Case Series ISSN (O):2395-2822; ISSN (P):2395-2814

# Breast Tuberculosis in Patients at Tertiary Care Centre: Reveiw of Six Cases.

Shakti Sharma[1], NC Kajal[2], Jagpal Kaur[3], libin Mathew[1], Jasvir kaur[4], Chiranjeevi Chintala[5], N.S Neki[6]

[1]Junior Resident, Chest and TB Department, Govt Medical College, Amritsar, India.
[2]Professor, Chest and TB Department, Govt Medical College, Amritsar, India.
[3]Senior Resident, Department of pathology, Govt Medical College, Amritsar, India.
[4]Senior Resident, Department of Chest and TB, Govt. Medical College, Amritsar, India.
[5]EMO max healthcare, Gaziabad.
[6]Professor, Department of Medicine, Govt. Medical College, Amritsar, India.

Received: April 2019
Accepted: April 2019

**Copyright:** © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

## ABSTRACT

Nearly 18 % tuberculosis patients have only extrapulmonary manifestations. Tuberculosis of the breast is an uncommon disease even in countries where the incidence of pulmonary and extrapulmonary tuberculosis is high. It accounts for less than 0.1% of breast conditions in developed countries, but reaches 3–4% in regions where the disease presents with high incidence (India, Africa). The significance of mammary tuberculosis is due to very rare occurrence and usually mistaken identity with breast cancer and pyogenic breast abscess. Radiological imaging is not diagnostic. Diagnosis is based on identification of typical histological features or the tubercle bacilli under microscopy or culture. This disease can present a diagnostic problem on radiological and microbiological investigations, and thus a high index of suspicion is needed. This review is based on the discussion on the important issues relating to the diagnosis, clinical features, and management of breast tuberculosis.

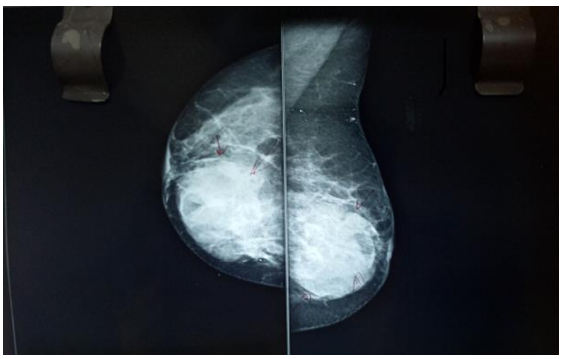
***Keywords:*** Tuberculosis, Caseous necrosis, Granulomatous pathology

## INTRODUCTION

Tuberculosis is caused by Mycobacterium Tuberculosis and affects primarily the lungs. Breast tissue is remarkably resistant to tuberculosis. This is due to fact that it gives infertile environment for survival and multiplication of tubercle bacilli like skeletal muscle and spleen Scrofulous swelling of the bosom is the description given by Sir Astley Cooper who recorded first ever Breast Tuberculosis.[1,2] Tuberculosis of the breast is extremely uncommon in developed countries. It is however more frequent in developing nations.[3] Mammary tuberculosis may be primary or secondary and there are three modes of spread: hematogenous, lymphatic, or direct spread.[4] Breast tuberculosis is newly classified as nodular, disseminated, and abscess varieties. The nodular form is the commonest.[5]

