

Breast Tuberculosis Mimicking Breast Carcinoma: A Case ReportJunaid Alam¹, Mohammad Aslam², Parvez Ahmad Ansari^{3*}, Aditya Varshaney⁴, Manisha Singh⁵, Mohsin Aizaz⁶¹Assistant Professor, Department of General Surgery, JNMCH, AMU, Aligarh, UP, India²Professor, Department of General Surgery, JNMCH, AMU, Aligarh, UP, India³Junior Resident, Department of General Surgery, JNMCH, AMU, Aligarh, UP, India⁴Junior Resident, Department of General Surgery, JNMCH, AMU, Aligarh, UP, India⁵Junior Resident, Department of General Surgery, JNMCH, AMU, Aligarh, UP, India⁶Senior Resident, Department of Pathology, JNMCH, AMU, Aligarh, UP, India***Corresponding author**

Parvez Ahmad Ansari

Article History

Received: 13.01.2018

Accepted: 20.01.2018

Published: 30.01.2018

DOI:

10.36347/sjmcr.2018.v06i01.016



Abstract: Breast tuberculosis is rare presentation of extrapulmonary tuberculosis even in countries where tuberculosis is widespread and common like India. Breast tuberculosis is mistaken with breast cancer and pyogenic breast abscess clinically and radiologically. Its incidence is likely to be higher in undeveloped countries as a result of the high TB incidence, but with an increasing spread of HIV in developed countries, the incidence of breast tuberculosis is increasing. Breast tuberculosis has no defined clinical features. Radiological imaging is not diagnostic. Diagnosis is based on identification of typical histological features or the tubercle bacilli under microscopy or culture. Antitubercular therapy for 6 months with or without surgical intervention is the mainstay of treatment today.

Keywords: Breast tuberculosis, breast cancer, Antitubercular therapy.

INTRODUCTION

Tuberculosis of breast is rare form of extra pulmonary tuberculosis [1,2]. It mainly involve young lactating female but can also involve male breast. TB of breast is mainly classified as primary and secondary forms. In primary TB, infection remains confined to the breast tissue. Breast tuberculosis can be misdiagnosed as carcinoma breast and pyogenic breast abscess [3, 4]. Most common presentation of breast tuberculosis is lump in upper and outer or central quadrant [5].

CASE REPORT

A 45 year married female presented in General Surgery department with complaint of lump in right breast for 1 month. She had no family history of carcinoma breast. There is no h/o fever or respiratory symptoms. On physical examination a mass of size 10x12 cm present in upper and inner quadrant of right breast, on palpation tenderness was present and margin was irregular. Lump was appear to be fix with skin and not fix to the chest wall. There was no skin retraction and nipple discharge. There was palpable right axillary lymph node. Examination of abdomen had no obvious lump or ascites.

Blood investigation – ESR of patient was 68, Hb 9.7, TLC 11800, granulocyte 74%, lymphocyte 18% and liver function test, kidney function test and chest x ray was within normal limit. HIV, Hbsag and HCV were non reactive.

USG b/l breast showed heterogenous breast parenchyma with internal echoes at upper and inner quadrant of right breast with evidence of hypoechoic ill-

defined lesion in upper inner quadrant having internal vascularity [BIRADS 5].

CECT Thorax s/o bulky right breast with large ill-defined heterogenous enhancing mass lesion with irregular and speculated margins in right breast parenchyma infiltrating areolar region with thick homogenously enhancing overlying skin with right axillary node (malignant breast lesion). Fine needle aspiration cytology report shows chronic granulomatous mastitis.

After fine needle aspiration cytology patient developed breast abscess which was managed by incision and drainage. Pus culture shows no growth and AFB negative. After that patient develop painful non healing ulcer over right breast. In view of that planned to do modify radical mastectomy d/o carcinoma. Mastectomy specimens send for histopathological examination which shows chronic granulomatous lesion s/o tuberculosis. ATT was started and now patient is improving.



