

# Tuberculous Mastitis Masquerading As Carcinoma Breast

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## Abstract

Extra-pulmonary tuberculosis occurring in the breast is relatively rare. We present such a case with literature review.

## INTRODUCTION

Tuberculous Mastitis (TM) is a rare condition accounting for one percent of all diseases of the breast. It is extremely rare in the industrialised world but is occasionally encountered in developing countries like India.<sup>1</sup> However it is often difficult to differentiate this from carcinoma breast, which is more commonly seen. Sir Astley Cooper<sup>2</sup> documented TM for the first time in 1829. Though cases of TM have been reported worldwide, they are reported more frequently in India, probably due to a high prevalence of tuberculous infection. TM occurs far more frequently in women.<sup>3</sup> In a review comprising 160 patients, only six were males.<sup>4</sup> It seems important to keep TM in mind whenever a young female presents with a breast lump and axillary lymph nodes.

## CASE REPORT

A 38-year-old married woman presented with a history of lump in the right breast of three months duration. It was progressively increasing in size and was associated with minimal pain, not related to the menstrual cycles. There was no history of nipple retraction or discharge. She gave a history of cough on and off for one year aggravated during the monsoon, not associated with expectoration, haemoptysis or fever. There was no history of loss of weight or appetite. There was no other positive contributory history.

On examination there was a single, non-tender, hard lump situated in the upper outer quadrant of the right breast, which measured 2x1cm and was not fixed to the skin, underlying muscle or chest wall. Right axilla revealed enlarged lymph nodes in the anterior, central and apical groups, four in number, largest measuring 4x2cm. They were hard, non-tender, discrete and mobile. The left breast, left axilla and supraclavicular fossa were normal. Other systems revealed no abnormalities. A clinical diagnosis of carcinoma of right

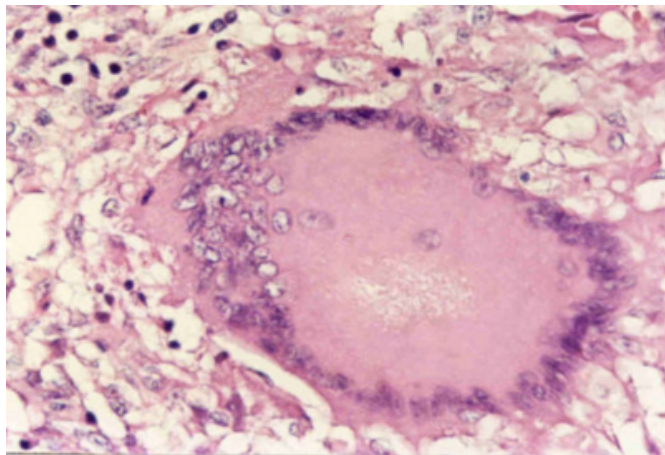
breast with TNM (tumour, node and metastasis) stage T1N1M0 was made, considering the age and clinical characteristics of the breast lump and axillary lymph nodes.

Investigations revealed normal blood counts except an Erythrocyte Sedimentation Rate (ESR) of 60 mm/h. Liver function and renal function tests were normal. A chest x-ray showed a left upper lobe healed granuloma. Ultrasonography (USG) of abdomen revealed no abnormality. A fine needle aspiration cytology (FNAC) of the right breast lump was done, which showed macrophages, fibroblasts, epithelioid cells and lymphocytes in clusters. A diagnosis of chronic granulomatous mastitis was then made and hence the pathologist requested for a FNAC of the axillary lymph nodes to rule out tuberculous etiology, it was executed which revealed caseating granulomas, consistent with the cytology findings of the breast lump. This confirmed the diagnosis of TM.

As the patient was still apprehensive about the diagnosis and wanted us to rule out malignancy, she was subjected to an excision biopsy of the breast lump. A frozen section histopathological examination was done to rule out a coexistent breast carcinoma which showed no evidence of malignancy but caseating granulomas with Langhan's giant cells (Figure), and a final diagnosis of TM was made.