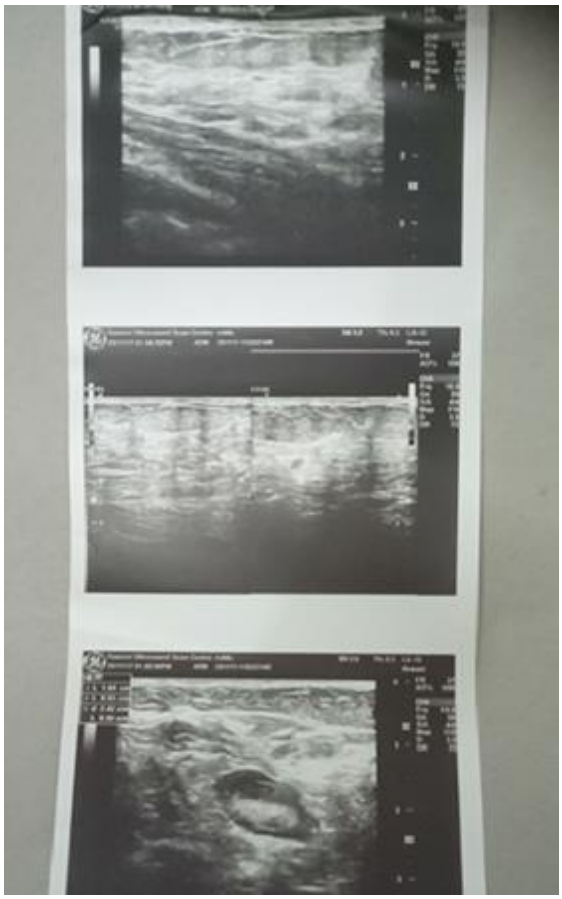
## CASE SERIES

We report a case of 28 year old female who presented to our hospital with history of multiple lumps and sinuses over right breast for ten months. She had no history of breast carcinoma in family. Patient was having complaint of fever with cough and expectoration. Chest x ray showed no active signs of tuberculosis. Patient had past history of pulmonary tuberculosis nine year back. On examination two lumps were felt, one in the upper outer quadrant and another around the areola on the medial side. The nipple retraction was present with purulent discharge from the nipple. There was no lymphadenopathy in axilla and cervical region. Erythrocyte sedimentation rate was raised. Mammography showed well defined opacity near nipple approximately 5.5 cm in size.

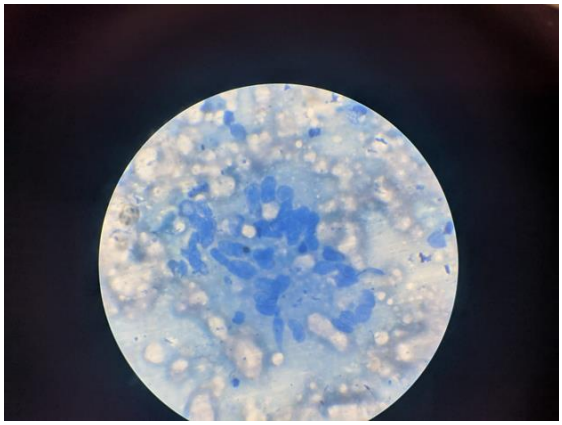


**Name & Address of Corresponding Author**
Dr. Shakti Sharma,
Junior Resident,
Chest and TB Department,
Govt Medical College,
Amritsar, India.

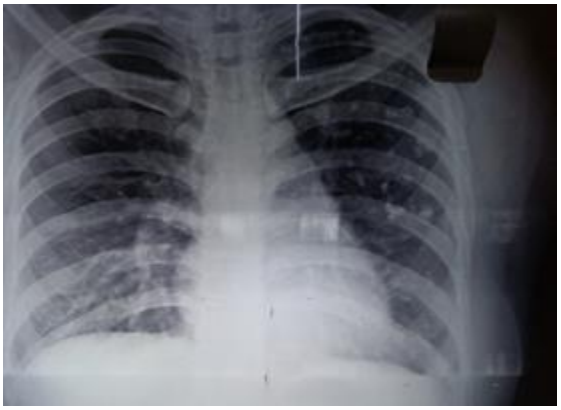
Breast sonography revealed heterogenous irregular big mass measuring 7.12 cm*2.82 in the right breast? Resolving abcess.



No improvement in the symptoms was seen after antibiotic course. Culture report of pus showed no pyogenic growth. Then FNAC of right breast mass was performed which revealed necrotizing granulomatous pathology showing well formed granulomas with caseous necrosis in back ground and sheets of neutrophils.

