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A Rare Case Report on Tubercular Mastitis Presenting as Breast Abscess

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ABSTRACT
A developing nation like ours has been suffering with a tremendous cases of tuberculosis nationwide, in all forms expected. We here highlight a case of Tuberculosis of breast tissue in an adolescent girl which is rare as a presentation and was mis-lead and treated as a breast abscess of other origin. Confirmatory findings with use of tools like ultrasonography and biopsy made us to final the diagnosis and put the patient on anti-tubercular drugs.

Introduction

Tuberculosis is one of the most prevalent infectious diseases in developing countries; commonly infected extra pulmonary sites include lymph nodes, pleura, & osteoarticular area, although any organ may be affected. Primary tuberculosis of the breast is a rare clinical manifestation, ranging from a prevalence of 0.1% in developed countries to 3-4.5% in developing countries[1,2], presenting clinically in women of reproductive age group as a lump in the breast with or without a discharging sinus[3], which is commonly misdiagnosed as carcinoma breast or pyogenic mastitis.

This is a case report of a 14-year-old female with primary tuberculosis of breast presenting as breast abscess with lump since 2 years.

Case Report

A 14-year old, Indian female presented to the Department of Pediatrics with a history of palpable lump in left breast since 2 years, discovered during self-examination, and was non tender. She also gave the history of gradually progressive ulceration just around the areola with yellowish white discharge associated with pruritus (Figure 1) .There was no history of redness of breast, high fever, cough with expectoration, loss of weight or peau'd orange appearance. Her menarche was at the age of 10-years, with irregular cycles, lasting for 3-4 days with dysmenorrhea. There were no cyclical changes in the lump with menstruation. The patient was taking medication from a quack since 2 years irregularly. There was no documented history of breast cancer in the family, or contact with a patient of tuberculosis.

The diagnosis of pyogenic mastitis was ruled out as the history was not in accordance with the diagnosis i.e. it was a non painful lump. Also, ANDI (Aberations in the normal development and involution of breast) was not considered as there were no changes in the lump with menstrual cycle.

Physical examination revealed pallor, palpable lump in upper-outer quadrant of the left breast, measuring about 2cm x 1cm, hard in consistency, non mobile, non-tender , accompanied by ulceration of the skin just around the areola associated with yellowish white discharge and nipple retraction. There was no noticeable discharge from nipple or any palpable axillary and cervical lymphadenopathy.

Figure 1

Based on these findings a provisional diagnosis of carcinoma of breast was made and an ultrasonography was requested with routine blood investigations which has no evidence of bacteremia. Ultrasonographic investigation reported dense fibro glandular structure in both breasts with no ductal dilatation and no obvious focal lesion. The left axillary lymph node was found to be enlarged and hypo echoic which confirmed left axillary lymphadenopathy.

The patient was admitted to the pediatrics general ward for further evaluation.

Fine needle-aspiration cytology was then performed which revealed clusters of duct epithelial cells and occasional fragments of fibromyxoid stroma with scattered epitheloid cell granulomas and large number of lymphocytes giving a picture of chronic granulomatous inflammation.

The patient was then posted for Excisional biopsy. The histopathological evaluation of the excised biopsy specimen, which included axillary lymph node with periareolar ulcer, revealed multiple epitheloid cell granulomas with multinucleated Langhan's giant cells and large areas of caseous necrosis. The ulcerated tissue showed mixed inflammatory infiltrate with small granulomas containing Langhan's giant cells. Also, the surrounding skin reported pseudo epithelomatous hyperplasia and keratin pearls. Ziehl Nelsen stain detected *Mycobacterium tuberculosis*, confirming

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the diagnosis of tuberculous mastitis. The patient was started on standard 6-month anti-TB therapy as 2HRZE plus 4HRE, daily regimen with adult dosage and drainage with proper dressing was done regularly which had a good outcome (Figure 2).