### Figure 1

Figure 1: Photomicrograph showing caseating granuloma, Langhan's giant cell, epithelioid cells, fibroblasts and macrophages. (H & E, 200X).



The patient was started on antituberculous therapy (ATT) with Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol for the first two months and was continued on INH and Rifampicin for the next four months. She showed a gradual recovery with a decrease in ESR, gained six kg weight, is perfectly well at the end of the fifth month of ATT and her axillary lymph nodes have completely subsided.

### DISCUSSION

Although tuberculosis is endemic in India, the incidence of TM is still low ranging from 1-4%. The low incidence is due to the high resistance offered by the breast tissue to the survival and multiplication of tubercle bacillus<sup>1</sup>, and probably the fact that cases have been misdiagnosed as carcinoma breast.<sup>5</sup>

TM affects females in the reproductive age group of 21-40 years. The risk factors considered to be associated with TM are multiparity, lactation, trauma, past history of suppurative mastitis and AIDS.<sup>3, 6</sup> The most common clinical presentation is that of a solitary, ill defined, hard lump situated in the upper outer quadrant with or without axillary lymphadenopathy, making it very difficult to differentiate from carcinoma breast clinically<sup>4</sup>, as in our patient.

Mckeown<sup>7</sup> et al classified TM into three pathological varieties: (1) Nodular - most common variety presents as a localised mass, characterised by extensive caseation and little fibrosis. The case being reported falls in this category. (2) Diffuse - second most common variety, involving the entire breast with multiple intercommunicating foci of tubercles within the breast, which caseate leading to

ulceration and discharging sinuses. (3) Sclerosing - extensive fibrosis rather than caseation is present, the entire breast is hard and the nipple is retracted. This variety is often mistaken for carcinoma breast.

The portal of entry in TM can be either primary or secondary.<sup>3</sup> Primary route is rare and is by direct inoculation of the bacilli through abrasions in the nipple. Secondary route is more common and is by lymphatic, haematogenous or contiguous spread. Lymphatic route is the most common and occurs by retrograde extension from the axillary lymph nodes (50-75%). Haematogenous spread occurs in cases of disseminated tuberculosis and is a very unusual form of spread. Contiguous spread occurs from the ribs, pleural space or rectus sheath from an intra abdominal source<sup>5</sup>. The likely portal of entry in the reported case is a retrograde spread from axillary lymph nodes.

Diagnosis is ideally by bacteriological confirmation from the breast tissue by Ziehl Neelsen (ZN) stain or culture.<sup>3</sup> 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<sup>1,4</sup>, as in our patient. Although the presence of caseating granulomas can be demonstrated by FNAC of the breast lump, an excision biopsy is advocated to rule out coexisting carcinoma breast<sup>4,8</sup>.

Treatment of TM is mainly medical with few surgical indications. Medical management consists of ATT using a six months (2 HRZE/4 HR) or nine months (2 HRE/7HR, 2 HRZ/7HR) regime. The nine months regime is preferred due to a lower relapse rate. Surgery is required to confirm the diagnosis by FNAC and/or excision biopsy, drainage of cold abscess in the axilla and breast to prevent sinus formation, simple mastectomy in a rare case of failure of ATT or severely distorted breast with multiple sinuses and extensive necrotic tissue.<sup>3,8</sup> In the series reported by Shinde<sup>10</sup> et al, all patients received ATT and 14% patients required simple mastectomy, due to either lack of response to chemotherapy or large painful, ulcerative lesions involving the entire breast. Axillary dissection was required in only eight percent patients with large ulcerated nodes.

This report aims to draw to attention that TM can mimic carcinoma breast, and both diseases can coexist in the same patient. FNAC alone is not sufficient to rule out a coexistent carcinoma. This can only be confirmed by an excision biopsy<sup>9</sup>.

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