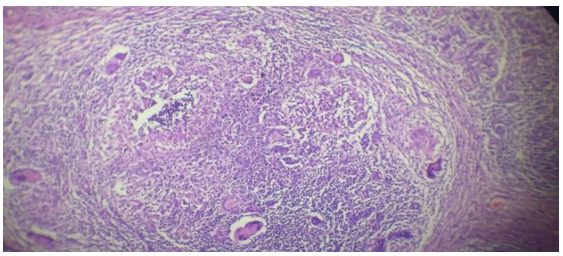


The patient was put on anti tuberculosis therapy for nine months with injection streptomycin. The symptoms improved very well Lumps started to dissolve, the discharge was decreased in amount.



**CAS E 2**

A 25 year old female presented to our hospital with history of lumps and sinuses over right breast for 5 months. Patient had complaint of low grade fever for 6 months. Chest X-ray showed no abnormality. No AFB bacilli were seen on sputum smear examination. Patient had no history of tuberculosis in past. On examination a big lump was present over upper outer quadrant of right breast with redness of overlying skin and was tender to touch. There was no nipple retraction . No discharge from nipple was present. Labortary investigations showed raised erythrocyte sedimentation rate 90mm/hr . Heamoglobin was 10.9g/dl, WBC count was 7600 with polymorphs 51%, lymphocytes 45%. liver function test and Renal function test were within normal range. HIV was non reactive. Ultrasound right breast revealed large hypoechoic area 6.8cm *5.4cm with skin breech at 2 -3 placesin the muscular plane of right upper-outer quadrant of breast with increasesd vascularity in right breast ?abscess. An enlarged lymph node was observed in in the axilla. Right Breast mass biopsy was done which showed collection of acute and chronic inflammation infilterate consisting of neutrophils, epitheloid cells, lymphocytes, few plasma cell and other features of granulomatous pathology.

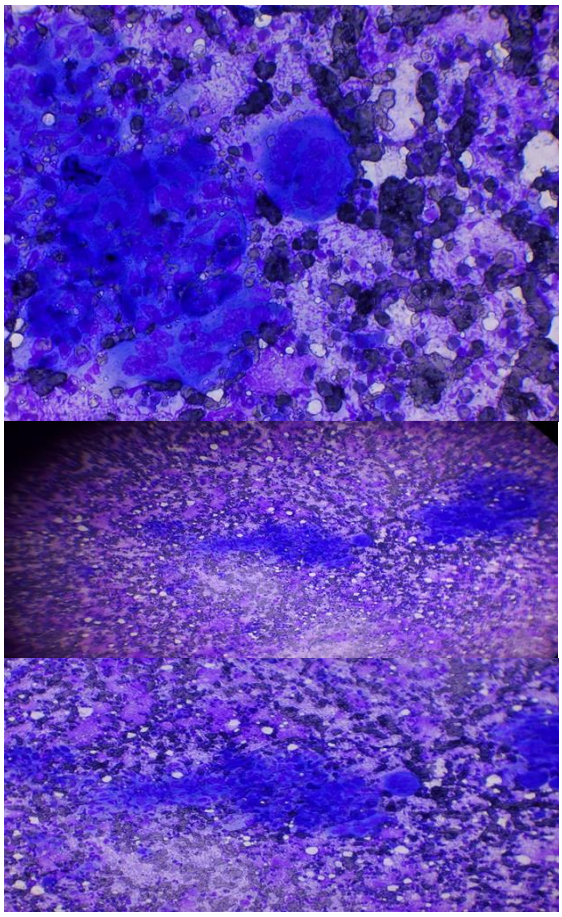


Patient was put on ATT and patient responded to the treatment very well. Size of lump was reduced significantly after only 4 month of therapy.