Fig-1&2: Gross specimen of breast after MRM



Fig-3&4: USG scan of the affected breast

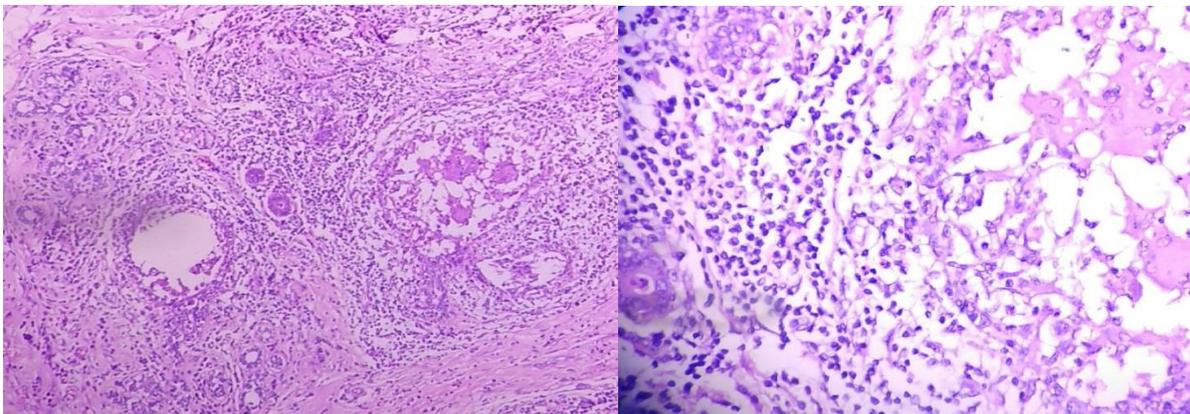


Fig-4 (100X) & fig 5(400X): H&E section shows breast parenchyma with numerous tubules (left). Adjacent area shows granulomatous reaction with epithelioid cells showing tendency to form giant cells and lymphocytic infiltration (Right)

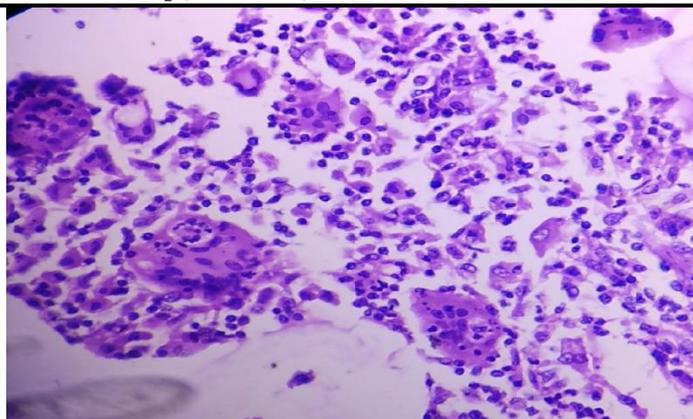


Fig-6: At 400X, H&E stained section shows numerous epithelioid cells, lymphocytes and langhans giant cells favouring granulomatous reaction

DISCUSSION

Tuberculosis of the breast is an uncommon disease, with an incidence between 0.1%- 3% of all breast diseases treated surgically [6]. The first case of mammary tuberculosis was recorded by Sir Astley Cooper in 1829 who called it 'scrofulous swelling of the bosom' [7]. Its incidence is likely to be higher nearly 4% in undeveloped countries as a result of the high TB incidence, but in the western countries, incidence being <0.1 per cent of breast lesions examined histologically [8,9]. With an increasing spread of HIV in developed countries mammary tuberculosis may no longer be uncommon in the developed world [10]. It usually affects young lactating multiparous women because the female breast undergoes frequent changes during the period of childbearing activity and is more susceptible to trauma and infection [11]. The disease is very rare in males. In India, a review by Gupta *et al.* [11] comprising 160 patients, only 6 were males comprising 3.75%. TB of breast is mainly classified as primary and secondary forms. In primary TB, infection remains confined to the breast tissue. Secondary TB is seen more frequently and here the infection is also present in other parts of body along with breast. Breast tissue is remarkably resistant to tuberculosis. This is due to the fact that, like skeletal muscles and spleen, it provides infertile environment for the survival and multiplication of tubercle bacilli [12]. Clinical presentation is usually of a solitary, ill-defined, unilateral hard lump situated in the central or upper outer quadrant. TB can also present with nipple discharge, skin thickening, discharging sinuses in the breast or axilla. Lesion may be indistinguishable from carcinoma breast, being irregular, hard, and at times, fixed to either skin or muscle or even chest wall [13,14]. Radiological imaging is not diagnostic. Mammographic imaging may show a dense tract connecting an ill-defined breast mass to an area of skin thickening and a skin bulge but Mammography is not helpful, especially in young women, due to high density of the breast tissue. Ultrasound may demonstrate a complex, predominantly cystic mass. Mammography and ultrasonography are unreliable in differentiating mammary tuberculosis from

