

Case report of breast tuberculosis: A rare entity

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Abstract

Tuberculosis of breast is a rare disease, even in countries where the incidence of pulmonary and extra pulmonary tuberculosis is high. It usually occurs in women of reproductive age, especially during lactation. Any form of tuberculous mastitis may present with features of malignancy. Diagnosis is mainly based on identification of tubercle bacilli by microscopy or by culture or by CB-NAAT. We report a 22-year-old lactating woman with breast lump, FNAC showed epithelioid granulomas with langerhans giant cells and positive for Mycobacterium Tuberculosis by CB-NAAT. She responded to anti-tuberculous therapy. In endemic area, tuberculosis should be considered in the differential diagnosis of breast lump.

Keywords: breast lump, tuberculous mastitis, tubercle bacilli, mycobacterium tuberculosis, CB-NAAT

Introduction

Tuberculosis (TB) is caused by Mycobacterium tuberculosis and affects primarily the lungs, as it is an airborne infectious disease, but any organ can be affected as a result of hematogenous spread. It has been suggested that some organs and tissues like the mammary gland tissue, skeletal muscle and spleen offer resistance to the survival and multiplication of tubercle bacilli [1]. Breast tuberculosis is a rare disease, with an incidence of less than 0.1% in Western countries and 3–4% in tuberculosis endemic regions, such as India and Africa. It usually affects young lactating multiparous women, although it may also be reported in prepubescent males, or in elderly women [2, 3]. Most commonly, the disease presents as a lump in the central or upper-outer quadrant of the breast, while multiple lumps appear less frequently [3]. Breast TB can mimic breast carcinoma or pyogenic breast abscess, clinically and radiologically. Concomitant axillary lymph nodes were found in one-third of the patients with breast TB [4]. Here we report a case of Breast TB in a young lactating woman presenting as breast lump with axillary lymphadenopathy.

Case report

A 22year old lactating woman presented to our institute with a painful swelling in her right breast. According to the patient, the lump had been present for the past one month with loss of appetite and weight. No past and family of pulmonary or Extrapulmonary TB. On physical examination, the right breast was very tender, and a diffuse, irregular mass of 4x3cm was felt in upper outer quadrant with a central axillary lymph node of size 1x1.2cm. Haematological and biochemical parameters are with in normal limits, including negative testing for HIV. Chest radiograph shows no parenchymal or pleural abnormality. Ultrasonography of right breast revealed mixed echogenic mass of 3.7x2.4cm in upper outer quadrant. FNAC from the mass and axillary lymph node showed epithelioid granulomas with langhans giant

cells (Figure-1) and was positive for Mycobacterium Tuberculosis by CB-NAAT. Patient was started on anti-tuberculous treatment (ATT) Category-I under Revised National Tuberculosis Control Programme (RNTCP), to which patient responded well.

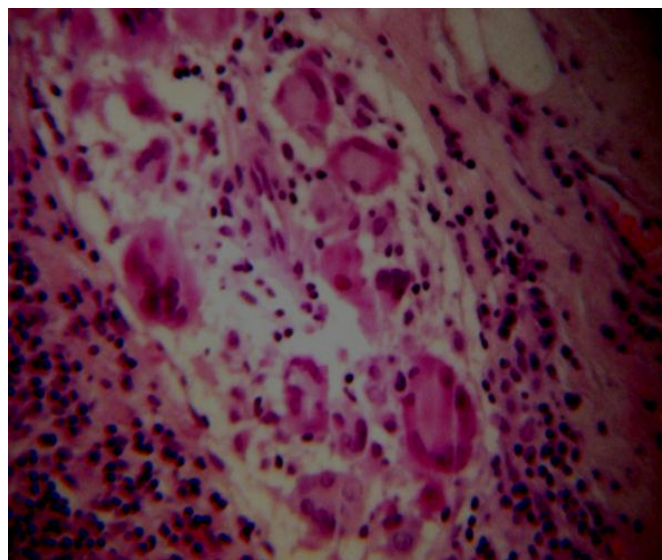


Fig 1: FNAC from the breast lump and axillary lymph node showing epithelioid granulomas with Langhans giant cells.

