

Breast Tuberculosis not a Rare but Commonly Missed Disease

Received: 17 February 2023, **Revised:** 19 March 2023, **Accepted:** 21 April 2023

Dr. Sompalli Sri Harshith¹, *Dr. Jayamol Revendran², Dr. Jince Ann Jose³, Dr. Dhayalnithi⁴, Dr. Pedada Mounika⁵.

1PG, Department of Respiratory Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

*2Assistant Professor, Department of Respiratory Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

3Assistant Professor, Department of Respiratory Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

4PG, Department of Respiratory Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

5PG, Department of Respiratory Medicine, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

Corresponding Author: Dr. Jayamol Revendran

Mail ID: drjayasujith@gmail.com

Keywords:

Tuberculosis, Chest Diseases, Histopathological diagnosis

Abstract

INTRODUCTION: Tuberculosis of breast is rare extra pulmonary tuberculosis disease with incidence of less than 0.1% of breast diseases in developed countries, 3–4% in high incidence countries (India). Common in reproductive age, multiparous, lactating women. Less common in older age. Most commonly presents with Mass in middle or upper-outer quadrant of the breast. Breast Abscess and Carcinoma Breast are differential diagnosis since presents with varied clinical, radiological and pathological presentation.

CASE PRESENTATION: Case of tuberculosis of breast that was reported in the Surgery Department and misdiagnosed as breast abscess and treated at Department of Tuberculosis and Chest Diseases as Tuberculosis Breast at Sree Balaji Medical College and Hospital.

1. Introduction:

The "scrofulous swelling in the bosom of young women" was the first instance of TB breast documented by Sir Astley Cooper in the year 1829, and the disease is a rare extra-pulmonary form of tuberculosis. Africa and Asia are the regions where it is most prevalent. Rare occurrences can cause a delay in diagnosis, which may lead to needless medications and surgical procedures.

Breast Tuberculosis is prevalent in women between the ages of 21 and 30 who are fertile, and it may manifest as an abscess or an asymptomatic breast lump. Due to direct spread to the breast from the axillary lymph node, the most typical presentation is a single breast lump in the central or upper outer quadrant areas. Mass presentations with numerous or bilateral lesions are uncommon. Irregular, ill-defined margins, hard features mimic carcinoma Breast. Sometimes painful, movable or attached to the skin or underlying muscle, chest wall ulceration, breast abscess, nipple retraction, peau

d'orange, and breast edoema are some of the more common conditions. Due of its rarity, TB Breast diagnosis in males is exceedingly challenging.

Differential diagnoses include breast abscess, mastitis, breast cancer, sarcoidosis, fungal infection, and other granulomatous illnesses. Mammography, ultrasound, interferon gamma release assay, chest X-rays, and computed tomography are not specifically used to diagnose breast TB. Accurate case diagnosis may be achieved with the use of TB PCR, open biopsy, and fine needle aspiration cytology (FNAC). Antitubercular treatment for at least six months is the primary method of management. Surgery is only used to empty an abscess, remove sinuses, perform a biopsy, perform a segmentectomy, or very rarely do a simple mastectomy.

Here we present 38 year old Female patient How we diagnosed her with Tuberculosis of Breast and with what we treated. Who was previously misdiagnosed as breast abscess.

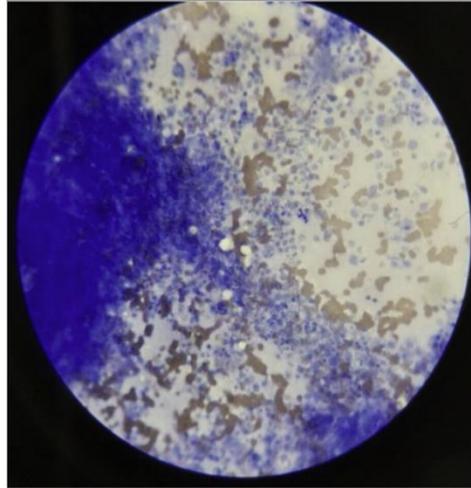


Figure. 1. Wright stain low power field (4×) Breast tissue showing neutrophilic inflammation.

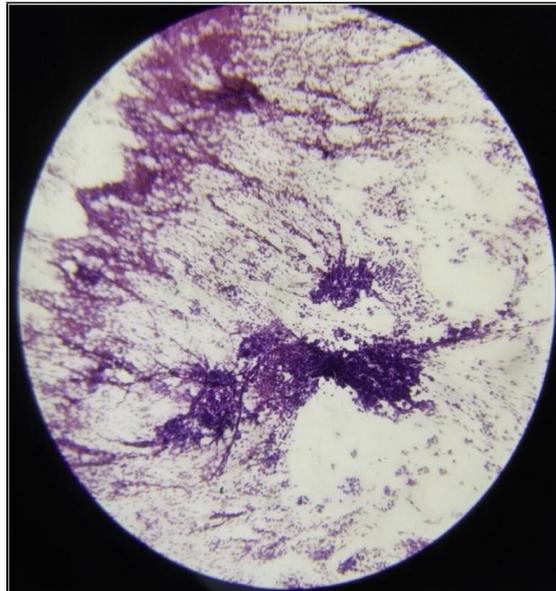


Figure. 2. Pap stain low power field (4×) Ductal epithelial cells with granulation tissue with neutrophilic inflammation.

