Research Paper

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Primary Isolated Tubeculous Mastitis Presenting as Retroareolar Lump

Medical Science

KEYWORDS : Breast, tuberculosis, tuberculosis mastitis, lump, fine needle aspiration cytology (FNAC)

DR. VIKAS BATHLA	Profeessor, Department of Surgery, C. U. Shah Medical College and Hospital, Surendranagar - 363001 Gujarat state,
Dr. Hard Vasavada MS	Hostel above casualty building, Wing 'C', Room number 2 C. U. Shah Medical College and Hospital, Surendranagar, Gujarat.
Dr. Sagar Ghodasara	Hostel above casualty building, Wing 'C', Room Number 12 C U Shah Medical College, Dudhrej road, Surendranagar - 363001 Gujarat.
Dr. Dhruv Patel	Hostel above casualty building, Wing 'C', Room Number 12 C U Shah Medical College, Dudhrej road, Surendranagar, Gujarat – 363001
Dr. Shishav Patel	Hostel above casualty building, Wing 'C', Room Number 2 C U Shah Medical College, Dudhrej road, Surendranagar, Gujarat – 363001

ABSTRACT

Tuberculous Mastitis is a rare clinical entity. It often mimics pyogenic abscess or Breast carcinoma especially if well-defined clinical features are absent. A high degree of suspicion on clinical ground is required during diagnosing workup for the correct diagnosis. We report a case of Primary Isolated Tuberculous Mastitis Presenting as Retroareolar Lump. A 25-year old female presented pain in right breast. Physical examination revealed 3x2 cm size firm retroareolar lump. Patient was subjected to Fine Needle Aspiration Cytology (FNAC) which showed classical tubercular granuloma with Langhans' giant cells. The patient received Ant tuberculosis therapy for six month with no sideeffects.So now days in endemic countries. FNAC is a good diagnostic tool for Tuberculous Mastitis. Standard four drugs Ant tuberculosis Therapy is the mainstay of treatment and surgery is reserved for rare cases.

Introduction:

The incidence of tuberculosis is rising worldwide and rare manifestations of past are seen more often now a days. Tuberculosis mastitis is a rare clinical entity with an incidence of less than 0.1% of all breast lesions in western countries and 4% of all breast lesions in tuberculosis endemic countries [1, 2]. The clinical signs of Tuberculous Mastitis are insidious and non-specific. Tuberculous Mastitis is paucibacillary, so tests like microscopy, and Polymerase Chain Reaction (PCR) techniques do not have same diagnostic value as in pulmonary tuberculosis. So it is common for Tuberculous Mastitis to be misdiagnosed as pyogenic abscess or Breast carcinoma [2]. We report a case of isolated primary Tuberculous Mastitis presenting as retroareolar lump which is a rare entity and also this case is being contributed to literature for that Tuberculous Mastitis should also be included in differential diagnosis of breast lesions like Pyogenic breast abscess ,recurrent breast abscess, Granulomatous mastitis and breast carcinoma.

Case report:

A 25 years old female presented in outpatient department with history of constant dull aching pain around nipple and areola with serous discharge from nipple of right breast since two months. She denied fever, night sweats, weight loss or respiratory symptoms. She had one child of two years age and breast feeding was stopped six months back. There was no family history of breast cancer and no personal history of oral contraceptive use, diabetes, and previous treatment for tuberculosis or recent exposure to a person with tuberculosis. Examination of right breast revealed a tender, ill-defined, firm to hard lump of size 3x2cm with cystic areas in-between, was present in retroareolar location. Mild excoriation of nipple and seropurulent discharge was present from nipple. No nipple retraction was seen. Areola was normal. Axillary, cervical and supraclavicular lymph nodes were not enlarged. The systemic clinical examination was within normal limits. Her routine biochemical and hematological profile was normal except ESR which was 60mm/1st hour. Chest radiograph was normal.CA-125, CA 15-3, AFP, CEA levels were within normal limits. No tuberculosis focus was found elsewhere on workup. Ultrasound of right breast showed 3x2x2cm size heterogenic mass was present in retroareolar area with hypo echoic areas in-between. Patient was subjected to Fine Needle Aspiration Cytology (FNAC) from lump. Yellowish cheesy material was aspirated from lump and smears were prepared from it. Smear examination revealed Langhans giant cells and classical tubercular granuloma comprising of epitheloid cells surrounded by lymphohistiocytic aggregates in the background of caseous necrosis. Z N stain for acid fast bacilli prepared from smear was also negative. Antituberculous Therapy was started with 4-drugs (Isoniazid 300mg, Rifampicin 600mg, Pyrazinamide 1500mg and Ethambutol 1000mg) for two months (Intensive Phase) continued with 2-drugs (Isoniazid 300mg, Rifampicin 600mg) four months (Continuation phase). Symptomatic control was achieved after one month and lump was totally resolved after six months of Antituberculosis Therapy. Patient had an uncomplicated recovery. After six months of follow-up, patient was asymptomatic.