Figure 2

Discussion

In 1829, Sir Astley Cooper used the term 'scrofulous swelling of the bosom' to describe the first reported case of tuberculous mastitits.[2]

Tuberculosis is considered to be rare in developed western world[3], but there is steady increase in incidence which could be attributed to migration of infected people from endemic areas[4]. Tuberculosis of the breast is often mistaken for other benign and malignant lesions of the breast. It more commonly affects females of reproductive age group, especially during the lactation period.[5,6] . Involvement of breast can either be primary without any extramammary focus or secondary to pulmonary tuberculosis[7]. Clinically, tuberculosis of the breast presents as lump with or without chronic discharging sinus. Lump is usually ill-defined, irregular, sometimes associated with pain, nipple retraction, axillary lymphadenopathy or rarely peau'd orange appearance. Also, sometimes there can be no definite clinical signs and often mimics carcinoma. Hence, it is always recommended to evaluate the patient before the start of treatment.

Most of the reported cases in the published literature come from developing countries like India, Iran, Bangladesh and Nigeria.

Khan AS et al. reported a case study on 54 patients of breast tuberculosis from Bangladesh and out 0f 54, only 27 pateints were clinically diagnosed with mammary tuberculosis and the diagnosis was confirmed by combination of clinical and cytological findings. Patients were treated accordingly with antitubercular drugs, excision of the lumps & sinus tract and repeated drainage of the abscess.[8]

In India(lucknow), a case of bilateral tubercular mastitis has been reported by k. surya et al. in a 29-year old female who was diagnosed on the basis of mantoux test and FNAC from the lump and was then started on a therapeutic trial of four drug antitubercular therapy.[9]

Also, a study on 75 patients of histologically proved cases of tuberculosis of breast by Tiwari M. et al. found that most cases were in the age group of third and fourth decade and clinical diagnosis could only be made in 45 patients and all these patients were treated with antitubercular therapy and responded well.[10]

A case of primary multidrug resistant tuberculosis in a 28-year old lactating female has been reported by K. Praveen et al.[11] who did not respond to intensive 4-drug antitubercular therapy and culture was then done and multi-drug resistance was found and the patient was then retreated with kanamycin, para-aminosalicylic acid, pyrazinamide and isoniazid to which the patient responded well.

Madhusudhan KS et al.[12] reported a case of 50-year old female with primary tuberculous abscess of the breast which simulated carcinoma of breast on mammography which was later confirmed to be tubercular mastitis by ultrasound-guided aspiration and culture of pus who was then treated under anti-tubercular drug regimen and drainage of pus.

Sriram KB et al. and Tauro LF et al. reported cases of , 34-yr old female and 30-yr old female with primary tuberculosis of the breast who responded well to anti tubercular therapy.[13,14]

Tuberculous mastitis should be differentiated from other granulomatous diseases of the breast which includes sarcoidosis, foreign body reactions, fungal infections, mammary duct ectasia, traumatic fat necrosis, etc.[15]Diagnosis of tuberculosis of breast is made on the basis of montoux test, mammography which of limited value, fine needle aspiration cytology, mycobacterial culture, nucleic acid amplification tests and histopathological examination which is confirmatory. All the patients should receive standard anti-tubercular therapy for atleast 6 months and surgical interventions should be performed only if response to ATT is poor.Our patient was a 14-yr old Indian female, in whom tuberculous mastitis is a rare occurrence. Although, tuberculosis was considered due to significant risk for tuberculosis infection, she she lived in a high prevalence area. Histopathology , then revealed multiple epitheloid cell granulomas with multinucleated Langhan's giant cells and large areas of caseous necrosis which confirmed tuberculosis of the breast.

Conclusion

Patients of breast inflammation from endemic countries with poor response to antibiotic therapy, should be suspected with tuberculous mastitis. And a trial of anti-tubercular therapy can be started in case of suspicion with usage of relevant diagnostic tools for confirmation.

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