VOLUME-8, ISSUE-4, APRIL-2019 • PRINT ISSN No 2277 - 8160

Original Research Paper

Radiodiagnosis

TUBURCULAR BREAST ABSCESS: A CASE STUDY

Dr. Anil Joshi M.D., D.M.R.D. Prof. and Head, Dept. of Radiodiagnosis Bharati Vidyapeeth (Deemed To Be University) Medical College and Hospital, Sangli, Maharashtra

Dr. Manisha Patil* Senior Sonologist, Dept. of Radiodiagnosis Bharati Vidyapeeth (Deemed To Be University) Medical College and Hospital, Sangli, Maharashtra *Corresponding Author

ABSTRACT Abstract: Though tuberculosis is a common cause of morbidity and mortality in India, the tubercular lesion in breast is an uncommon entity. In this case study, we report 30 years old female having tubercular breast abscess. The diagnosis was confirmed by various radiological methods and histopathology. The patient responded well with antitubercular drug regime. Tubercular lesions in breast can be detected early by radiographic techniques. If they are detected early then complications can be prevented and total cure is possible.

KEYWORDS : breast abscess, sonography, tuberculosis

INTRODUCTION

Tuberculosis is an ancient disease, and tubercular bacilli have co-existed with humans as far back as 5000 BC, according to studies of the tubercular disease of spine (Pott's disease) from Egyptian mummies. Tuberculosis (TB) continues to be a frequent cause of mortality and morbidity. TB mostly affects the lungs as it is an air born infectious disease, but any organ can be affected as a result of hematogenous spread. Some organs and tissues like the mammary gland tissues and spleen offer resistance to survival and multiplication of tubercular bacillus. Hence it is relatively uncommon in breast.

CASE HISTORY

A 30 years old lady came to Surgery O.P.D. of Bharati Vidyapeeth (deemed to be university) Medical College & Hospital, Sangli with complaints of dull pain in both breasts. She gave history of low grade fever with evening rise. She noted lump in both breasts since 4 months. There was no history of weight loss or cough with expectoration. After about 20 days, she developed non-healing, multiple discharging sinuses over right breast. Patient gave no family history of tuberculosis.

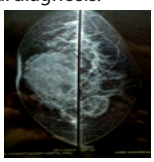
OBSERVATIONS

Considering the chronicity of the lesion along with history of discharging sinuses from Rt. Breast, tuberculous origin was suspected.

Hence Chest X-ray (Image No.1) of Patient was done to rule out pulmonary tuberculosis. But Chest X-ray turned out to be normal.

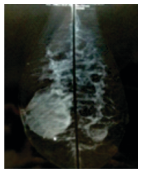
(Image No.1)

The patient had undergone mammography (Image No.2) four months back, which revealed a well defined lesion in subareolar area in right breast along with a discrete benign lesion in left breast. In addition to inflammatory etiology, possibility of Lipoma was also considered, for differential diagnosis.[1]



(Image No.2)

Additional investigation of sonomammography was performed which showed following findings.



(Image No.4)

RIGHT BREAST:

a) Showed a well defined dense lesion in subareolar area with nipple retraction indicating chronic areolar pathology.

b) An ill-defined, thick walled, heterogeneous predominantly hypo-echoic lesion of size 10 x 33 x 37 mm with irregular outlines with internal echoes extending from 1 to 4 o' clock position . Another similar lesion of size 12x 21 x19 mm seen at 1 o'clock position suggestive of chronic abscesses.

c) Doppler study: No peripheral vascularity / no congestive changes with and evidence of prominent ducts.

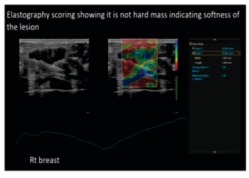
An evidence of enlarged axillary lymph node of size 16 x8 mm with preserved fatty hilum.

Left breast:

a) Showed a benign lesion in lower inner quadrant suggestive of Lipoma or breast abscess.

b) Small cyst of size 5 x 4 x5 mm at 11 o' clock position. Ducts were prominent.

c) Doppler study: no peripheral vascularity / no congestive changes.



- **Elastography of both breast lesions (Particularly right side)** elastography score of right side lesion is suggestive of soft nature of lesion.

