

Primary Tubercular Mastitis Masquerading Fibroadenoma of Breast

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Abstracts: A 25-year-old young married female reported with the chief complaint of a gradually growing palpable lump in right breast for last 3-4 month, initially diagnosed as a case of fibro adenoma later confirmed tubercular mastitis by excision biopsy and histopathology revealed Langhans type giant cells. [Ravi K NJIRM 2017; 8(5):98-100]

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Introduction: Tubercular Mastitis is a rare manifestation of extra-pulmonary localization of the disease which accounts for less than 0.1% of breast conditions in developed countries, but reaches 3–4% in regions where the disease presents with high incidence (India, Africa). It appears mostly in women of reproductive age, multiparous, lactating. The most common presentation of a tumor in the middle or upper-outer quadrant of the breast, with multifocal involvement being rarely documented.^{1, 2} The differential diagnosis includes breast cancer, fibroadenoma and abscess formation. Here we are reporting a case of tubercular mastitis, presented as breast lump masquerading fibro-adenoma, treated effectively with anti tubercular therapy.

Case History: A 25-year married female presented to the surgery department of our hospital with the provisional diagnosis of fibro adenoma, reporting a palpable lump in her right breast. She revealed a 3- 4 month history of a gradually growing breast lump, which was initially palpated during breast self-examination. Physical examination confirmed a palpable lump in the upper-outer quadrant and sub areola of the right breast, measuring about 3 × 4 cm, non tender, non adherent to skin or underlying muscle. There were no clinical manifestations of the disease to the nipple-areolar area, or signs of nipple discharge. There was no axillary lymphadenopathy. The patient was afebrile, with normal blood pressure. There was normal chest auscultation and no abnormality found on systemic examination. Laboratory workup revealed hypochromic microcytic anemia (Ht 34%, Hb 11 g/dl), lymphocytic white blood cell type, normal liver and kidney function, Urine analysis revealed no pathology, serology for HIV was negative, Sputum for AFB negative. Montoux test was positive. No history of pulmonary disease was reported in past and there was no history of anti tubercular therapy. Family medical history of either breast or ovarian cancer was not present in two first

degree relatives. Ultrasonography was performed of right breast reported subcentimetric simple cyst 9 o'clock position size 4×5 cm. (Figure 1). breast architecture and glandular pattern were normal besides this there was no axillary lymphadenopathy.

Fig 1: Ultrasonography picture shows right breast with subcentrimetric simple cyst at 9 o'clock position (size 4×5 cm).



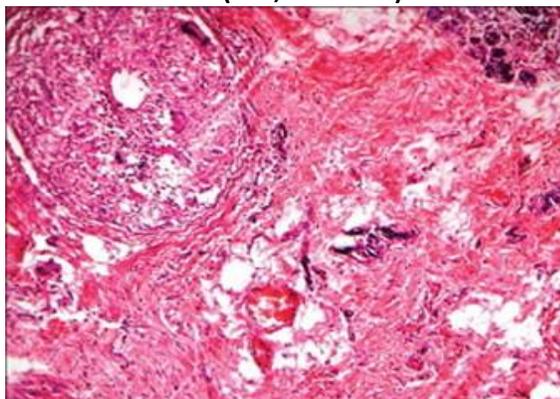
Fig.2: Skiagram of chest in PA view with few calcified nodule in Hilar region.



Excision and biopsy performed and Histopathology report (HPE No-4018/15,) shows breast parenchyma infiltrated by chronic and acute inflammatory cells

epithelioid cell granuloma and Langhans type giant cells, suggestive of granulomatous mastitis. [Fig.3]

Fig.3: Granuloma with Langhans Giant cells.(40x;H&Estain)



The patient was treated with oral anti-tuberculosis therapy for 6 months postoperatively under CAT I DOTS. Patient responded well to chemotherapy and no lump was palpable on OPD follow up visit.

Discussion: Tuberculosis of the breast is a rare entity, perhaps organs or tissues like the breast, skeletal muscle and spleen are more resistant to infection, making the survival and multiplication of the tubercle bacilli difficult^{3,4}. Lactating women appear to be at higher risk, probably due to the increased blood supply of the breasts as well as dilated ducts, making them more vulnerable to lacerations and infection.⁵ Tubercular mastitis is usually unilateral, seldom infects male patients and should be considered in immunodeficiency states like HIV infection.⁶ Mammary tuberculosis may be primary when no other focus of tuberculosis is detectable or secondary, when a source can be identified, mainly located pulmonary. According to previous literature the routes of spreading to the breast are predominantly hematogenic, though lymphatic, by direct extension from the thoracic wall or the axillary lymph nodes, as well as by inoculation through traumatized skin or ducts also reported by the researchers^{7,8}. Though, some authors hypothesized that almost all cases of breast tuberculosis to be secondary even if the primary location of the infection remains occult. The rare cases of primary breast tuberculosis are considered being caused by infection of the breast through skin abrasions or through the main ducts of the nipple.^{5,6} The commonest clinical presentation is that of a lump, with or without a duct, painful or not, most often located in the central or

upper outer quadrant of the breast. 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 and many times masquerading fibroadenoma like present case.^{9,10} Fistula formation may occur, much as nipple or skin retraction, but breast discharge is uncommon.^{3,8} 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. Symptoms like fever, 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.^{5,6}

Various tests are useful in the diagnosis and further evaluation of patients with breast tuberculosis. Mantoux testing 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. On the other hand, mammography findings in elderly women are generally indistinguishable from breast carcinoma. At ultrasonography, a hypoechoic mass is found in 60% of patients and the method may sometimes identify a fistula or a sinus tract which can be seen in cases of tuberculosis mastitis.¹⁰ Computed tomography and nuclear magnetic resonance are used to evaluate the extension of the lesion beyond the breast, principally towards the thoracic wall. The gold standard for the diagnosis of breast tuberculosis is detection of *M. tuberculosis* by Ziehl Neelsen staining or by culture. However, histochemistry is not practical and culture of *M. tuberculosis* has limitations due to the delay in obtaining the final result and the possibility of false-negative results in paucibacillary samples.⁶ Fine needle aspiration cytology may not be able to detect the responsible pathogen itself, but is detecting the presence of epithelioid cell granulomas and necrosis,

leading to definitive diagnosis in up to 73% of cases. Polymerase chain reaction (PCR) is highly sensitive for the diagnosis of breast tuberculosis. Although seldom used, it is recommended in cases with negative culture results or for differential diagnosis between other forms of granulomatous mastitis. Finally, histopathology of the lesion identifies a chronic granulomatous inflammation with caseous necrosis and Langhans-type giant cells, contributing to diagnosis in the majority of the 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.¹¹

Conclusion: Extra pulmonary tuberculosis occurs rarely in breast hence it is challenging to make the diagnosis by routine investigations. It is recommended that excisional biopsy is mandatory for diagnostic purposes to rule out other rare causes which create diagnostic dilemma and treatment delay, to avoid further irreversible complications. Breast tuberculosis represents a rare disease that should always be suspected when evaluating cases of breast abscesses, fistulae or nodules, with poor response to classical non-tuberculosis antibiotic treatment. Physicians should consider this clinical entity, often mimicking breast cancer, or fibro adenoma especially in areas having the high prevalence of tuberculosis infection.

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