



Case Report

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Tuberculous Mastitis: A Rare Case of Extra-Pulmonary Tuberculosis

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Abstract

Tuberculosis is a chronic infectious disease caused by the tubercle bacillus and even in this era of antimicrobials, it still forms a major cause of death throughout the world. Extrapulmonary disease is seen in approximately one fifth to one-fourth of the total cases of tuberculosis. It is commonly seen in lymph nodes and pleura. Tuberculosis of the breast is very uncommon and can be easily missed. In this case report we describe a case of tuberculous mastitis presenting to our hospital with breast abscess six months post lactation.

Keywords: Extra-Pulmonary Tuberculosis, Breast abscess, Fine Needle Aspiration Cytology, Breast Imaging-Reporting and Data System, Acid Fast Bacillus.

INTRODUCTION

Tuberculosis (TB) is a chronic infectious disease caused by *Mycobacterium tuberculosis*. Extrapulmonary disease is commonly seen in lymph nodes, pleura, bones, the Genito-urinary system, and the CNS (meninges) [1,2]. Extra-pulmonary Tuberculosis (EPTB) is usually seen in immune-compromised patients or children. Extrapulmonary disease is seen in approximately one-fifth to one-fourth of the total cases of tuberculosis. In the HIV population, the prevalence of EPTB can be as high as 50% or even more [3]. Tuberculosis of the breast is very uncommon and can be easily missed. In this case report we describe a case of tuberculous mastitis presenting to our hospital with breast abscess six months post lactation.

Tuberculous mastitis was first described by Sir Astley Cooper in 1829 as a scrofulous swelling of the bosom. Tuberculous mastitis is a rare condition and far rarer in males. It is seen commonly in reproductive age females and can be a part of Disseminated tuberculosis disease. In this case, we treated a patient with breast abscess that was initially thought to be due to a complication of peri-ductal mastitis, but later turned out to be a case of primary breast tuberculosis.

CASE REPORT

A 28-year-old female, post-lactating mother, came to the medicine OPD with complaints of pain and swelling in her left breast for a week. She had stopped breast feeding her child six months ago. She also reported having generalized malaise and lethargy. Her pain was temporarily relieved with paracetamol but would recur after a few hours. She tried cold sponging, but it did not help her relieve the pain. On examination she had a 3×4 cm lump in her left breast in the central compartment. It was tender to touch and erythematous. There was no palpable axillary lymphadenopathy. She did not report any recent weight loss or appetite loss.

She was referred to the surgery department for further management. Initially she was diagnosed as a case of peri-ductal mastitis complicating to breast abscess and was prescribed Amoxicillin and Clavulanic acid with an NSAID for pain relief. Even after a week there was no improvement in her symptoms and the swelling. She was then scheduled for an Ultrasonographic examination of her breasts and an FNAC of the left breast swelling.

The ultrasound of her left breast showed multiple thick-walled cystic lesions with internal echoes scattered in the left breast, with the largest measuring 19×14 mm in the peri-areolar region at the 8 to 9 O' clock position. It was categorized as BIRADS 3 lesion. There was no evidence of any ductal dilatation seen on the left side. A few lymph nodes were seen in both axillary regions with maintained fatty hilum, largest measuring 11 mm in short axis diameter on the left side.

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During fine needle aspiration, pus was aspirated from her left breast lump. The smears showed wide areas of acellular caseous necrosis with degenerated epithelioid granulomas in a background of acute on chronic degenerated inflammatory cells and necrotic ductal cell debris (Figure 1 and 2). Acid fast bacillus seen in the necrotic background. The final FNAC report read: "Tuberculous Mastitis of Left Breast with superadded infection".

The patient was registered for the National TB Elimination Program and investigations like complete blood count, Renal and Liver Function Tests, Chest X Ray, Ultrasound of abdomen and Urine analysis were carried out. Her routine investigations were all normal. Her chest X Ray and Ultrasound of abdomen also came out normal. She was started on Anti-Tubercular Therapy, intensive phase for two months and then maintenance phase for four months.

Follow up FNAC after intensive phase showed many cohesive clusters of benign ductal epithelial cells in a background of lipid and fibrofatty fragments. Occasional granulomas seen but no acid-fast bacillus seen. The final report of the follow-up FNAC read – "No evidence of Tuberculosis at present".