These clinical findings of chronicity, sonomammography findings,

absent congestive changes on Doppler, the differential diagnosis of tubercular abscess was considered more likely than pyogenic breast abscess.

For confirmation of diagnosis, biopsy was done. Histopathology revealed breast parenchyma with granulomas with Langhans' giant cells.

Thus, the diagnosis of tubercular abscess in Rt. Breast was confirmed.

DISCUSSION

In 1829, Sir Astley Cooper[2] described breast tuberculosis as the 'scrofulous swelling of the bosom'. The lump is the most common presentation in breast tuberculosis. Due to its non specific appearance it is likely to be misdiagnosed as fibroadenoma, fibroadenosis, malignancy or breast abscess.

Breast tuberculosis commonly affects young, multiparous, lactating women. Although cases have been reported from age 6 months to 73 years, most of them were diagnosed between 20 to 40 years of age. All of these patients were multiparous, and the mean age noted was 33 years. According to Wilson[3], the right and left sides of the breast were involved equally than left side. But Pal[4] reported that there is a slight tendency for the right breast to get more affected. Sharma[5] found that the duration of symptoms ranged from 6 months to 2 years, and in the case series of Khanna[6], the mean duration of symptoms was 8.5 months.

Breast TB may be considered primary when no other demonstrable focus exists and may be considered secondary when a pre-existing lesion is located elsewhere in body.

Tubercular lesion can spread by three routes – (a) hematogeneous (b) lymphatic (c) direct route.[7] Breast infection is seen more frequently secondary to a tubercular focus from the lungs, pleura or lymph nodes which may remain undetected clinically or radiologically.

CLASSIFICATION

1) Tewari and Shukla[8] recently classified mammary TB into three categories
(a) Nodulocaseous tubercular mastitis.
(b) Disseminated/confluent tubercular mastitis.
(c) Tubercular breast abscess.
2) On basis of the clinical, radiological (mammographically) and pathological findings it can also be classified as a nodular form, a disseminated form and a sclerosing form. The nodular form is the most common and can be mistaken for fibro-adenoma or carcinoma. Lesions due to TB have no specific ultrasonographic findings. They may be heterogeneous, hypoechoic, irregularly bordered mass with internal echoes or thick-walled cystic lesions on ultrasonography. In some cases, there may be fistula formation and thickening of Cooper's ligaments and subcutaneous tissues.

Direct infection of the breast may occur through skin abrasions or through the lacteferous duct openings. The patient was in her reproductive age with three children, all of whom were breastfed for at least 6 months. Lactation is known to increase the susceptibility of the breast to tuberculosis since during lactation, the increased vascularity of the breast may facilitate infection and dissemination of the bacilli. Shinde[9] found that 7% of their patients were lactating at the time of presentation, while Banerjee[10] reported that 33% of their patients were lactating.

As described earlier, there are three main subtypes of breast TB - nodular, disseminated and sclerosing. The multiple discharging sinuses, lumps, ulcers and recurring abscesses of the breast are the presenting symptoms observed. Tubercular lumps are mostly irregular, ill-defined and more painful than carcinomatous lumps. Pain is usually dull and constant in breast TB.

In this case study, patient is having sclerosing variety of TB which is primary breast TB because there was no evidence of another focus on physical or radiological examination nor there was prior history of tuberculosis.

Pathological examinations are more reliable than bacteriological examinations and are preferred for the confirmation of diagnosis of breast TB.[11]

Histopathological confirmation of breast TB requires cytological evidence of caseous necrosis, epitheloid granulomas and Langhans giant cells with lymphohistocytic aggregates.[12] The differential diagnosis of breast TB includes other granulomatous inflammatory diseases, such as idiopathic granulomatous mastitis (GM),[13] sarcoidosis, Wegener's granulomatosis and giant cell arteritis, as well as other infections like actinomycosis and fat necrosis.[14] In idiopathic GM, the granulomatous inflammatory reaction, consisting of epitheloid and giant cells, is confined to the breast lobules in which there is also leukocyte infiltration and abscesses but no caseation. In breast TB, the distribution of granulomas is diffuse and is not limited to the lobules, and they are accompanied by caseation necrosis. This necrosis results in the characteristic fistulization of skin lesions. The granulomatous reaction in traumatic fat necrosis is confined to the broken down fat globules. Fat necrosis can also be eliminated as a diagnosis by the absence of fat globules. With appropriate serological investigation, arteritis, the absence of sulfur granules in the discharge of the sinus of the suppurating lesions and actinomycosis can all be ruled out from the differential diagnosis.