Discussion:

Breast tuberculosis is a rare form of tuberculosis. The case of Tuberculous Mastitis was reported in 1829 by Sir Asley Cooper who called it 'scrofulous swelling of bosom [3].It is a rare clinical entity with incidence of less than 1% in western countries and 4% of all breast lesions in tuberculosis endemic countries [2]. The disease is more frequently seen in women between 20-50 years of age especially among multiparous and lactating females where breast is more sensitive to infection and trauma [1, 4]. Both breasts are reported to be involved with equal frequency [1, 5]. Bilateral disease is rare, occurring in 3% of patients [1, 5]. It is uncommon in prepubescent females and elderly females [1]. It is also rare in males and is reported in 4% of cases [1, 6]. The duration of symptoms varies from a few months to several years but in most instances it is less than a year [5]. The classical presentation Tuberculous Mastitis is multiple sinuses, ulcers, matted nodes and a breast mass; which is seen in less than 50% of cases making the clinical diagnosis difficult at times[1,5]. Purulent nipple discharge,

persistent discharging sinuses may be the rare presenting feature [1]. The lump in Tuberculous Mastitis is usually ill-defined, irregular, and firm to hard mimicking a carcinoma [1, 5]. Constant dull aching pain is present more frequently than a carcinoma [1, 5, and 7]. Involvement of nipple and areola is rare in Tuberculous Mastitis [5]. Fixation to skin is frequent [5]. Breast remains mobile unless breast involvement is secondary to tuberculosis of underlying ribs [5]. Coexisting tuberculosis and carcinoma of the breast was reported by Alzaraa et al [8, 9]. Tuberculous Mastitis is considered primary when breast lesion is the only manifestation of tuberculosis [1, 7, 10]. Primary Tuberculous Mastitis is rare as breast is resistant to tuberculosis like skeletal muscles, spleen and thyroid as they provide infertile environment for the survival and multiplication of tubercle bacilli [1, 6, 7]. Primary form may rarely result infection of the breast through abrasions or through opening of the ducts in the nipple [1, 5, 10]. Tuberculous Mastitis is secondary when there is demonstrable tuberculosis elsewhere in the body [1, 5, 7]. Secondary involvement occurs mostly by lymphatic spread from lungs by tracheobronchial, par tracheal, meditational lymph trunk, internal mammary nodes pathway [1, 7, and 10]. Hematogenous spread which is rare and spread from contiguous structures like infected rib, costochondral cartilage, sternum, and shoulder joint [1, 10]. Tuberculous Mastitis was originally classified by Mckeown and Wilkinson into five categories[11] (a) Nodular Tubercular Mastitis – most common type, presents as well circumscribed, slow growing painless lump that progress to involve the skin, which may ulcerate to form sinuses and may become painful. In early stage it mimics fibro adenoma while in later stages it mimics carcinoma; (b) Disseminated or confluent Tubercular mastitis – characterized by multiple foci throughout the breast that later on caseate leading to sinus formation. Breast may be tense and tender. The draining axillary nodes are enlarged and tender; (c) Sclerosing Tubercular mastitis – it affects involuting breasts of elderly females. It is characterized by minimal caseation with excessive fibrosis and hard painless slow growing lump with nipple retraction mimicking a scirrhotic carcinoma; (d) Tuberculous Mastitis Obliterans – a rare form due to intraductal infection with fibrosis and obliteration of ductal system resulting in cystic mastitis. Sinus formation is infrequent ;(e) Acute Miliary Tubercular mastitis – rare, due to blood borne infection in military tuberculosis. At present tuberculous mastitis is reclassified as nodular, disseminated and abscess variety. The sclerosing type, mastitis obliterans and military variety are of historical importance. The differential diagnosis includes carcinoma, traumatic fat necrosis, pyogenic breast abscess, sarcoma, actinomycosis, giant cell arteritis, sarcoidosis, granulomatous mastitis and wegener'granulomatosis [2, 7, 9]. Early diagnosis is difficult as it warrants high index of suspicion on clinical grounds. Mammography, Ultrasound, Computed Tomography, Magnetic Resonance Imaging have limited value as it is difficult to distinguish the lesion from breast carcinoma [1, 2, 7, 12, 13]. Fine Needle Aspiration Cytology (FNAC) from breast lesion continues to remain an important diagnostic tool of breast tuberculosis [1, 2, 7, and 13]. Approximately 73% of breast tuberculosis can be diagnosed on Fine Needle Aspiration Cytology (FNAC) when both epitheloid cell granuloma and caseous necrosis are present [1, 2, 13]. The demonstration of acid fast bacilli on Fine Needle Aspiration Cytology (FNAC) is not mandatory [1, 5]. Culture is gold standard for diagnosis the time required and frequent negative results in paucibacillary specimen are important limitations [1, 2]. Polymerase chain reaction (PCR) is highly sensitive in culture negative specimen but has limited use because of cost and sophistication [1, 2]. Histological findings of epitheloid cell granuloma with caseous necrosis Langhans' giant cells from core needle biopsy, open biopsy(incision or excision) breast lump, ulcer, sinus or from the wall of suspected tubercular breast abscess cavity almost always confirm Tuberculous Mastitis[1,2]. Thus demonstration of caseating granulomas with Langhans' giant cells, breast lump and involved lymph nodes is sufficient for diagnosis [1, 5]. In tuberculosis endemic countries finding of caseating granulomas in Fine Needle Aspiration Cytology (FNAC) warrants empirical treatment for tuberculosis even in the absence of positive acid fast bacilli and with negative culture results [5]. Detailed histology is necessary where suspicion of coexistent carcinoma is there [1, 5]. Medical treatment with four drug regime forms the mainstay treatment [1, 13]. Surgical intervention is indicated for aspiration of cold abscesses and excision of residual sinuses masses after medical management [1, 5, 13].