**CASE 3**

A 50 year old female presented to our hospital with history of lump over inferolateral quadrant of right breast for 2 months. Patient had complain of generalized weakness and low grade fever for 2.5

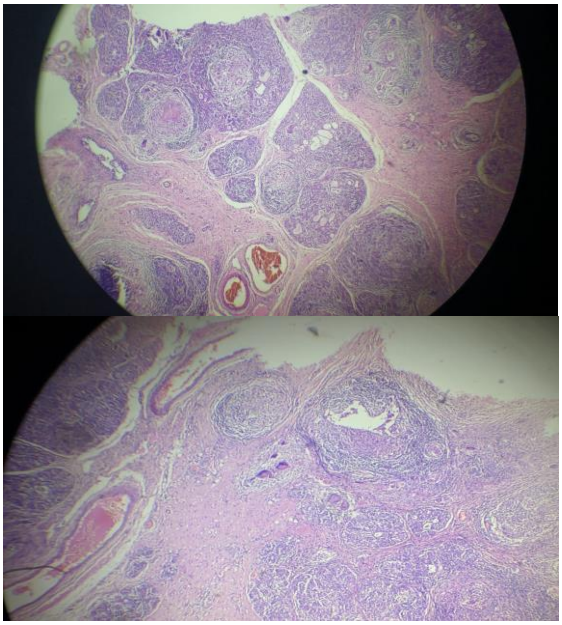
months. Patient had no past history of Tuberculosis. Contact history of tuberculosis was present in the family, patient's father had history of pulmonary tuberculosis 2 years back. On examination a lump was present in the inferolateral area of right breast with active discharge and sinus formation and ulceration of skin was also present. It was not tender to touch. There was no sign of nipple retraction. Erythrocyte sedimentation rate was raised. HIV, HCV were non-reactive. heamoglobin was 9.6 gm/dl.TST was highly reactive. Chest xray showed no abnormality. Sputum smear for AFB was negative. FNAC of right breast lump was performed which revealed epitheloid cells clusters and multinucleated gaint cells along with an occasional cluster of benign appearing ductal epithelial cells and features were suggestive of granulomatous mastitis .



Patient was put on Anti tubercular treatment. After few months of therapy patient improved symptomatically, lump started dissolving, discharge was decreased.

**CASE 4**

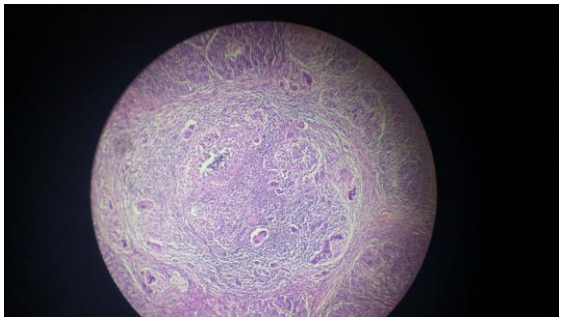
A 40 year old female presented to our department with history of lump and sinuses over left breast for 4 months. Patient had complaint of discharge from sinus and evening rise of low grade fever for 4.5 months. Chest Xray showed no abnormality. Sputum for AFB was negative. TST was highly reactive.On examination, a lump was present of upper inner quadrant of breast near areola, with ulceration, sinus and redness of skin and discharge was present . No nipple retraction was present. Labortary investigation showed raised ESR, with value 70 mm/hr. heamoglobin was 9.0 gm/dl. Liver function test and renal function test was within normal limit. HIV was non reactive. Random blood sugar was within normal limits.FNAC of lump was done, and histopathological studies showed numerous well formed granuloms composed of chronic inflammatory infilterate chiefly lymphocytes with few plasma cells and many langhans type of gaint cells occasional foci caseation necrosis was noted. Anti tuberculous therapy was started , due to which patient improved very well symptomatically. Discharge was reduced and skin was healed. Lump was reduced in size.