Radiological imaging modalities like mammography or ultrasonography are not definitive in distinguishing tubercular mastitis[15,16] from carcinoma because of its nonspecific features. Similarly computed tomography and magnetic resonance imaging are not diagnostic without histological confirmation.

Immunosuppressive conditions, like organ transplantations and HIV infections, advanced age, and chronic diseases, increase the chances of tuberculosis presenting atypically with extrapulmonary manifestations that can result in delays in diagnosis and treatment. A high degree of clinical suspicion and familiarity with physical examination findings are necessary to enable an early diagnosis, in such cases.

CONCLUSION

The Tubercular breast lesions are very rare and they can be mistaken with breast cancer and pyogenic breast abscess, therefore early diagnosis is essential to prevent progress of disease as well as to prevent complications. Caseating epitheloid cell granulomas in the tissue samples are diagnostic of tuberculosis. If there is a high clinical suspicion of TB, then a trial of anti-tubercular therapy with regular clinical assessment is warranted. This Patient had responded well to anti tuberculosis treatment.

REFERENCES:

1. Puneet, Satyendra K, Tiwary et al. Breast Tuberculosis: Still Common In India The Internet Journal of Tropical Medicine 2005. 2:2. (http://www.ispub.com/ostia/index.php?xmlFilePath=journals/ijtm/vol2n2/breast.xml)
2. Cooper A.Illustrations of the Diseases of the Breast, Part1 London, Longman, Rees, Orme, Brown and Green.1829. p. 73.
3. Wilson TS, Macgregor JW. The diagnosis and treatment of tuberculosis of the breast. Can Med Assoc J. 1963;89:1118–24.
4. Pal KD. Tuberculosis of breast- a retrospective review of cases. Ind J Tub. 1998;45:35–37.
5. Sharma PK, Babel AL, Yadav SS. Tuberculosis of breast (study of 7 cases) J Postgrad Med. 1991;37:24–6. 26A. [PubMed]
6. Khanna R, Prasanna GV ,Gupta P et al. Mammary tuberculosis: report on 52 cases. Postgrad Med J 2002. Jul;78(921):422-424
7. Goksoy E, Duren M, Durgun V, Uygun N. Tuberculosis of the Breast. Eur J Surg. 1995;161:471–3. [PubMed]
8. Tewari M, Shukla HS. Breast tuberculosis diagnosis ,clinical features & management.Indian J Med Res 2005. Aug;122(2):103-110
9. Shinde SR, Chandawarkar RY, Deshmukh SP. Tuberculosis of the breast masquerading as carcinoma: a study of 100 patients. World J Surg. 1995;19:379 [PubMed]
10. Banerjee SN, Ananthakrishnan N, Mehta RB, Parkash S. Tuberculous mastitis: a continuing problem. World J Surg. 1987;11:105–9. [PubMed]
11. Dosanjh DP, Hinks TS, Innes JA, et al. Improved diagnostic evaluation of suspected

tuberculosis. Ann Intern Med. 2008;148:325–36.
12. Mc Keown KC, Wilkinson KW. Tuberculous disease of the breast . Br J Surg 1952. Mar;39(157):420-429.
13. Elsiddig KE, Khalil EA et al. Granulomatous mammary disease: ten years' experience with fine needle aspiration cytology. Int J Tuberc Lung Dis. 2003;7:365–9. [PubMed]
14. Kedar GP, Bophate SK, Kherdekar M. Tuberculosis of breast. Ind J Tub. 1985; 32:146.
15. Ozol D. Bacteriology or Pathology for tuberculous mastitis. Int J Tuberc Lung Dis. 2006;10:824. [PubMed]
16. Bani-Hani KE, Yaghan RJ, Matalka II, Mazahreh TS. Tuberculous mastitis: a disease not to be forgotten. Int J Tuberc Lung Dis. 2005;9:920–5. [PubMed]