

Primary breast tuberculosis- A rare entity

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ABSTRACT

Tuberculosis (TB) is a very common disease in developing countries but isolated involvement of the breast is very rare. TB of breast often mimics breast cancers and pyogenic breast abscess clinically. Radiological modalities are also not much helpful in making a diagnosis. So it's accurate diagnosis poses a challenge to surgeons. We encountered two cases of primary breast TB in last one year where the diagnosis was suspected clinically and was confirmed by FNAC. Both patients were successfully treated by standard Anti tubercular treatment (ATT). These cases are being presented to discuss the clinical features, diagnosis and management of breast TB.

Keywords- breast tuberculosis, ATT (anti- tubercular treatment), FNAC(fine needle aspiration cytology)

INTRODUCTION

Breast tissue is remarkably resistant to tuberculosis (TB), because it provides infertile environment for the survival and multiplication of tubercle bacilli and hence TB of breast is extremely rare even in developing countries where pulmonary and other forms of extrapulmonary manifestations of TB are endemic.¹ Incidence of breast TB is about 4% of all breast lesions in TB endemic countries as compared to Western countries where incidence is less than 0.1% of all breast lesions.² 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.

The first case of breast TB was reported by Sir Astley Cooper in 1829 who called it 'scrofulous swelling of the bosom'.³ TB of the breast is usually a disease of women aged between 20 and 50 years. It commonly affects young pregnant, multiparous and lactating women, mostly between 20 to 40 years age.⁴ In pregnant and lactating women, the breast is vascular with dilated ducts, predisposed to minor trauma making it more susceptible to tubercular infection.⁴ Clinical presentation of this condition is variable. Constitutional symptoms such as fever, anorexia, weight loss and night sweats are infrequent. Breast TB most commonly presents as a lump. Upper outer

quadrant seems to be more frequently involved site due to its proximity to the of the axillary nodes.² The lump is usually painful, irregular, hard and at times, fixed to either skin or underlying structures, thus mimicking carcinoma breast or chronic pyogenic abscess.⁵ Sometimes it also present as ulcer over the breast skin and tubercular abscess with or without discharging sinuses.⁶ Herein we report two cases of primary TB of breast.

Case 1

A 45-year-old woman presented with complaints of painful lump in her left breast for 3 months. On physical examination, a 5×3cm, firm, tender lump with erythema and excoriation of overlying skin was observed in lower inner quadrant of left breast. (Fig.1) Lump was mobile and not adherent to skin and underlying structures. There was no evidence of axillary lymphadenopathy. She had received non specific antibiotics for two weeks from her family physician without any symptomatic improvement.

Fig.1. Erythema and excoriation of skin over the lump



Case 2.

A 50 year-old woman presented with painful swelling of right breast for six months. On physical examination, the right breast was very tender, and a diffuse, irregular mass was felt, mainly involving the upper outer quadrant. The overlying skin was discolored, with multiple ulcers having undermined edges. Overlying skin was peeled off at places. (Fig.2) There was no evidence of axillary lymphadenopathy. She was treated with several nonspecific antibiotics by her family physician, but her breast symptoms remained the same.



Both patients denied recent exposure or past history of TB and they had no family history of breast cancer. There was no history of nipple discharge, fever, weight loss or cough. Their routine hematologic and biochemical parameters were in the normal range except ESR, which was 40 mm/hr and 70 mm/hr in case 1 and 2 respectively. Mantoux were 15 mm and 20 mm in first and second case respectively. Their chest X-rays were normal. Both patients were subjected to FNAC which showed abundant epithelioid cell granulomas, histiocytic giant cells along with degenerated ductal epithelial cells admixed with intact and degenerated neutrophils, lymphocytes in a background of amorphous material and TBCs (Fig 3). On Ziehl-Nielson (ZN) stain, both cases were positive for AFB (Fig.4). Both were started on standard six-month anti-TB regimen (isoniazid, rifampicin, pyrazinamide and ethambutol), with good clinical response in the form of resolution of mass. On regular follow-up, both these patients have been asymptomatic and are doing well without recurrence after six months of ATT.

Fig.3 & 4. FNAC smear showing epithelioid cell granuloma mixed with ductal cells(3) & FNAC smear showing ZN staining positive for AFB(4)

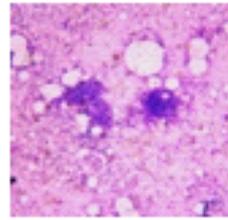


Fig.3

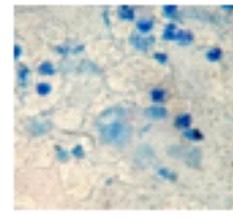


Fig.4

DISCUSSION

Breast TB is often overlooked and misdiagnosed, hence patient is often subjected to numerous investigations before a definitive diagnosis is made. To make early diagnosis, one requires a high index of suspicion in all clinically and cytologically suspected cases. Mantoux test has got a little diagnostic value for breast TB, as this test simply demonstrates that at some point of time the person was exposed to tubercle bacilli. A newly developed T-cell-based, whole-blood enzyme-linked immunosorbent interferon release assay detects interferons which are secreted by T cells in response to antigens encoded by *M. tuberculosis* only. Thus, the test confers a higher specificity than the tuberculin skin test.⁷ Radiological imaging modalities like mammography or ultrasonography are unreliable in distinguishing it from carcinoma because of the variable patterns of presentation.⁸ Even CT scan and MRI do not give a conclusive diagnosis. But CT scan is useful in differentiating primary and secondary forms and also in evaluating deeply located lesions in chest wall, pleura and lung parenchyma.⁷

Demonstration of AFB in the breast tissue by Ziehl-Neilson stain, culture or PCR is very specific and acts as the gold standard for the diagnosis. But it is not very sensitive, as the bacilli are isolated in only 25% of cases, thus causing some additional delays for diagnosis.⁹ Most of the time, pathological examinations are more valuable than bacteriological examinations and are preferred for the accurate diagnosis of breast TB. FNAC remains an important diagnostic tool for breast TB and approximately 73% cases can be diagnosed by FNAC when both epithelioid cell granulomas and necrosis are present.¹⁰ Some researchers advocated that FNAC can be 100% reliable in diagnosing breast TB.⁸ Demonstration of epithelioid cell granulomas with

caseous necrosis in core needle or open biopsy specimen almost always confirms it.¹⁰

The treatment regimen consists of a two-month intensive phase (isoniazid, rifampicin, pyrazinamide and ethambutol), followed by a four-month continuation phase (isoniazid and rifampicin).² Surgical intervention is indicated in cases showing poor response to anti-TB therapy, and is reserved for draining cold abscesses or excision of residual lumps, only in selected cases. Both of our cases could be diagnosed by FNAC and were fully treated with ATT.

CONCLUSION

Extrapulmonary tuberculosis occurring in the breast is extremely rare even in countries where incidence of pulmonary tuberculosis is high. It often poses a diagnostic problem as it is often mistaken for carcinoma or pyogenic breast abscess. FNAC is the

investigation of choice. It is eminently curable with modern antitubercular drugs with surgery playing a little role in the management of these patients.

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