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Case Report

Primary tubercular mastitis masquerading as malignancy

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Abstract

The significance of primary tubercular mastitis is due to rare occurrence and often overlooked and misdiagnosed as pyogenic breast abscess or malignancy. Despite the high incidence of tuberculosis in India, reports of breast tuberculosis among the total number of mammary conditions varies between 0.64% and 3.59%. We report a case of a 35-year-old lady with breast lump of 3 months duration, which simulated malignancy on clinical examination but fine needle aspiration cytology revealed granulomatous mastitis secondary to tuberculosis. High level of suspicion and simple fine needle aspiration procedure with micro-biological tests will clinch the final diagnosis.

Key words: Breast, mastitis, tuberculosis

INTRODUCTION

Primary tubercular mastitis is a rare form of extra-pulmonary tuberculosis despite one-third of the world's population is being infected with tubercle bacilli. Sir Astley Cooper reported the first case of tubercular mastitis in 1829 and called it as "scrofulous swelling of the bosom."^[1] The overall incidence of tubercular mastitis is 0.1% of all breast lesions, while in developing countries it comprises about 3% of surgically treated breast diseases.^[2] It is an uncommon disease even in countries where incidence of pulmonary and extra-pulmonary tuberculosis is high. It occurs far more commonly in women of reproductive age group as the breast undergoes frequent changes during the period of child bearing activity and is more susceptible to trauma and infection.^[3]

CASE REPORT

A 35-year-old lady, agriculturist by occupation and mother

of two children came with painful breast lump in the right side since 3 months. There was no history of fever, cough, or weight loss. Past history revealed that she had similar complaints in the left breast 5 months back which subsided on spontaneous rupture with discharging sinus along with a course of antibiotics. Family history revealed that the patient's in-laws were known cases of pulmonary tuberculosis on treatment.

Clinical examination revealed diffuse firm lump palpable in the right upper quadrant measuring 4 cm × 3 cm. Left breast showed a healed ulcer in the left upper outer quadrant. No axillary lymph nodes were palpable. A clinical differential diagnosis of breast abscess and malignancy was made.

Complete hemogram, biochemical investigations and chest radiography were within normal limits. Eight milliliter of purulent material was obtained and on fine needle aspiration, smears showed features of granulomatous mastitis. Ziehl Neelsen stain for acid fast bacilli was positive [Figure 1]. Rapid slide culture for Mycobacterium tuberculosis showed growth after 1 week. Lowenstein Jensen (LJ) medium showed growth of typical tubercle bacilli after 4 weeks and confirmed by niacin tests [Figure 2]. A diagnosis of primary tubercular mastitis was made, a four drug regimen of anti-tubercular therapy was initiated and the patient responded well with drastic reduction of symptoms.

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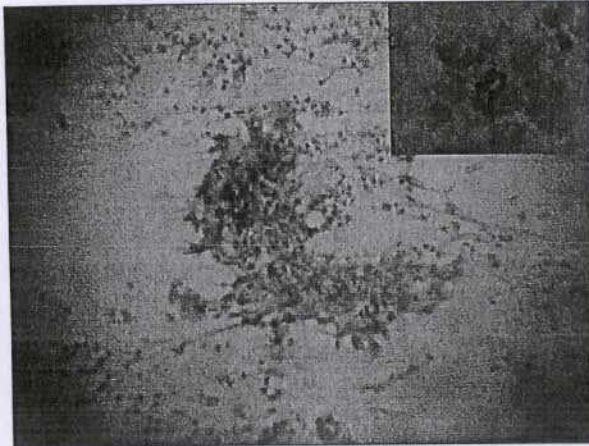


Figure 1: Microphotograph showing typical epithelioid cell granuloma. (Pap, x100) Inset: Rapid slide culture of typical Tubercle bacilli showing Ziehl Neelsen positivity (ZN, x1000)

DISCUSSION

Tuberculous mastitis is a rare extra-pulmonary presentation of tuberculosis which is uncommon in western world but incidence of this condition is as high as 4% in India. However, with increasing spread of AIDS, it may no longer be infrequent in developed countries. It usually occurs in women of reproductive age group and uncommon in prepubescent and elderly women. The risk-factors associated with tubercular mastitis include multiparity, lactation, trauma, past history of suppurative mastitis and AIDS.^[4]

It is caused by acid fast bacillus, *Mycobacterium tuberculosis*. Tubercular mastitis can be either without extra-pulmonary focus or secondary to pulmonary tuberculosis.^[5] The primary form of the disease is rare and probably occurs by direct inoculation of the bacilli through abrasions in the nipple. The secondary variety is more common and develops by either direct invasion, retrograde lymphatic dissemination from the affected axillary lymph node or rarely from pulmonary disease.^[6]

Breast tuberculosis is classified into three categories i.e., nodular, disseminated and abscess variety. The disease mainly manifests in nodular form, which is predominantly seen in the elderly population, whereas in younger groups it mainly presents as breast abscess.^[7] In our patient, the disease manifested as abscess variety.

Diagnosis warrants a high index of suspicion on clinical examination with pathological or microbiological confirmation in suspected lesions. Fine needle aspiration cytology is most widely used initial invasive method for diagnosis of breast tuberculosis which shows classical



Figure 2: Colonies of typical *Mycobacterium tuberculosis* on Lowenstein Jensen media

epithelioid cell granulomas, Langhans giant cells and caseation necrosis. The accuracy of Fine needle aspiration cytology in diagnosing breast tuberculosis varies from 73% to 100%.^[8]

The demonstration of acid fast bacilli on Fine Needle Aspiration Cytology inc is not mandatory since for acid fast bacilli to be seen microscopically, their number must be 10,000-1,00,000/ml of material. Our case showed acid fast bacilli positivity. Although, mycobacterial culture remains the gold standard for diagnosis of tubercular mastitis, the time required and frequent negative results in paucibacillary are important limitations.^[9] In our case, culture showed growth of *Mycobacterium tuberculosis* on Lowenstein Jensen media after 4 weeks.

Histopathological examination of the biopsy specimen from the breast lump, ulcer, sinus or from the wall of a suspected tubercular abscess cavity almost always confirms breast tuberculosis.^[5] Polymerase chain reaction in diagnosis of breast tuberculosis is usually to distinguish tubercular mastitis from other if granulomatous mastitis, but by no means absolute in diagnosing as false negative reports are still a possibility.^[10]

The treatment of tubercular mastitis consists of anti-tubercular chemotherapy and surgery with specific indications. Our patient responded very well to anti-tubercular therapy and thus, no surgical intervention was required.

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