

## Tuberculous Mastitis Presenting as Breast Abscess: Case Report of Two Patients

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### Abstract

*Introduction:* Tuberculous mastitis is a rare clinical entity. It often mimics breast carcinoma and pyogenic breast abscess clinically. *Case Presentation:* We present 2 cases of Tubercular mastitis who presented as lump in the breast, with radiology showing features of abscess. FNAC and Tissue biopsy showing granulomatous mastitis and Acid Fast Bacilli was demonstrated on ZeihlNeelson Stain in both cases. Patients were treated with Anti tubercular treatment for 6 months under extra pulmonary category. Both patients improved and were asymptomatic at the end of the treatment. *Conclusion:* A high index of suspicion is required for diagnosis of breast tuberculosis. Anti-tubercular drugs in combination with aspiration or surgical drainage are usually associated with an excellent outcome.

**Keywords:** Tubercular Mastitis; TB Breast; Cold Abscess.

### Introduction

Tuberculous mastitis is a rare clinical entity and usually affects women from the Indian sub-continent and Africa. It was first described by Sir Astley Cooper in 1829 as the "scrofulous swelling in the bosom of young women" [1]. Although over one billion people suffer from TB worldwide, breast TB is an extremely rare entity. Isolated TB of the breast varies from 0.10%

to 0.52% [2]. The incidence of tuberculous mastitis in India has been reported to be between 1-4% [3,4]. It often mimics breast carcinoma and pyogenic breast abscess clinically and radiologically. The incidence of tubercular mastitis although is decreasing in the West, could show a resurgence with the global pandemic of AIDS.

We report two cases of tubercular mastitis which presented as breast abscess.

### Case Report -1

A 25 year old female presented with a lump in the Left Breast, just below the nipple since 2 months, gradually increasing in size associated with mild pain. She had no history of discharge from the nipple. There was no history of fever, recurrent cough, weight loss, loss of appetite, or exposure to tuberculosis.

Examination of the left breast revealed a tender, well defined, firm lump in the subareolar region measuring about 3X3cm. There was retraction of the left nipple and was higher than the right nipple (Figure 1). No discharging sinus or nipple discharge. No lymphadenopathy. Respiratory system examination was unremarkable.

Routine Haematological Examination and chest radiograph was unremarkable.

SonoMammagram of Left Breast revealed a mixed echogenic collection predominantly hypoechoic noted in the sub-areolar region measuring 2.3X1.9X2 cm with surrounding inflammatory changes with multiple enlarged axillary lymph nodes. Suggestive of walled off Abscess (Figure 2).

FNAC revealed numerous polymorphs with occasional multinucleate Giant cells and epithelioid

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cell clusters in a necrotic background (Figure 3). Ziehl-Neelsen stain of the smears was positive for acid-fast Bacilli.

Patient was started on Anti tubercular treatment- Initial phase of 2 months with Isoniazid (H), Rifampicin (R), Pyrazinamide (Z) and Ethambutol (E). The continuation phase of the three drugs Isoniazid, Rifampicin and Ethambutol for four months. 1 month following ATT, the lump became cystic from firm consistency, aspiration revealed 2 ml of pus (Figure 4). Following 6 months of ATT, the lump completely resolved and patient became asymptomatic (Figure 5).



Fig. 1: Subareolar lump with retraction of left nipple



Fig. 2a:

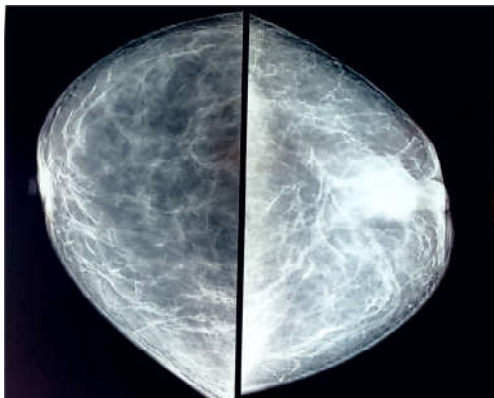


Fig. 2b:

Fig . 2 A & B: Mammogram showing Mixed echogenic Collection in sub-areolar region- walled off ABSCESS

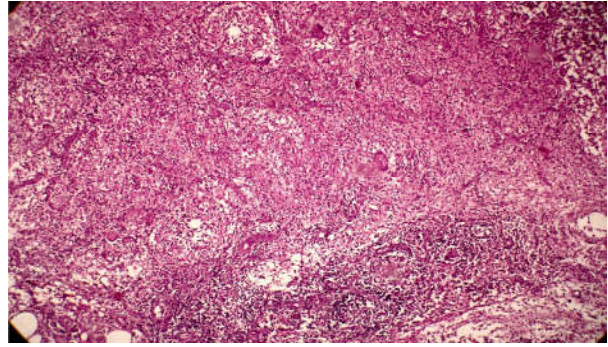


Fig. 3a

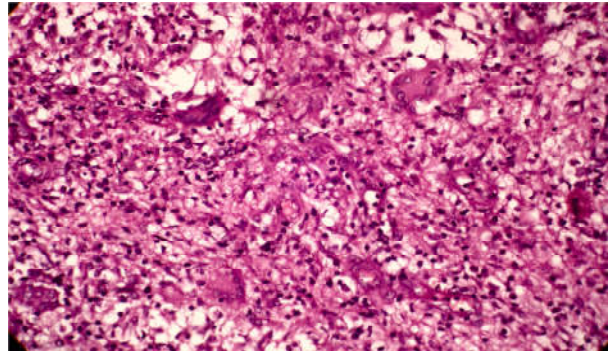


Fig. 3b

Fig. 3: FNAC revealed numerous polymorphs with occasional multinucleate Giant cells and epitheloid cell clusters in a necrotic background.



