

Bilateral breast tuberculosis – A rare entity

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Abstract

Tuberculosis of the breast is an extremely rare disease. In developing countries, where tuberculosis is endemic, the incidence is 0.25 - 4.5% in contrast to western countries where it is less than 0.1%. The diagnosis is difficult because of nonspecific clinical and radiologic findings. It is usually suspected in a multiparous, lactating woman who may be immunocompromised. Radiological findings simulate malignant lesions of breast. We report an immunocompetent patient, who had no issue and had bilateral breast involvement which is very rare.

Keywords: Tuberculosis, breast, immunocompetent

1. Introduction

Tuberculosis is a granulomatous disease caused by mycobacterium tuberculosis. Breast involvement is rare and thereby involvement of both the breasts at a time is extremely rare. Out of all the breast lesions the overall incidence of breast tuberculosis is 0.1%. In developing countries the incidence is about 3% of all breast diseases.

Primary breast tuberculosis is of three types:

1. Nodular
2. Disseminated
3. Sclerosing.

To differentiate primary breast tuberculosis from malignancy in elderly female is not possible clinically. Mammography, ultrasonography has limited value in diagnosis. FNAC of the breast lesion and culture of bacilli from the lesion is of paramount importance in establishing the diagnosis and initiating treatment.

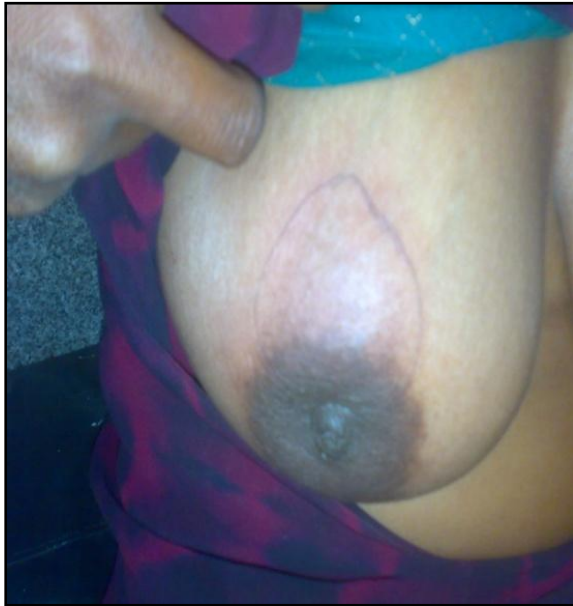
2. Case report

A 35-year-old married woman presented with h/o swelling in the breasts. On examination, there were bilateral nodular swellings in both breasts

which were non-tender and a discharging sinus in the left breast. (Figure 1 & 2)

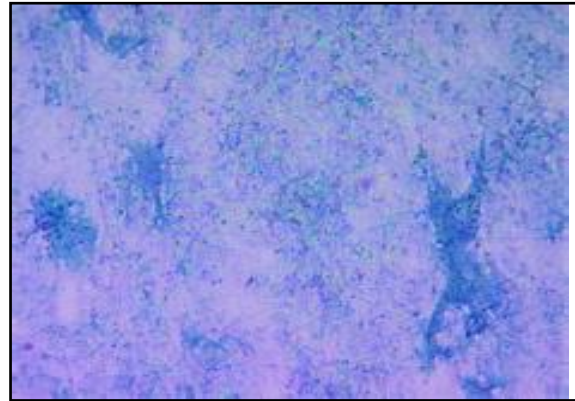
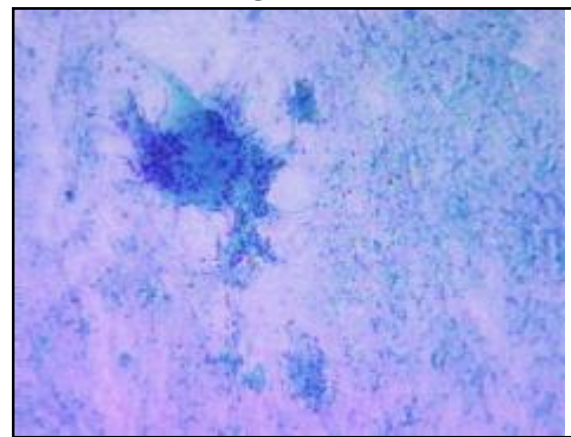
Figure 1: Discharging sinus of left breast