**CASE 5**

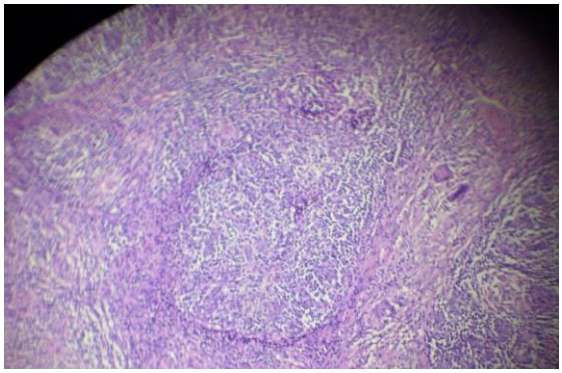
A 26 year old female presented to our department with history of lump and pain over upper outer quadrant of right breast for 2 months . She had another similar swelling over the anterior axillary fold on the right side. Patient had complaint of fever with rigors and chills for one and half month. Chest Xray showed no abnormality. Sputum for AFB was negative. TST was highly reactive.On examination , a lump was present of upper outer quadrant of breast and near anterior axillary fold , with no ulceration, sinus and redness of skin and discharge was present . No nipple retraction was present . Labortary investigation showed raised ESR. heamoglobin was 10.7 gm/dl. Liver function test and renal function test was within normal limit. HIV was non reactive. Random blood sugar was within normal limits.FNAC of lump was done, and histopathological studies showed well formed

granulomas in the background of chiefly lymphocytes with plasma cells and multinucleated gaint cells , features suggestive of granulomatous pathology. Anti tuberculous therapy was started, due to which patient improved very well symptomatically. Lump started dissolving and fever subsided.



**CASE 6**

A 17 year old female presented to our hospital with history of lumps over lower quadrant of right breast and lower chest wall on the same side for 6 months. Patient had complaint of on and off low grade fever for 6 months. Chest X-ray showed no abnormality. No AFB bacilli were seen on sputum smear examination. No past history of tuberculosis was present. On examination a big lump was present over lower outer quadrant of right breast without any redness of overlying skin . There was no nipple retraction. No discharge from nipple was present. Labortary investigations showed raised erythrocyte sedimentation rate 80mm/hr . Heamoglobin was 9.4g/dl. Liver function test and Renal function test were within normal range. HIV was non reactive. Biopsy of lump was done which showed background of granular caseous necrotic material, few necrosed lymphoid cells, histiocytes, epitheloid cells, multinucleated gaint and other features of granulomatous pathology.



## DISCUSSION

Mammary tuberculosis usually affects the women of mainly reproductive age group. The history of the presenting symptoms in breast tuberculosis is usually less than a year but varies from few months to several years.[6,7] The risk factors for tubercular mastitis are multiparity, trauma, past history of suppurative mastitis, lactation and AIDS.[8,9] In pregnant and lactating women, the breast is vascular with dilated ducts, predisposed to trauma making it more susceptible to tubercular infection.[10,11] It is believed that breast infection is usually secondary to a tuberculous focus somewhere else such as pulmonary or lymph nodes, which may not be clinically or radiologically noticeable.[5] In our patients, no one had any abnormality on chest Xray ; all the patients had reactive Tuberculin test with 1TU of PPD-RT-23. Only one had an ipsilateral axillary lymphadenopathy, although, we do not have the idea whether the axillary lymph node was secondary to the breast tuberculosis or the axillary lymph node was the primary site of infection. Breast tuberculosis most commonly presents as a lump 12 in the central or upper outer quadrant of the breast.[13] In our patients the lumps were present in the upper outer quadrant and central around the axilla. Nipple discharge was present with nipple retraction in one patient. Second patient showed the skin changes over lump. Breast tuberculosis most commonly present in nodular form. Our both patients presented with multiple lumps that fits in nodular form of mammary tuberculosis. It may be difficult to differentiate from carcinoma carcinoma breast.[14,15] The gold standard diagnosis of tubercular mastitis is by bacteriological culture of breast tissue or by ZN stain.[8] Only in 25% of cases tubercular mastitis, bacilli are isolated and acid fast bacilli are seen in only 12% of cases. So demonstration of caseating granuloma from breast tissue and involved lymph nodes may be sufficient for the diagnosis.[5,11,16] Diagnosing mammary tuberculosis at early stage is often a challenge for clinicians, it requires microbiological or radiological confirmation of lesions to establish the diagnosis of tuberculosis. Fine Needle aspiration cytology (FNAC) is the most commonly used initial method for diagnosis of breast tuberculosis. In our patients also FNAC of breast mass was proved the test of choice for diagnosing the tuberculosis. Approximately, 73% of breast tuberculosis can be diagnosed on FNA cytology when both epithelioid cell granulomas and necrosis are present.[17]

## CONCLUSION

Tuberculosis of breast is considered as the great mimicker. It can also present a diagnostic problem on radiological and microbiological investigations. Thus high index of suspicion is needed while managing such cases.