The patient's symptoms improved within two weeks of starting ATT. Her swelling decreased over two months. She continued ATT for six complete months and was declared cured after six months.



Figure 1: Slide showing Acid Fast Bacillus in the pus aspirated from the left breast lump.

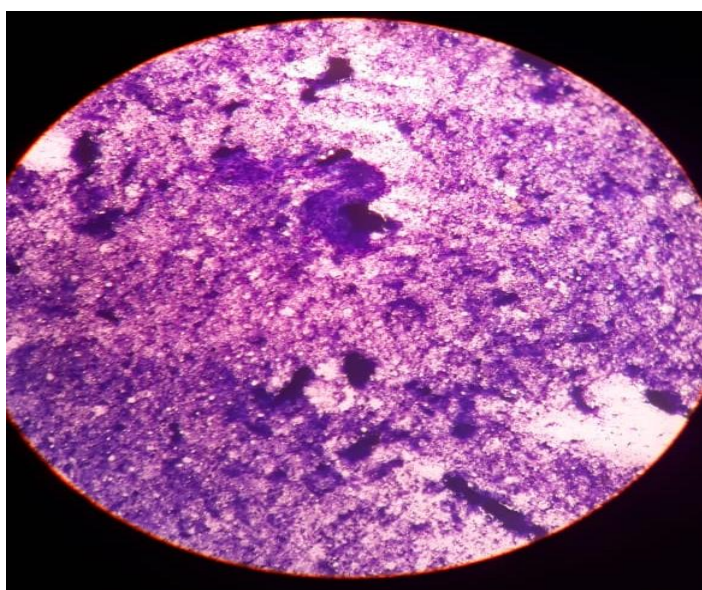


Figure 2: Occasional Granulomas in the background of necrosis. (Low power, 10x Giemsa)

DISCUSSION

A breast abscess is an inflammation of breast tissue with pyogenic collection. It usually occurs as a complication of mastitis commonly due to lactational mastitis or periductal mastitis [4]. The risk of lactational mastitis complicating towards breast abscess is increased in women with more than 30 years of age and history of smoking [5]. Staphylococcus is the most common organism causing breast abscess [6]. Other common organisms that have been found responsible for breast abscesses are Streptococcus pyogenes, Coagulase Negative Staphylococci and *E. coli* [7]. Tubercle bacilli as a cause of breast abscess is very rare. Few studies suggest that the percentage of breast abscesses due to *Mycobacterium tuberculosis* in few geographical areas could be as low as 0.1% which makes it difficult to diagnose early [8,9].

Tuberculosis is classified as Pulmonary or Extrapulmonary depending on the site of infection. Extrapulmonary tuberculosis amounts to approximately 21% of the total tuberculosis cases as per the CDC report [10]. It has been found that the use of Tumor Necrosis Factor alpha (TNF – α) inhibitors increases the risk of extrapulmonary tuberculosis. The incidence of extrapulmonary tuberculosis in patients treated with TNF α inhibitors was found to be between 57% and 62% of the total number of tuberculosis cases after therapy with these agents [11,12]. The pathogenesis for extrapulmonary tuberculosis lies in the lymphohematogenous spread of the tubercle bacillus from the primary foci. The tubercle bacilli enter through the respiratory tract and once inside the lung they disseminate by lymphatic or hematogenous route.

Tuberculosis can affect any part of the body. The bacilli form granulomatous lesions after dissemination and can stay dormant for months or even years and decades. Only when the immunity is weakened, the latent infection proceeds into disease and starts manifesting symptoms. Rarely, extrapulmonary disease can occur due to iatrogenic causes also. Cases of extrapulmonary tuberculosis have been reported following procedures like valve surgeries, solid organ transplants and even after ureteral catheterizations [13]. Common sites of extrapulmonary tuberculosis include tuberculous lymphadenitis, tuberculous pleural effusion, and tuberculosis of bones and joints. In a study done in Sudan between January 2011 and June 2012, extrapulmonary tuberculosis was found in 22.7% of total cases of tuberculosis. Out of these, TB lymphadenitis amounted to 35.3% of the total extrapulmonary tuberculosis cases. TB peritonitis formed 12.05% of the EPTB patients, Urogenital TB - 11.2% and tubercular pleural effusion contributed to 6.7% of the total EPTB patients [14]. Primary Tuberculous mastitis is a very uncommon presentation of tuberculosis even in tuberculosis endemic countries.

