



Case Report

Tuberculosis of Breast - Case Report

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ABSTRACT

Introduction: Mammary (breast) tuberculosis is a rare manifestation of extra-pulmonary localization of the disease which accounts for 3-4% in regions where the disease presents with high incidence (India, Africa) and less than 0.1% of breast conditions in developed countries. Cases are also reported in women of extreme ages. The most common presentation is that of a lump in the breast, with or without associated features of mastitis or abscess.

Presentation of Case: We report a case of breast tuberculosis that was treated in department of general surgery of our hospital. Differential diagnosis, imaging methods, operative diagnostic approach and surgical treatment, histological verification of the disease and further therapeutic management are described.

Discussion: High risk population is identified, primary and secondary disease is described and clinical presentations are analyzed. Evaluation of diagnostic workup and limitations are reported.

Conclusion: Rather uncommon clinical condition TB breast should be always differential diagnosis in high risk cases presenting with lump with signs of inflammation not responding routine conservative management.

Key words: Tuberculosis, TB, Breast.

INTRODUCTION

Breast tuberculosis is a rare disease, but found in high risk population of endemic regions, such as India and Africa. It usually affects young lactating multiparous women, immunocompromised people like malnourished, HIV infected, patient on immunosuppressive drugs. Also reported in prepubescent males, or in elderly women.^[1,2] Most commonly, the disease presents as a lump in the central or upper-outer quadrant

of the breast, with or without multiple pus draining sinuses. The clinician may misdiagnose breast tuberculosis with either breast carcinoma or abscess.^[3,4]

CASE REPORT

A 32-year-old Indian female belonging to tribal population of north Maharashtra, India presented to the General Surgery Department of our hospital reporting a palpable lump in her left breast. She revealed a 10-month history of a gradually growing breast lump, which become painful over period of time with

history of low grade fever since 3 months. On examination patient was cachexic with signs of malnutrition. Local examination confirmed a palpable lump in the upper-outer quadrant of the left breast, measuring about 4 cm with palpable axillary lymph nodes with normal nipple-areolar area, or no signs of nipple discharge and normal vitals. Laboratory workup revealed hypochromic microcytic anemia (Hb 7 g/dl), lymphocytic

white blood cell type, C-reactive protein (CRP) < 10 mg/L, Erythrocyte Sedimentation Rate (ESR) 35 mm/h. No history of pulmonary disease was reported. Family medical history of either breast or ovarian cancer was absent. Mammography was performed and no pathology found in right breast. On the left breast, on the other hand, the findings included a lump in upper and outer quadrant.

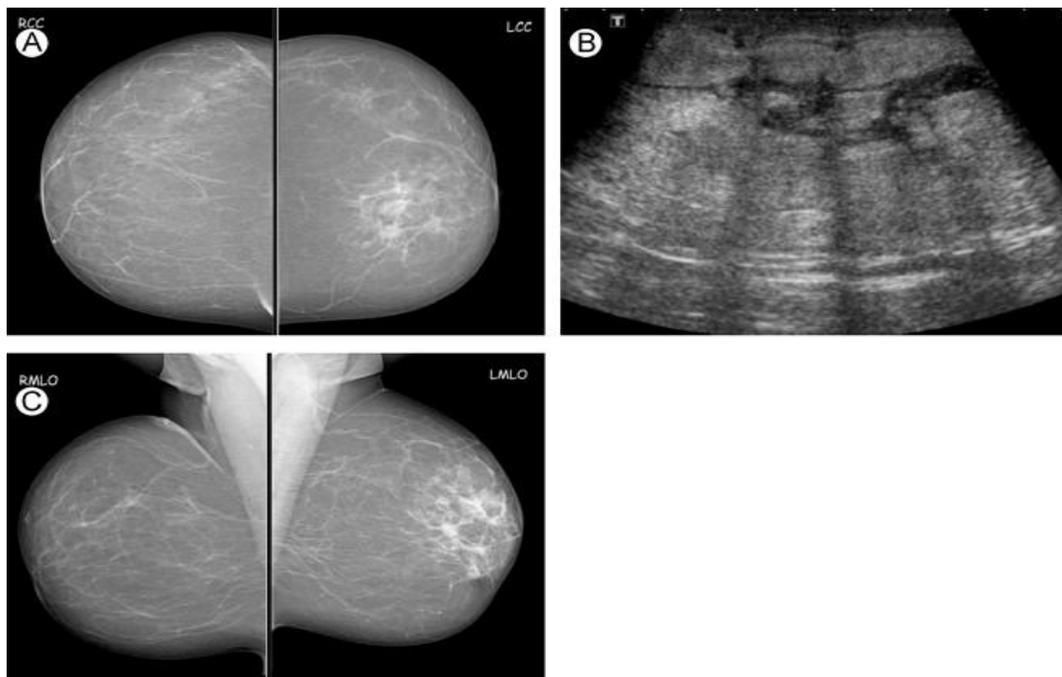


Figure: 1. Ultrasonography of breast.

Ultrasonography of the left breast reported a solid, hypoechoic, 4 cm lesion, with ill-defined border posteriorly, located in the upper-outer quadrant of the breast. Additionally ultrasound revealed ductal dilatation in the same breast and a few enlarged left axillary lymph nodes; measuring less than 1.6 cm. Abdomen sonography did not report any significant pathology. FNAC was inconclusive due to the extent of necrosis of the sample. Patient was posted for incision biopsy to confirm the diagnosis. The histopathological evaluation of the mammary gland revealed epithelioid cells with Langhans' giant cells

and central caseous necrosis. There was a sinus formation filled with necrotic calcified material and with granulomatous inflammation of its wall. Ziehl Neelsen stain detected *M. tuberculosis*, setting the diagnosis of breast tuberculosis (Figs. 2 and 3). The patient was treated with oral anti-tuberculosis therapy for 6 months postoperatively. Patient responded well to anti-TB therapy with proper healing of incision biopsy site. Patient was followed for one year after completion of treatment, no recurrence.

