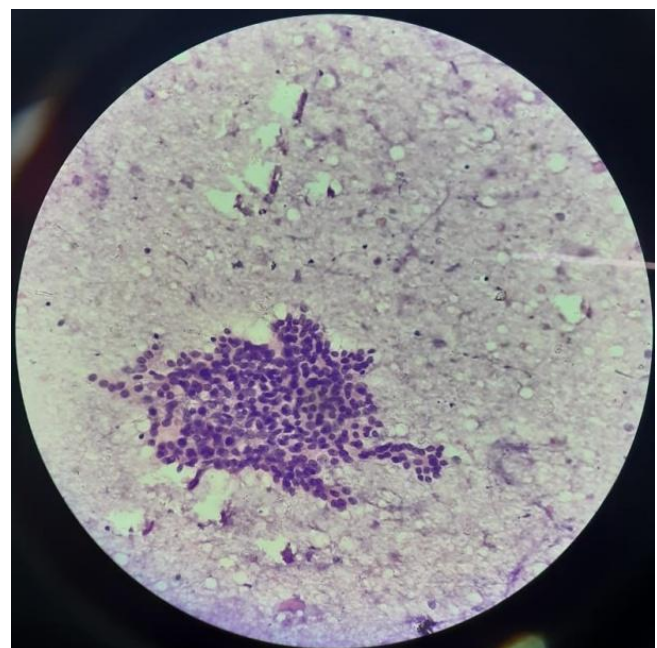


Figure 2: showing Langhans giant cells and caseous necrosis suggestive of granulomatous mastitis possibly of Koch's aetiology.

should be considered breast tuberculosis.^[9]

An open biopsy can be done, which can confirm or exclude TB. The histopathological examination may confirm or exclude tubercular mastitis. GeneXpert is an important tool with moderate sensitivity (83.3%) and high specificity (99%) for the detection of tubercular mastitis.^[10]

The principal differential diagnosis is that of breast carcinoma. Other diseases of the breast such as fatty necrosis, plasma cell mastitis, periareolar abscess, idiopathic granulomatous mastitis and infections like actinomycosis and blastomycosis are to be considered.^[4]

CONCLUSION

Breast TB is a rare form of extrapulmonary tuberculosis. Breast tuberculosis should be suspected in any mass breast, particularly in immunocompromised subjects. Diagnosis is by pathological examination. Surgery such as excisional biopsy, drainage abscess, a biopsy from the abscess wall, segmentectomy, and simple mastectomy with or without axillary clearance is done based on the clinical situation. In our case, a young female, multiparous which is a risk factor, had no immunosuppression but presented with a mass in her breast. FNAC revealed Tubercular aetiology and the patient responded to ATT.

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