Ultrasonography and Cytopathology helped in the timely diagnosis of tuberculosis in this patient. Earlier, Tuberculous mastitis was classified into five pathological forms as: Nodular form, Diffuse or Disseminated form, Sclerosing form, Tuberculous Mastitis Obliterans and Acute Miliary Tuberculous Mastitis. Recently the classification has been changed to include only three categories: Nodular, Disseminated and Abscess varieties. Sclerosing form, obliterans form and acute miliary tuberculous mastitis are extremely rare these days.

In such cases, it is always important to rule out other diagnoses like carcinoma breast.

CONCLUSION

Tuberculous mastitis is a rare entity. Acid fast bacilli are found in only 10% to 12% of all cases of tuberculous mastitis. In TB endemic countries, presence of caseous granulomas or epithelioid granulomas warrants the use of empiric anti-tubercular therapy. Nucleic Acid Amplification Test is more sensitive than smear examination. The gold standard for diagnosis is the culture of the breast tissue for acid fast bacillus. Radiological investigations like CT and MRI of the breast are

helpful in the diagnostic workup and the findings like 'sinus tract sign' in ultrasonography can be strongly suggestive of tuberculosis.

Conflict of Interest

The authors declare no conflicts of interest.

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REFERENCES

1. Arega B, Mersha A, Minda A, Getachew Y, Sitotaw A, Gebeyehu T, et al. Epidemiology and the diagnostic challenge of extrapulmonary tuberculosis in a teaching hospital in Ethiopia. Quinn F, editor. PLOS ONE 2020; 15(12): e0243945.
2. Baykan AH, Sayiner HS, Aydin E, Koc M, Inan I, Erturk SM. Extrapulmonary tuberculosis: an old but resurgent problem. *Insights Imaging*. 2022; 13(1): 39.
3. Golden MP, Vikram HR. Extrapulmonary tuberculosis: an overview. *American Family Physician*. 2005; 72 (9): 1761–8.
4. Dixon JM, Khan LR. Treatment of breast infection. *BMJ*. 2011; 342: d396.
5. Dener C, Inan A. Breast abscesses in lactating women. *World J Surg*. 2003; 27(2): 130-133.
6. Bharat A, Gao F, Aft RL, Gillanders WE, Eberlein TJ, Margenthaler JA. Predictors of primary breast abscesses and recurrence. *World J Surg*. 2009; 33(12): 2582-6.
7. Leach RD, Eykyn SJ, Phillips I, Corrin B. Anaerobic subareolar breast abscess. *Lancet*. 1979; 1(8106): 35-7.
8. Akcakaya A, Eryilmaz R, Sahin M, Ozkan O: Tuberculosis of the Breast. *The Breast Journal*. 2005, 11: 85-86.
9. Tewari M, Shukla HS: Breast tuberculosis: diagnosis, clinical features and management. *Indian J Med Res*. 2005, 122: 103-110.
10. Centers for Disease Control and Prevention. Reported Tuberculosis in the United States, 2020.
11. Keane J, Gershon S, Wise RP, Mirabile-Levens E, Kasznica J, Schwieterman WD, Siegel JN, Braun MM. Tuberculosis associated with infliximab, a tumor necrosis factor alpha-neutralizing agent. *N Engl J Med*. 2001; 345(15): 1098-104.
12. Dixon WG, Hyrich KL, Watson KD, Lunt M, Galloway J, Ustianowski A; B S R B R Control Centre Consortium; Symmons DP; BSR Biologics Register. Drug-specific risk of tuberculosis in patients with rheumatoid arthritis treated with anti-TNF therapy: results from the British Society for Rheumatology Biologics Register (BSRBR). *Ann Rheum Dis*. 2010; 69(3): 522-8.
13. Yekanath H, Gross PA, Vitenson JH. Miliary tuberculosis following ureteral catheterization. *Urology*. 1980; 16(2): 197-8.
14. Abdallah TM, Toum FM, Bashir OH, Mansoor TI, Yousif MM, Elkhawad MA, Okud IO, Mohammed AO, Abdalla Ali AA. Epidemiology of extrapulmonary tuberculosis in Eastern Sudan. *Asian Pac J Trop Biomed*. 2015; 5(6): 505-8.