

Bilateral Breast Primary Tuberculous Mastitis a Rare Entity in Males - Case Report

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Abstract: ***Introduction:** Primary breast tuberculosis is a rare manifestation of extrapulmonary tuberculosis. It appears mostly in women of reproductive age group. Breast tuberculosis usually presents as a single lump in breast and bilateral breast tuberculosis with multiple lumps and sinus formation is rarely documented especially in male patients. **Case Report:** we report a case of bilateral primary breast tuberculosis in a male who had repeated breast abscess formation and not responding to surgical and medical management. Histopathological and coadjuvant AFB helped in confirmation of the diagnosis and facilitated evidence based management. **Discussion:** High risk population was identified. Disease classification along with analysis of clinical presentation is done. Various diagnostic techniques with their limitations are discussed. **Conclusion:** High index of suspicion, ambiguous clinical presentation and utilising adequate laboratory tools for diagnosis of tuberculous mastitis in male is essential for proper clinical outcome.*

Key words: Sinus, breast, male, Extrapulmonary tuberculosis

1. Introduction

Tuberculosis is an infectious disease caused by Mycobacterium tuberculosis (MTB). India accounts for the highest TB burden in the world (26%). Pulmonary tuberculosis is the most common presentation and is of public health significance. [1] Tuberculous infection of any part of the body other than lung parenchyma is defined as extrapulmonary tuberculosis (EPTB). EPTB accounts for 15 - 20% of TB cases in HIV negative patients as compared to 40 - 50% in HIV positive people. [2] The most common sites affected are lymph nodes, pleura, skeletal system, GIT, urogenital system, meninges and skin¹. The clinical presentation of EPTB is variable depending on organ involved, host immune response and degree of tissue damage. [3] EPTB remains a diagnostic dilemma due to wide variety of clinical presentation, difficulty to obtain sample and paucibacillary nature of the specimen leading to delay in diagnosis and initiation of the therapy. [4]

The first case of tuberculosis of the breast was reported in a woman in 1829 by Sir Astley Cooper who described it as a scrofulous swelling of the bosom [5]. EPTB comprises of about 3 - 4.5% of breast lesions women in tuberculosis endemic regions like India. It is generally believed that it affects young lactating multiparous women and is secondary to tuberculous foci elsewhere in the body. Breast tuberculosis is a rare disease and uncommon in men. The first case of breast TB in men was reported in 1927. [6] Clinical features of breast tuberculosis are ambiguous and by the time the diagnosis is made irreversible damage occurs in the tissue. It has no defined clinical features and is misdiagnosed as a pyogenic abscess or inflammatory carcinoma of the breast [7]. High degree of clinical suspicion, timely detection and evidence based diagnosis and treatment is necessary for proper outcomes in management of breast tuberculosis.

2. Case Summary

A 23 year old male presented as bilateral multiple breast abscess to Surgery Department, North Goa District Hospital, Mapusa with a complaint of recurrence of bilateral painful breast lump for 1 month associated with low grade fever for which incision and drainage process was done in a private hospital 2 months back. However he had no relief and redeveloped swelling in both the breasts with low grade fever since 15 days. The patient had no other complaints. Physical Examination confirmed a palpable lumps in the lower outer quadrant of the right breast measuring 3.5cms and in upper outer quadrant of the left breast measuring 4cms. It was accompanied by redness and retraction of the adjacent skin in both the breasts. Fluctuation test was positive in both the breasts. There was no peripheral lymphadenopathy. The patient was afebrile with normal blood pressure. He was diagnosed as a case of bilateral breast abscess. Laboratory workup revealed hemoglobin 12.5gm/dl, total WBC count 4500/cu mm, differential WBC count showed neutrophils 50%, lymphocytes 46%, eosinophils 3% and monocyte 1%, ESR 20mm/hour, normal blood sugar, liver function tests and renal function tests. Chest X ray was normal. Incision and drainage was done with empirical antibiotic treatment with Amoxiclav for 10 days and Cefuroxime for 7 days. The patient followed up regularly for dressing for 1 month. He again developed painful swelling in both the breasts with non healing wound, ulceration and multiple discharging sinuses. (Fig A and B).



Figure A: Left Breast lump with ulceration and sinus formation. **Figure B:** Right breast lump with non healing ulcer and sinus formation. **Figure C:** Epithelioid granulomas with caseous necrosis and langhans giant cells.

Swab was sent for culture which was inconclusive. After 2 days FNAC was done from bilateral breasts which was reported as acute inflammatory lesion. Part of the aspirate was submitted for routine culture which was inconclusive, smear for Acid fast bacilli negative, and Nucleic Acid Amplification Test reported as MTB not detected. The patient was not responding to oral antibiotic treatment. Wedge biopsy was done to rule out inflammatory carcinoma/ idiopathic mastitis/infective mastitis or any other etiologies. Histopathological examination revealed epithelioid granulomas with caseous necrosis and langhans giant cells. (Fig C) AFB staining, gram staining, PAS and GMS staining were done to rule out various etiologies. AFB stain showed acid fast bacilli confirming the diagnosis of Tuberculous mastitis. The patient was started on antituberculous drugs (Isoniazid 300mg, Rifampicin 450mg, ethambutol 750mg, pyrazinamide 1500mg per day) and after 2 months patient showed improvement with resolution of bilateral breast lesions and healing of ulcers which did not need further surgical intervention. Patient is for follow up with our hospital.