## REFERENCES

1. Mukerjee P, George M, Maheshwari HB and Rao CP: Tuberculosis of the Breast. J Indian Med Assoc 1974; 62: 410-2.

2. Cooper A: Illustrations of the diseases of the breast. Longman, Rees, Orme, Brown and Green, London 1829.
3. Khanna R, Prasanna GV, Gupta P, Kumar M, Khanna S,Khanna AK. Mammary tuberculosis: report on 52 cases. Postgrad Med J. 2002; 78: 422 – 424.
4. Harris SH, Khan MA, Khan R, Haque F, Syed A, Ansari MM. Mammary tuberculosis: analysis of thirty-eight patients. ANZ J Surg. 2006; 76: 234 – 237.
5. Tewari M, Shukla HS. Breast Tuberculosis: Diagnosis, Clinical Features and Management.Indian J Med Res. 2005;122:103-10.
6. Dubey MM, Agrawal S. Tuberculosis of the breast. J Indian Med Assoc 1968; 51 : 358-9.
7. Shukla HS, Kumar S. Benign breast disorders in nonwestern populations: Part II - Benign breast disorders in India. World J Surg 1989; 13 : 746-9.
8. Gupta PP, Gupta KB, Yadav RK, Agarwal D. Tuberculous Mastitis: A Review of Seven Consecutive Cases. Indian J Tub. 2003;50:47-50.
9. Gilbert AI, McGough EC, Farrell JJ. Tuberculosis of the Breast. Am J Surg. 1962;103:424-27.
10. Banerjee SN, Ananthakrishnan N, Mehta RB, Prakash S.Tuberculous mastitis: a continuing problem. World J Surg 1987;11 : 105-9.
11. Shinde SR, Chandawarkar RY, Deshmukh SP. Tuberculosis of the breast masquerading as carcinoma: a study of 100 patients. WorldJ Surg 1995; 19 : 379-81.
12. Gupta R, Gupta AS, Duggal N. Tubercular Mastitis. Int Surg 1982; 67 : 422-4.
13. Alagaratnam TT, Ong GB. Tuberculosis of the breast. Br J Surg 1980; 67 : 125-6.
14. Fujii T, Kimura M, Yanagita Y, Koida T, Kuwano H. Tuberculosis of Axillary Lymph Nodes with Primary Breast Cancer. Breast Cancer. 2003;10:175-78.
15. Graunsman RI, Goldman ML. Tuberculosis of the Breast-Report of Nine Cases Including Two Cases of Co-Existing Carcinoma and Tuberculosis. Am J Surg. 1945;67:48.
16. Gupta D, Rajwanshi A, Gupta SK, Nijhawan R,Saran RK, Singh R. Fine Needle Aspiration Cytology in the Diagnosis of Tuberculous Mastitis Acta Cytol.1999;43:191-94.
17. Morsad F, Ghazli M, Boumzgou K, Abbassi H, El Kerroumi M, Matar N, et al. Mammary tuberculosis: a series of 14 cases. J Gynaecol Obstet Biol Reprod. 2001; 30: 331 – 337.


**How to cite this article:** Sharma S, Kajal NC, Kaur J, Mathew I, Kaur J, Chintala C, Neki NS. Breast Tuberculosis in Patients at Tertiary Care Centre: Reveiw of Six Cases. Ann. Int. Med. Den. Res. 2019; 5(3):TB09-TB13.

**Source of Support:** Nil, **Conflict of Interest:** Nil.