

Case Report

A RARE CASE OF TUBERCULOSIS OF BREAST – A CASE REPORT

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INTRODUCTION

Tuberculosis is the most widespread and persistent human infection in the world. The infection can involve any organ and mimic other illness, hence it is called the great mimicker. Tuberculous mastitis (TM) is a rare extrapulmonary presentation of tuberculosis accounting for less than 1% of all diseases of the breast in the industrialized world. Incidence of this disease is higher in countries endemic for tuberculosis, like the Indian subcontinent, where it may be as high as 4%. In the Arabian Gulf, the frequency of the disease is reported to be between 0.4% and 0.5% (Khandelwal and Jain, 2013)

Sir Astley Cooper reported the first case of tuberculous mastitis in 1829 and called it 'scrofulous swelling of the bosom.' TM may be part of a systemic disease or may be the only manifestation of tuberculosis. It occurs far more frequently in women, especially in their reproductive age, and is uncommon in prepubescent and elderly women. This parallels the highest incidence of pulmonary tuberculosis. This could be because the female breast undergoes frequent changes during the period of childbearing activity and is more susceptible to trauma and infection (Arghya *et al.*, 2013).

CASES

41 year old female, with c/o painless lump in the right breast, o/e had 10 x 8 cm lump upper inner quadrant with ipsilateral mobile subcm axillary node and normal supraclavicular fossa and c/l breast & axilla ; FNAC showed atypical cells, is admitted for excision biopsy; Excision biopsy was done : HPE : tuberculous mastitis

DISCUSSION

Clinical Presentation

The most common clinical presentation of tuberculous mastitis is that of a solitary, ill-defined, unilateral hard lump situated in the central or upper outer quadrant. The lesion may be indistinguishable from carcinoma breast, being irregular, hard, and at times, fixed to either skin or muscle or even chest wall. Multiple lumps and bilateral involvement are uncommon and occur in less than 3% of the patients. The lesion may progress to a tuberculous ulcer over the breast skin and tuberculous breast abscess with or without discharging sinuses. In a series of 30 patients recently reported by Tewari, 22 patients presented with lump in the breast; 11 of these had tubercular ulcer, and 4 had multiple discharging sinuses in the overlying breast skin.

One third of the patients have breast pain with or without increased breast nodularity, and one third have ipsilateral axillary lymph node involvement. Pulmonary involvement occurs only rarely. Another form of presentation in recent years is tuberculous breast abscess. This form is described to be more prevalent in endemic areas of TB and presents usually in young females.

Pathological Classification

McKeown *et al.*, classified TM into 5 pathological varieties. The nodular form is the most common variety and usually presents as a localized slowly growing mass that progresses to involve skin, may ulcerate, and can form sinuses. Histologically, this form is characterized by extensive caseation and little fibrosis. The diffuse or disseminated form is the second most common variety and involves the entire breast with multiple intercommunicating foci of tubercles within the breast, which caseate leading to ulceration and discharging sinuses. The overlying skin is thickened with multiple ulcers. Ipsilateral

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axillary lymph nodes are usually enlarged and matted. This form is more common in older females and may be confused with malignancy.

The third type described by Mckeown is the sclerosing form. This variety demonstrates extensive fibrosis rather than caseation, in which the entire breast is hard and the nipple is retracted. This form is often seen in involuting breasts of older females and may be also mistaken for carcinoma breast. The last two forms described by Mckeown are tuberculous mastitis obliterans and acute miliarytuberculous mastitis. Tuberculous mastitis obliterans is characterized by duct infection producing proliferation of lining epithelium and marked epithelial and periductal fibrosis. The ducts are occluded and cystic spaces are produced resembling 'cystic mastitis.' Acute miliarytuberculous mastitis occurs as a part of generalized miliary tuberculosis. Both forms are rarely encountered in recent literature and may be of historical importance only.

Tewari has recently suggested reclassifying breast tuberculosis into 3 categories, namely, nodular, disseminated, and abscess varieties. The new classification takes into consideration the changes seen in clinical presentation of tuberculosis over the last two decades. Sclerosing tubercular mastitis, tuberculous mastitis obliterans, and acute miliary tubercular mastitis are all very rare today, while tuberculous breast abscess is more frequent. The latter is common among young females and represents up to 30% of cases in recent publications.