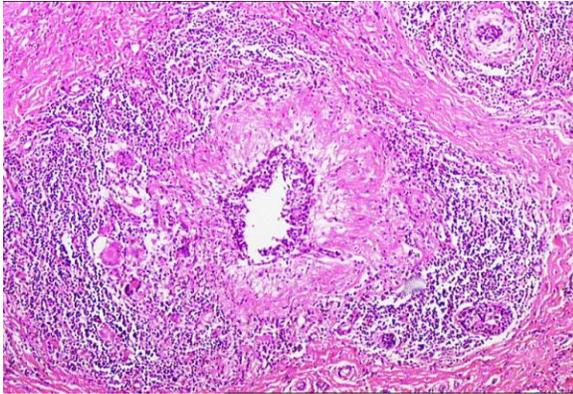


Fig. 2. Granuloma with Langhan giant cell.

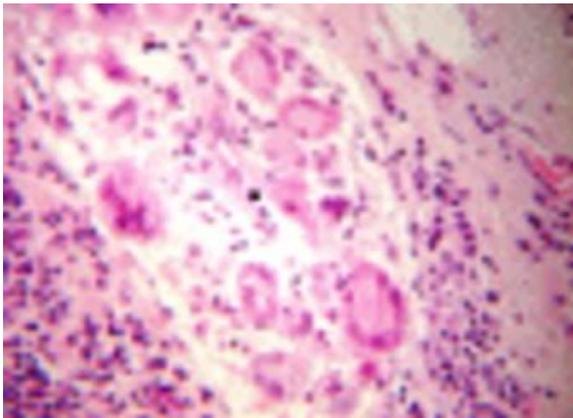


Fig. 3. Granuloma with central acellular necrosis, giant cells.

DISCUSSION

The first case of breast tuberculosis was recorded by Sir Astley Cooper who described it as “scrofulous swelling of the bosom”.^[5] It is divided into two types, primary and secondary. Primary tuberculosis of the breast is an extremely rare disease. The rare cases of primary breast tuberculosis are considered being caused by infection of the breast through skin abrasions or through the main ducts of the nipple. Secondary form cause due to spread from primary focus in lungs, pleura or lymph nodes, by routes of hematogenous, lymphatic and direct extension, which most of the time is not detectable i.e. occult. Breast is more resistant to tuberculosis infection like skeletal muscles and spleen by making the survival and multiplication of the tubercle bacilli difficult.^[6,7] Lactating women appear to be at higher risk, probably due to the

increased blood supply to the breasts and to dilated ducts, making them more vulnerable to lacerations and infection. The commonest clinical presentation is that of a lump, with or without a duct, painful or not, most often located in the central or upper outer quadrant of the breast. The lump can mimic breast carcinoma, being hard, with irregular border, fixed to either the skin or the muscle or even to the chest wall.^[9,10] It may present as breast abscess with fistula formation may occur, such as nipple or skin retraction, but breast discharge is uncommon.^[3,8] The lump may be followed by inflammation and abscess formation, skin ulceration and diffuse mastitis. Recurrent inflammation and abscess of the breast that do not respond to surgical drainage and standard antibiotic therapy in young women should raise suspicion.^[3,7,11] Various tests are useful in the diagnosis and further evaluation of patients with breast tuberculosis. Mantoux test is inconclusive in tropical countries. Mammography is not helpful, especially in young women, due to high density of the breast tissue. On the other hand, mammography findings in elderly women are generally indistinguishable from breast carcinoma. At ultrasonography, a hypoechogenic mass is found in 60% of patients and the method may sometimes identify a fistula or a sinus tract which can be seen in cases of tuberculosis mastitis.^[6,10] The gold standard for the diagnosis of breast tuberculosis is detection of *M. tuberculosis* by Ziehl-Neelsen staining or by culture.^[6] Fine needle aspiration cytology detects the presence of epithelioid cell granulomas and necrosis, leading to definitive diagnosis in up to 73% of cases. Polymerase chain reaction (PCR) is highly sensitive for the diagnosis of breast tuberculosis. Although seldom used, it is recommended in cases with negative culture results or for differential diagnosis between other forms

of granulomatous mastitis. Finally, histopathology of the lesion identifies a chronic granulomatous inflammation with caseous necrosis and Langhans type giant cells, contributing to diagnosis in the majority of the cases. 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. [2,6,12-14]

CONCLUSION

The treatment of breast tuberculosis consists of anti-tubercular chemotherapy and surgery by specific indications. Anti-tubercular therapy with four drugs is the primary line of treatment. The six-month regimen comprises of a two-month intensive phase with four drugs used orally (ethambutol 800 mg/day, pyrazinamide 1500 mg/day, rifampicin 450 mg/day and isoniazid 300 mg/day), followed by a continuation phase of four months with two drugs (isoniazid and rifampicin). [7,11] Surgical intervention in the form of a biopsy is necessary mainly for diagnostic purposes and is required for drainage of breast abscesses, excision of residual sinus tracts or lumps after poor response to antituberculosis therapy. Simple mastectomy, most often without axillary lymph node dissection, is reserved for cases with extensive disease, causing a large painful ulcerated mass involving the entire breast. [5,7,11,12] Breast tuberculosis represents a rare disease that should always be suspected when evaluating cases of breast abscesses, fistulae or nodules, with poor response broad spectrum antibiotic treatment. Physicians should consider this clinical entity, often mimicking breast cancer, in case of immunocompromised patient.

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