Figure 2: Nodular swelling of right breast

There were no palpable axillary lymph nodes. A sono mammography of the breasts was done which showed multiple loculated hypo-to anechoic lesions in both breasts suggestive of an infective aetiology. A fine needle aspiration cytology (FNAC) of both breasts was done along with drainage. Smear of the aspirate showed a fair number of pus cells with presence of moderate numbers of acid fast bacilli. BACTEC culture of the material, isolated *Mycobacterium tuberculosis* complex of *Mycobacterium tuberculosis*, *Mycobacterium bovis*, *Mycobacterium africanum* and *Mycobacterium microti*

Histology of the breast tissue showed caseation necrosis, epithelioid cell granulomas and Langhans' giant cells. On examination, she was averagely built and nourished and her general and systemic examination was normal. All her biochemical parameters were normal including the total counts. ESR was 88; smears for malarial parasites were negative as was blood Widal. Blood and urine cultures too were negative. HIV was non-reactive. Chest radiograph, electrocardiograph, and abdominal sonography were within normal limits. The patient was treated with second line ATT with which her fever subsided and the nodularity of the breasts decreased. (**Figure 3 & 4**)

Figure 3: Photomicrograph showing areas of caseating necrosis in the breast tissue**Figure 4: Photomicrograph showing epithelioid cell granuloma**

3. Discussion

Tuberculosis (TB) of the breast is an extremely rare form of extra-pulmonary TB1. It was first described by Sir Astley Cooper in 1829 as, “scrofulous swelling in the bosom of young women”[1][2]. The overall incidence in developing countries is approximately 3.0% of all surgically treated breast disease[3][4]. The reason for this is that mammary tissue is an inhospitable site for survival and multiplication of tubercle bacilli, as is skeletal muscle and spleen[1][3][4]. It can be classified as primary or secondary[5]. Primary involvement is tuberculous infection confined only to the breast and is extremely uncommon[5][6].

Secondary involvement is when there is co-existing tuberculous lesion elsewhere in the body[5][6]. The major routes of spread are haematogenous, lymphatic and contagious from the pleura and chest wall[1][5][6]. Lymphatic spread is most common and 50 - 75 per cent of patients have involvement of axillary nodes at the time of presentation⁶. Risk factors are multiparity, lactation, trauma, past h/o suppurative mastitis, and AIDS[1]. Due to proximity of the axillary nodes, upper outer quadrant of breast is the most frequently involved

site, though any area of the breast can be involved⁶. Bilateral involvement is extremely rare^{[5]-[7]}. Shinde *et al* classified it into 3 types, viz., nodular, disseminated, and sclerosing^[8]. The condition has to be differentiated from malignancy, granulomatous mastitis, plasma cell mastitis and actinomycosis⁴. Diagnosis is ideally by bacteriological confirmation from the breast tissue by Ziehl-Neelsen stain or culture^{[9][10]}. However, the bacilli are isolated in only 25% of cases, therefore demonstration of caseating granulomas from the breast tissue and involved lymph nodes is usually sufficient for the diagnosis^{[9][10]}. Radiological imaging modalities like mammography or ultrasonography are unreliable in distinguishing it from carcinoma because of the variable pattern of presentation of such an inflammatory lesion^[4].

Treatment is usually limited surgical resection, in addition to nine months of ATT as in any other form of extrapulmonary tuberculosis, unless drug resistance is present^{[5][6]}.

Our patient had breast tuberculosis (secondary involvement) which was bilateral, and which is extremely rare. Axillary lymph nodes were not involved. Her histopathology and smear were positive for tuberculosis. She was started on second line of treatment, to which she responded well. Follow up of the patient was done at regular intervals. The lesions had completely healed following treatment for 9 months.

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