Diagnosis

Tuberculous involvement of breast occurs either by direct inoculation of the bacilli through abrasions in the nipple, which is rare or more commonly via lymphatic, hematogenous, or contiguous seeding. The lymphatic route is the most likely route of breast involvement which occurs by retrograde extension from the axillary lymph node. This hypothesis is supported by the involvement of axillary nodes, frequently ipsilateral nodes, in 50% to 75% of tuberculous mastitis cases. Contiguous spread occurs from the ribs, pleural space, or rectus sheath from an intra-abdominal source. Hematogenous spread is rare and occurs in cases of disseminated tuberculosis.

The gold standard diagnosis of TM is by bacteriological culture of breast tissue or by ZiehlNeelsen (ZN) stain. However, in TM the bacilli are isolated in only 25% of cases, and acid-fast bacilli (AFB) are identified only in 12% of the patients. Therefore, demonstration of caseating granulomas from the breast tissue and involved lymph nodes may be sufficient for the diagnosis (Spyridon *et al.*, 2012).

An excision biopsy is strongly advocated, however, to rule out other diagnoses like sarcoidosis, fungal infections, ductularetasia, and a coexisting malignancy. Adequate tissue samples are not usually possible with fine needle aspiration. Distinguishing idiopathic granulomatous mastitis from tuberculous mastitis is extremely important as treatment options of the former may include steroids. Steroids may flare up tuberculosis; and in tuberculosis-endemic regions, empiric antituberculous therapy may be warranted before considering steroids therapy.

Radiological tools like mammography, computed tomography (CT scan), and magnetic resonance imaging (MRI) of the breast have all been used in diagnostic work-up of breast lumps. Either mammography or ultrasound of the breast may demonstrate a dense sinus tract connecting an ill-defined breast mass to a localized skin thickening. This 'sinus tract sign,' originally described by Makanjuola, may be strongly suggestive of tuberculous breast abscess but is found in only a small percentage of patients (Mallika and Shukla, 2005).

Radiological tools are generally helpful in defining the extent of the lesion but not very helpful in differentiating tuberculosis from other differential diagnoses, for example, malignancy.

Treatment

Medical therapy is the mainstay of therapy with antituberculous therapy (ATT). No specific guidelines are available for chemotherapy of breast tuberculosis, and therapy generally follows guidelines used for pulmonary tuberculosis. Success rate of medical therapy approaches 95% in most series with 6 months of antituberculous therapy (2 months of Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol/4 months of Isoniazid and Rifampicin). Some authors prefer the 9-month regimen (2 months of Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol/7 months of Isoniazid and Rifampicin) due to lower relapse rate in

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general. Infection with multidrug-resistant tuberculosis (MDR) has been reported. Therapy with combination of first-line and second-line drugs that include kanamycin, ofloxacin, ethionamide, para-amino salicylic acid (PAS), pyrazinamide, and isoniazid has to be used (Zohreh *et al.*, 2011). Surgical intervention was needed in up to 14% of the patients in some series, either due to lack of response to chemotherapy or large painful ulcerative lesions involving the entire breast. Drainage of cold abscess in the axilla and breast to prevent sinus formation is mandatory. Axillary dissection may be required in patients with large ulcerated nodes. Simple mastectomy is rarely needed nowadays and is reserved for patients with extensive disease comprising large painful ulcerated mass involving the entire breast and draining axillary lymph nodes (Khanna *et al.*, 2002).

Conclusion

Tuberculosis of the breast is uncommon even in countries where the incidence of pulmonary and extrapulmonary tuberculosis is high. This disease can present a diagnostic problem on radiological and microbiological investigations, and thus a high index of suspicion is needed. Incorporating a highly sensitive technique like PCR may be helpful in establishing the usefulness of such technology and can aid in conforming the diagnosis early. The disease is curable with antitubercular drugs, and surgery is rarely required. This case is presented for its rarity.

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