3. Discussion

Although most of the breast cases refer to women, men too have breast and manifest with most of the lesions and inflammations including mastitis like women, however the incidence rate is low in men. The majority of male breast diseases are benign. Lesions that occur in men are Gynaecomastia, papilloma, adenoma, myofibroblastoma, granular cell tumour, fibrocystic change, diabetic mastopathy, fat necrosis, soft tissue tumours, epidermal

inclusion cyst and some breast cancers [8]. Mastitis is an inflammatory disorder of mammary glands, classified into two types: puerperal and non - puerperal. It largely affects females where lactating breast appears to be at higher risk probably due to increased blood supply to the breast, blocked milk ducts and milk stasis making them more vulnerable to infection. Non puerperal mastitis is unrelated to pregnancy and breast feeding. It is caused by a wide variety of organisms like gram positive and gram negative bacteria and mycoplasma. [9] Tuberculosis is an uncommon etiological factor for non puerperal mastitis constituting 0.64 to 3.59%.7

Tuberculous mastitis is a rare disease and is usually unilateral and seldom affects males (M: F; 2: 52) in India (1986 - 2000) [9]. Moreover bilateral tuberculous mastitis in male in its primary form is still rarer. This strikingly lower incidence in males points towards significant role of pregnancy, lactation and hormones as likely predisposing factors for causing mastitis in women. [10]

Breast tuberculosis is divided into two types primary and secondary. Most cases of tuberculous mastitis are secondary because of concurrent infection. [7] Primary breast tuberculosis is diagnosed when there is no other source of MTB infection. [7] In our case there was no thoracic or axillary lymphadenopathy. His chest x ray was normal. Hence was a case of primary bilateral breast tuberculosis.

Tuberculous mastitis usually presents with lump in breast with or without ulceration. [9] Our patient presented with recurrent inflammation, abscess, non healing ulcers and sinus formation which is a less common form of

presentation of tuberculous mastitis. Non response to therapy and recurrence of abscess raised the suspicion of other etiologies like inflammatory carcinoma/ idiopathic mastitis/infective mastitis. FNAC is a good technique for diagnosis of mastitis. Approximately 74.3% of breast Tuberculosis can be diagnosed by FNAC based on cytomorphologic picture like epitheloid granulomas, necrosis, Langhans giant cell, however it has its limitations as it may not sample the representative area. [4] NAAT and Acid Fast Bacilli testing of FNAC samples may give false negative results due to paucibacillary nature of the samples. In our case FNAC could not give a conclusive diagnosis of granulomatous mastitis. Histopathological diagnosis is recommended to differentiate breast carcinoma from chronic granulomatous inflammation. Histological picture of epitheloid granulomas, caseous necrosis and Langhans giant cells will help to diagnose granulomatous inflammation of the breast. The differential diagnosis includes idiopathic granulomatous mastitis, sarcoidosis, fat necrosis, granulomas due to infections like tuberculosis, actinomycosis and blastomycosis. [10] Use of Zeihl Neelson staining or culture of the breast tissue can help in detection of M. Tuberculosis. In this case histopathological examination with AFB helped in diagnosis and starting of therapy for the patient and further surgical intervention was not required. Although tuberculosis of breast is a rare entity it should be considered as a differential diagnosis of mastitis in endemic areas like India. Utilising adequate laboratory tools like histopathology and supportive microbiological and molecular tests for early diagnosis will prevent delay in initiation of the therapy and support national programmes for elimination of tuberculosis and prevention of resistance to the therapy.

- [5] Illustrations of the diseases of the breast by Sir Astley Cooper. Part I. Longmans; London, UK: Orme, Brown and Green.1829.
- [6] Tuberculosis of the breast. Morgan M. Surg Gynecol Obstet.1931; 53: 593 - 605.
- [7] Tewari M, Shukla HS. Breast tuberculosis: Diagnosis, clinical features and management. Indian J Med Res.2005; 122: 103 - 10.
- [8] H Hamed I, I S Fentiman Benign breast disease. . Int J Clin Pract.2001 Sep; 55 (7): 461 - 4.
- [9] Shukla HS, Kumar S. World J Surg.1989 Nov - Dec; 13 (6): 746 - 9. Benign breast disorders in nonwestern populations: Part II - - Benign breast disorders in India.
- [10] Mckeown KC, Wilkinson KW. Tuberculous diseases of the breast. Br J Surg.1952; 39: 420

4. Conclusion

- 1) Tuberculous mastitis should also be considered as a differential diagnosis of breast lesions in male patients.
- 2) Histopathological examination to be done of recurrent breast abscess, non healing ulcers, not responding to standard therapy.
- 3) High index of suspicion is the cornerstone for diagnosis, there needs to be an awareness of this condition among the clinicians to assess breast in men.

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References

- [1] Global TB Report 2020. <https://www.who.int/publications/i/item/9789240013131>
- [2] India TB Report 2020. www.tbcindia.gov.in.
- [3] Srinivas Rajagopala 1, Ritesh Agarwal. Tubercular mastitis in men: case report and systematic review. American Journal of Medicine 2008 Jun; 121 (6): 539 - 44.
- [4] Sharma SK, Mohan A. Extrapulmonary tuberculosis. Indian J Med Res.2004 Oct; 120 (4): 316 - 53. PMID: 15520485.