Discussion

The first case of breast TB was recorded by Sir Astley Cooper in 1829 who called it 'scrofulous swelling of the bosom' [5]. Breast TB commonly affects young, multiparous, lactating women. Cases have been reported between age group of 6months to 73years with a mean age of 33years. Lump is the most common presentation in breast TB, most often located in the central or upper outer quadrant of the breast [6]. The lump can mimic breast carcinoma, being hard,

with irregular border, fixed to either the skin or the muscle or even to the chest wall [7]. Fistula formation may occur, such as nipple or skin retraction, but breast discharge is uncommon [8]. The lump may be followed by inflammation and abscess formation, skin ulceration and diffuse mastitis. Recurrent inflammation and abscess of the breast that do not respond to surgical drainage and standard antibiotic therapy in young women should raise suspicion. Constitutional symptoms like fever with evening rise, malaise, night sweats and weight loss are present in less than 20% of the cases [6]. Based on radiological and clinical characteristics the disease can be described by three forms: nodular, diffuse and sclerosing. The nodular form is well circumscribed; slow growing, with an oval tumor shadow on mammography, which can hardly be differentiated from breast cancer. The disseminated form is characterized by multiple lesions associated with sinus formation. This form mimics inflammatory breast cancer on mammography. The sclerosing form of the disease is seen in elderly women and is characterized by an excessive fibrotic process [9].

Various tests are useful in the diagnosis and further evaluation of patients with breast TB. Tuberculin skin test (TST) does not offer definitive diagnosis, but confirms exposure of the patient to tubercle bacilli. Mammography is not helpful, especially in young women, due to high density of the breast tissue. Ultrasonography may show a hypoechogenic mass is found in 60% of patients. The gold standard for the diagnosis of breast TB is detection of *Mycobacterium tuberculosis* by microscopy or by culture or by CB-NAAT. FNAC may not be able to detect the responsible pathogen itself, but is detecting the presence of epithelioid cell granulomas and caseous necrosis, leading to definitive diagnosis in up to 73% of cases. The principal differential diagnosis is that of breast carcinoma. Other diseases of the breast such as fatty necrosis, plasma cell mastitis, periareolar abscess, idiopathic granulomatous mastitis and infections like actinomycosis and blastomycosis are to be considered [10].

Conclusions

Tuberculosis mastitis represents a rare disease that should always be suspected when evaluating cases of breast lump in women of reproductive age group, with poor response to classical non-tuberculosis antibiotic treatment. Early diagnosis and prompt treatment with Anti-tuberculous therapy reduces morbidity.

References

1. Banerjee SN, Ananthkrishnan N, Mehta RB, Parkash S. Tuberculous mastitis: a continuing problem. *World J Surg.* 1987; 11:105-9.
2. Luh SP, Chang KJ, Cheng JH, Hsu JD, Huang CS. Surgical treatment for primary mammary tuberculosis – report of three octogenarian cases and review of literature. *Breast Journal.* 2008; 14:311-312.
3. Maroulis I, Spyropoulos C, Zolota V, Tzorakoleftherakis E. Mammary tuberculosis mimicking breast cancer: a case report. *Journal of Medicine Case Reports.* 2008; 2:34.
4. Shinde SR, Chandawarkar RY, Deshmukh SP. Tuberculosis of the breast masquerading as carcinoma: a study of 100 patients. *World J Surg.* 1995; 19:379-81.
5. Cooper A. Illustrations of the diseases of the breast. Part I. London: Longman, Rees, Orme, Brown and Green, 1829; p.73.
6. Marinopoulos S, Lourantou D, Gatzionis T, Dimitrakakis C, Pappaspyrou I, Antsaklis A. Breast tuberculosis: Diagnosis, management and treatment. *International Journal of Surgery Case Reports.* 2012; 3(11):548-550.
7. Teo TH, Ho GH, Chaturverdi A, Khoo BK. Tuberculosis of the chest wall: unusual presentation as a breast lump. *Singapore Medical Journal.* 2009; 50:e97-e99.
8. Fadaei-Araghi M, Geranpayeh L, Irani S, Matloob R, Kuraki S. Breast tuberculosis: report of eight cases. *Archives of Iranian Medicine.* 2008; 11:463-465.
9. Tewari M, Shukla HS. Breast tuberculosis: diagnosis, clinical features and management. *Indian Journal of Medical Research.* 2005; 122:103-110.
10. Akcay MN, Saglam L, Polat P, Erdogan F, Albayrak Y, Povoski SP. Mammary tuberculosis – importance of recognition and differentiation from that of a breast malignancy: report of three cases and review of the literature. *World Journal of Surgery and Oncology.* 2007; 5:67.