Fig. 4: 1 month post ATT - Cystic lesion in the subareolar region



Fig. 5: Completely resolved left breast lump

## Case Report 2

A 40 year old female presented with a painful lump in the Right Breast since 1 month, gradually increasing in size involving the whole breast. She had no history of discharge from the nipple. There was no history of fever, recurrent cough, weight loss, loss of appetite, or exposure to tuberculosis.

Examination of the breast right breast revealed a tender, well defined, firm lump involving more of upper inner and outer quadrants, measuring about 15 X10 cm. Retraction of the nipple was present. No discharging sinus or nipple discharge. No lymphadenopathy. Respiratory system examination was unremarkable.

Routine Haematological Examination and chest radiograph was unremarkable.

Sonogram revealed a large cystic mass in the right breast with collection. Suggestive of Breast Abscess.

Emergency incision and drainage of the abscess was done, about 50ml of thick pus was drained and tissue was sent for Histo-pathological examination.

Microscopy revealed granulomatous inflammation composed of epithelioid cells, Langhan's giant cells, plasma cells and lymphocytes. Areas of necrosis and granulation tissue formation noted with few clusters of Polymorphs. Ziehl-Neelsen stain of the smears was positive for acid-fast Bacilli.

Patient was started on Anti tubercular treatment - Initial phase of 2 months with Isoniazid (H), Rifampicin (R), Pyrazinamide (Z) and Ethambutol (E). The continuation phase of the three drugs Isoniazid, Rifampicin and Ethambutol for four months.

Following ATT, the incision site had a prolonged healing time (Figure 6). Regular dressing was done. The sites completely healed and patient became asymptomatic following 6 months of ATT (Figure 7).



Fig. 6: 1 Month Post I & D - Non healing Incision site



Fig. 7: Healed scars at 6 Months Follow up After ATT

## Discussion

Tuberculosis (TB) is a chronic granulomatous inflammation involving usually the lung parenchyma and hilar lymph nodes. Extrapulmonary involvement is seen in about 15-20% of all cases of TB (EPTB). Extrapulmonary tuberculosis occurring in the breast is extremely rare. It has been suggested that mammary gland tissue, spleen and skeletal muscle, offers resistance to the survival and multiplication of the tubercle bacillus [3].

Among the various risk factors associated with tubercular mastitis are multi-parity, lactation, trauma and past history of suppurative mastitis [5]. Usually women of the age group 20 and 50 years are affected [6]. It has been observed that the disease is common in reproductive age group in women due to increased vascularity following lactational status [7]. Though much more common in females, 4% of patients are males<sup>3</sup>.

Tubercular mastitis can occur as primary disease or can be secondary to tuberculosis elsewhere in the body. Primary tubercular mastitis is extremely rare. The breast may become infected in a variety of ways and there is no general agreement as to which is usual route of infection [8]. (i) Haematogenous - such a type would explain the occurrence of Primary type of Tuberculous mastitis, (ii) Direct Inoculation: through skin abrasions, (iii) Ductal Infection, (iv) Spread from contiguous structures, (v) Lymphatic spread The lymphatic spread of the disease from lungs to breast tissue is supposed to be via mediastinal lymph trunk (tracheobronchial, paratracheal) or internal mammary nodes [8].

Breast TB was first classified into five different types by Mckeown and Wilkinson [8]. These are: (i) Nodular

tubercular mastitis, (ii) disseminated or confluent tubercular mastitis, (iii) sclerosing tubercular mastitis, (iv) tuberculous mastitis obliterans, and (v) acute miliary tubercular mastitis. But at present, it may be reclassified as nodular, disseminated and abscess varieties [5]. Nodular type is most common and the lesion presents as a localized mass with extensive caseation. Disseminated type involves the entire breast with multiple sinuses. Breast abscess is often a common mode of presentation of breast tuberculosis, especially in young women [5].

The gold standard in establishing the diagnosis is demonstration of the causative organism *Mycobacterium tuberculosis* in Z-N stain or in culture but is difficult to demonstrate [10]. The mammogram findings in breast TB cannot distinguish it from carcinoma breast and so is of limited value [11]. But ultrasonography of the breast can be useful in differentiating cystic from solid lesions without exposure to radiation [11]. The diagnostic yield of FNAC increases if ultrasound guided FNAC is done. An abscess has smooth marginated, nonhomogeneous, hypodense lesion with surrounding rim on contrast CT [12]. The rapid culture methods and the molecular techniques for early detection of mycobacterial growth (5–14 days as compared to 2–8 week with conventional methods), which are popular nowadays, for example, BACTEC, mycobacterial growth indicator tube (MGIT), and polymerase chain reaction (PCR) are highly useful in culture negative specimens [13].

The main Treatment of tubercular mastitis is Anti tubercular treatment, as per extra-pulmonary category, with limited surgical intervention or aspiration of abscess has been found to be sufficient.

### Conclusion

The importance of the study of TB Mastitis is in the difficulty faces in the differentiation from carcinoma breast. Considering the fact that TB in any form is so common and rampant in this part of world and also the variety of the disease in which it can present it is

necessary to keep and rule out TB as a differential diagnosis in any case of breast lump or mass encountered in India.

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