Conclusion:

Extra pulmonary tuberculosis occurring in breast is extremely rare. Tuberculous mastitis is uncommon even in countries where incidence of pulmonary and extra pulmonary tuberculosis is high. Tuberculous mastitis is an obscure disease often mistaken for carcinoma or pyogenic abscess of breast if well-defined clinical features are absent. Diagnosis of Tuberculous Mastitis is usually based on high index of suspicion, finding of granulomatous lesions with Langhans' giant cells on FNAC and response to Ant tuberculosis Therapy. Disease can usually be treated conservatively with current Ant tuberculosis Therapy modality, with surgical intervention is reserved for rare cases only.

FIGURE 1- Retroareolar Lump.

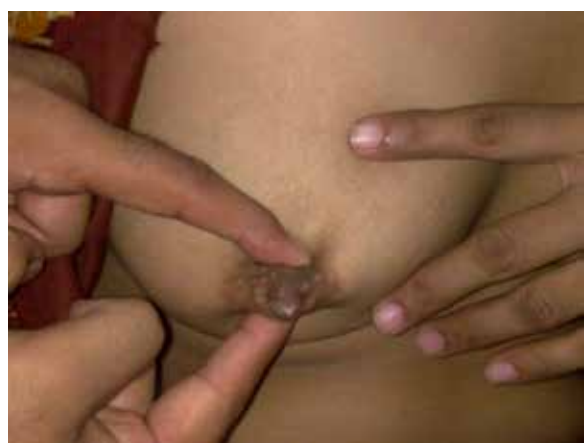

FIGURE 2 - Tuberculous Granuloma consisting of epitheloid giant cell with histiocytes, lymphocytes in the background of Caseous Necrosis

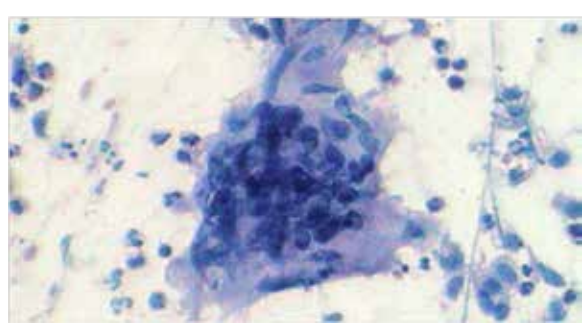

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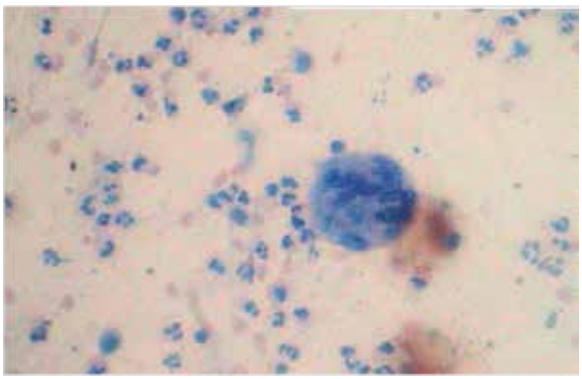
FIGURE 3- Langhans' Cell



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