carcinoma [16]. Fine-needle aspiration cytology can be diagnostic in about three-fourth of patients. Fine needle aspiration cytology shows the presence of epithelioid cell granulomas and necrosis. Gold standard for the Diagnosis of breast tuberculosis is the identification of the tubercle bacilli under microscopy or culture [15]. Polymerase chain reaction (PCR) is highly sensitive but rarely used. It is recommended in cases with negative culture results or for differential diagnosis between other forms. Shah *et al.* performed AFB smear, AFB culture, and the DAT (Amplicor assay) on 1090 tissue and body fluid specimens. They found PCR test to be very useful for detecting *M. tuberculosis* in non-respiratory samples, which have lower frequency of positive AFB smear. Medical therapy is the mainstay of therapy with anti-tuberculous therapy. The regimen generally followed in the treatment of breast tuberculosis is similar to that used in pulmonary tuberculosis [17]. Surgical intervention was needed in up to 14% of the patients in some series, either due to lack of response to chemotherapy or large painful ulcerative lesions involving the entire breast. Simple mastectomy is rarely needed now-a-days and is reserved for patients with extensive disease comprising large painful ulcerated mass involving the entire breast and draining axillary lymph nodes.

REFERENCES

1. Kalac N, Özkan B, Bayiz H, Dursun AB, Demirağ F. Breast tuberculosis. *The breast*. 2002 Aug 1;11(4):346-9.
2. Kakkar S, Kapila K, Singh MK, Verma K. Tuberculosis of the breast. *Acta cytologica*. 2000;44(3):292-6.
3. Mirsaeidi SM, Masjedi MR, Mansouri SD, Velayati AA. Tuberculosis of the breast: report of 4 clinical cases and literature review; 2007.
4. Sriram, K. B., Moffatt, D., & Stapledon, R. (2008). Tuberculosis infection of the breast mistaken for granulomatous mastitis: a case report. *Cases Journal*, 1(1), 273.

5. Puneet SK, Tiwary RR, Sanjay Singh S. Breast tuberculosis: still common in India. *Internet J Trop Med.* 2005;2(2):1540-2681.
6. Hale JA, Peters GN, Cheek JH. Tuberculosis of the breast: Rare but still extant: Review of the literature and report of an additional case. *The American journal of surgery.* 1985 Nov 1;150(5):620-4.
7. Cooper SA. *Illustrations of the diseases of the breast.* London: Longman, Rees, Orme, Brown, & Green; 1829.
8. O'Reilly M, Patel KR, Cummins R. Tuberculosis of the breast presenting as carcinoma. *Military medicine.* 2000 Oct;165(10):800-2.
9. Al-Marri MR, Almosleh A, Almoslmani Y. Primary tuberculosis of the breast in Qatar: ten year experience and review of the literature. *The European journal of surgery.* 2000 Jan 1;166(9):687-90.
10. Fujii T, Kimura M, Yanagita Y, Koida T, Kuwano H. Tuberculosis of axillary lymph nodes with primary breast cancer. *Breast cancer.* 2003 Apr 1;10(2):175-8.
11. Gupta PP, Gupta KB, Yadav RK, Agarwal D. Tuberculous mastitis: A review of seven consecutive cases. *Indian Journal of Tuberculosis.* 2003;50(1):47-50.
12. Banerjee SN, Ananthakrishnan N, Mehta RB, Parkash S. Tuberculous mastitis: a continuing problem. *World journal of surgery.* 1987 Feb 1;11(1):105-8.
13. Jah A, Mulla R, Lawrence FD, Pittam M, Ravichandran D. Tuberculosis of the breast: experience of a UK breast clinic serving an ethnically diverse population. *Annals of the Royal College of Surgeons of England.* 2004 Nov;86(6):416.
14. Teo TH, Ho GH, Chaturverdi A, Khoo BK. Tuberculosis of the chest wall: unusual presentation as a breast lump. *Singapore Med J.* 2009 Mar 1;50(3):e97-99.
15. Da Silva BB, Lopes-Costa PV, Pires CG, Pereira-Filho JD, Dos Santos AR. Tuberculosis of the breast: analysis of 20 cases and a literature review. *Transactions of the Royal Society of Tropical Medicine and Hygiene.* 2009 Jun 1;103(6):559-63.
16. Al-Marri MR, Aref E, Omar AJ. Mammographic features of isolated tuberculous mastitis. *Saudi medical journal.* 2005;26(4):646-50.
17. Wilson TS, MacGregor JW. The diagnosis and treatment of tuberculosis of the breast. *Canadian Medical Association Journal.* 1963 Nov 30;89(22):1118.