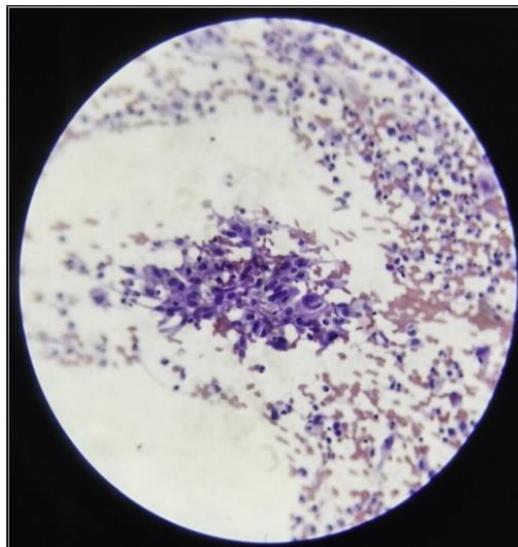


Figure 3. Pap stain high power field (40×) showing epithelioid cell granulomas.

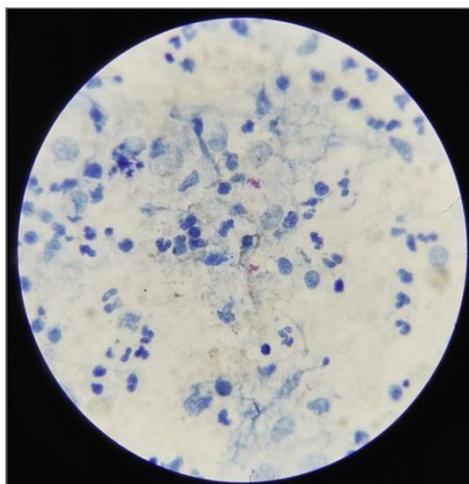


Figure. 4. Ziehl Nielsen stain in (100×) magnification field showing acid-fast bacilli in clusters.

2. Case report:

A 38-year-old female patient arrived complaining of losing 10 kgs of weight in two months and experiencing intermittent fever with nighttime temperature increases. Swelling and little discomfort in the left breast were first noticed 30 days ago. No one in the family has ever had breast cancer or Patient was started on Antibiotics (flucloxacillin) initially but there was no improvement in her signs and symptoms.

On examination, on Inspection Skin around Areola was red without any discharge. On Palpation Mild tenderness Present, firm lump 3×3 cm measurements at Areola lateral margin of Left breast can be palpated. An ultrasound of the breasts reveals a an ultrasound of the breasts reveals a 4 ×

4.5 mm-diameter cystic lesion in the left breast at the time of delivery. The breast tissue that was echogenic and edematous around the lesion was probably due to localised mastitis. The left breast mass underwent FNAC under ultrasound guidance. It had multinucleated large cells, epithelioid histiocytes, neutrophils, and poorly defined granulomas. The specimen's acid-fast bacilli (AFB) stain revealed many AFB in clusters.

mm-diameter cystic lesion in the left breast at the time of delivery. The breast tissue that was echogenic and edematous around the lesion was probably due to localised mastitis. The left breast mass underwent FNAC under ultrasound guidance. It had multinucleated large cells, epithelioid histiocytes, neutrophils, and poorly defined granulomas. The specimen's acid-fast bacilli (AFB) stain revealed many AFB in clusters.

Histopathological diagnosis was Granulomatous mastitis, most likely tuberculosis.

Investigations: On PCR and IGR testing (QuantiFERON-TB Gold test), *Mycobacterium tuberculosis* was found.

Treatment: In accordance with national protocol, the patient was then started on anti-tubercular treatment under the National Tuberculosis Elimination Programme with Directly Observed Treatment, Short-Course (DOTS) 4 Fixed Dose Combinations of Isoniazid (H), Rifampicin (R), Pyrazinamide (Z), Ethambutol (E), and [HRZE] 75/150/400/275 mg, respectively. Following the four-month period of isoniazid (H), rifampicin (R), and ethambutol (E), four months of rifampin, isoniazid, pyrazinamide, and ethambutol were administered. With this TB medication, the patient receives vitamin B6 (pyridoxine) for six months. After six months of therapy, the patient has no further symptoms.

3. Discussion:

The majority of tuberculosis cases in India, a developing nation with a high prevalence of the disease, are pulmonary, while extra-pulmonary instances are certainly not unheard of. Breast TB is an uncommon extrapulmonary form of the disease. Incidence in breast tissue slides account between 3.5% to 5% in India and 0.1% in western countries. It is seen mainly among females, Male TB breast being rarest. Peak age group among females is 20 to 35 years.

Most common risks associated for TB breast are Multiparity, Lactation, trauma, suppurative mastitis are being considered.

Journal of Coastal Life Medicine

Breast TB case reported to us is purely breast involvement without any Lymph Nodes or adjacent sites involvement based on physical, Radiological Investigations and Patient has no previous contact History of Tuberculosis. In the past, Biswas et al, Singal et al, and Azorkar et al. reported instances with pure Primary breast TB.

Most healthcare profession lack awareness of Breast TB manifestations, and misdiagnosed in many patients. Can present as tuberculous mastitis with breast lump which may be misdiagnosed as carcinoma of the breast. Women in Reproductive age group during Lactation is a risk factor for Tuberculous mastitis. Both breasts have equal chance of involvement with equal frequency.

breast TB symptoms that occur most often is a breast tumour that has or does not have overlaying skin ulcers and draining sinuses. Multiple sinuses and nodules are possible, although multiple lumps are less frequent. Tenderness is present in TB Breast but is often absent in breast carcinomas. In our situation, the patient also had breast pain and a lump. The most typical involvement in breast tuberculosis is the upper outer quadrant. Nipples and Areola are not often involved. Breast cancer and tuberculosis (TB) breast both exhibit fixation of the surrounding skin. Constitutional symptoms weight loss, fever, malaise, night sweats are observed in <25% of the cases of TB Breast. Breast TB can be classified into three forms based on clinical and radiological features : Nodular, diffuse, and sclerosing. The nodule is well-defined and slow-growing. On Mammography shows oval tumour shadow, which is hard to differentiate from carcinoma Breast. The disseminated form presents with multiple lesions and sinus on mammography which mimics inflammatory breast cancer. The sclerosing generally seen among aged women and has characteristics of excessive fibrotic process.

FNAC is Investigation of choice to diagnose Breast TB. mammography or ultrasonography have limited value as both breast TB and carcinoma breast have indistinguishable features Radiologically.

With FNAC, we can immediately see Langhans large cells, epithelioid cell granulomas, and necrosis, which aids in the diagnosis of TB breast. Some people believe that USG guided breast core biopsy, rather than FNAC, would boost the yield of diagnosis. Acid fast bacilli stain or TB PCR of the aspirate is also recommended.

4. Conclusion:

When a patient has a breast abscess or lump but no other constitutional symptoms, TB breast should also be taken into consideration. Investigations such as FNAC or biopsies are helpful in the diagnosis of mycobacterium. Antituberculous therapy alone often results in full recovery

Author contribution
Authors have equally contributed in the study.

Informed consent:

Written and oral informed consent was obtained from the patient

Funding:

This study has not received any external funding

Conflicts of interest:

The authors declare that there are no conflicts of interests

Data and materials availability:

All data associated with this study are present in paper.

References:

- [1] R. Mathur, M. Vatliya, S. Chitimilla Tuberculosis of breast: a case report West Lond Med J, 1 (October (3)) (2009), pp. 37-43.
- [2] A.C. Tanrikulu, A. Abakay, O. Abakay, M. Kapan Breast tuberculosis in Southeast Turkey: report of 27 cases Breast Care, 5 (3) (2010), pp. 154-157.
- [3] G. Quaglio, D. Pizzol, A. Bortolani, F. Manenti, P. Isaakidis, G. Putoto, et al. Breast tuberculosis in men: a systematic review PLoS One, 13 (April (4)) (2018), Article e0194766.
- [4] Strazzanti, C. Trovato, S. Gangi, F. Basile Breast tuberculosis cases rising in Sicily Int J Surg Case Rep, 53 (January (1)) (2018), pp. 9-12.
- [5] Z. Azarkar, M. Zardast, N. Ghanbarzadeh Tuberculosis of the breast: a case report Acta Med Iran, 49 (2) (2011), pp. 124-126.
- [6] S. Kakkar, S. Kapali, M.K. Singh, K. Verma Tuberculosis of the breast. A cytomorphological study Acta Cytol, 44 (2000), pp. 292-296.

Journal of Coastal Life Medicine

- [7] M. Tewari, H.S. Shukla Breast tuberculosis: diagnosis, clinical features and management Indian J Med Res, 122 (2005), pp. 103-110.
- [8] S.C. Biswas, J.L. Banerjee, C.R. Sahu Tuberculosis of the female breast: a case report Biomed J Sci Tech Res, 6 (5) (2018).
- [9] R. Singal, A.K. Dalal, U. Dalal, A.K. Attri Primary tuberculosis of the breast presented as multiple discharge sinuses Indian J Surg, 75 (February(1)) (2013), pp. 66-67.
- [10] C.F. Longman, T. Champion, B. Butler, T.D. Suaris, A. Khanam, H. Kunst, et al. Imaging features and diagnosis of tuberculosis of the breast Clin Radiol, 72 (March (3)) (2017), pp. 217-222.