Case Report

Primary tuberculous mastitis presenting as abscess: A case report

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Abstract

Primary tuberculosis of mammary gland is a rare disorder often mistaken for other neoplastic and nonneoplastic lesions of the breast. We report a case of 20 year old female who presented with lump in left breast since 15 days and later developed sinus over skin clinically mimicking abscess. Ultrasonography of breast suggested abscess with collection of fluid. Fine needle aspiration showed granulomas. Grossly the excised mass was grey white nodular. A definitive diagnosis of tuberculous mastitis was reached by histological demonstration of caseating granulomas in breast parenchyma.
Key words: Tuberculosis, breast, mastitis.

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INTRODUCTION

Tuberculosis of breast is relatively rare disease despite one third of third of the world's population being infected with tubercle bacilli[1]. Its overall incidence is reported to be 0.1% of all breast lesions. Breast and skin are considered to be rare sites of extrapulmonary mycobacterial infection comprising 0.1-0.5% of all cases of tuberculosis[2]. Tuberculous mastitis is often overlooked and misdiagnosed as carcinoma or abscess clinically and radiologically[3]. Breast tuberculosis is paucibacillary and consequently microscopy, culture and nucleic acid amplification tests like PCR do not have the same diagnostic utility as they do in pulmonary tuberculosis.[4] We report a case of primary tuberculous mastitis presenting as abscess.

CASE REPORT

A 20 years old HIV negative female patient was admitted with history of left breast lump, pain and fever for 15 days. There was also history of swelling of skin over left breast and burst opening since 4 days. There was no history of weight loss or cough with expectoration. She had no past history of tuberculosis or any other breast lesion. There was no history of tuberculosis in her family. On general physical examination, no abnormality was detected. Examination of left breast revealed a tender ill defined irregular firm to hard lump measuring 7x5 cm in the upper outer and inner quadrants. Skin over breast showed single sinus with hyperpigmented area. There was no nipple discharge. Axillary, cervical or supraclavicular lymph node were not enlarged. Respiratory system examination was unremarkable. Ultrasound of the mass revealed collection of pus measuring 4.6x2.4 cm with intense echoes and suggested abscess in the left breast. Her total leukocyte count was 11200/cmm (75% being polymorphs) and ESR was 80 mm at the end of 1 hour. A clinical diagnosis of breast abscess was done. Chest X ray did not reveal any abnormality. FNAC of left breast lump revealed granulomatous mastitis. AFB of the aspirate and pus culture was negative. In view of abscess, incision and drainage of abscess and excision biopsy was done. Pus collected was drained and tissue of breast containing

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mass was sent for histopathological examination. Grossly the excised specimen consist of two soft tissue masses, the larger was partly skin covered and measured 7x3.5x2 cm. Skin over the mass showed sinus. Smaller measured 4x2x1.5 cm (Fig.1). Cut section showed grey white mass beneath the skin measuring 3x2.5 cm. Cut section of the other mass also showed grey white area (Fig.2). Microscopy of mass showed breast lobules with many caseating granulomas composed of central caseous necrosis, epitheloid cells, Langhans' giant cells surrounded by lymphocytes (Fig.3, 4). Sections were negative for acid fast bacilli on Ziehl Neelsen stain. With above features diagnosis of tuberculous mastitis was made. Patient responded well with antitubercular therapy as per RNTCP guidelines.

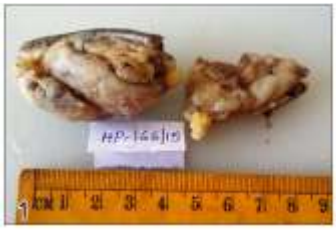

Figure 1

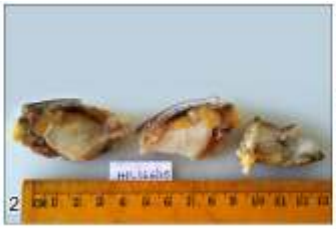

Figure 2

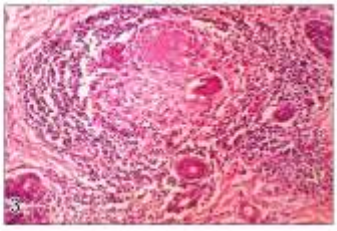

Figure 3

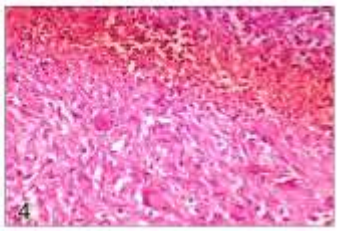

Figure 4

Legends

Figure 1: Gross photograph of excised two grey white nodules from left breast

Figure 2: Cut surface of both nodules showing well circumscribed ,unencapsulated grey white area seen beneath the skin.

Figure 3:.Microphotograph showing breast lobules with caseating granulomas. (H&E, X100)

Figure 4: Microphotograph showing caseous necrosis , epithelioid cells & Langhans' giant cell. (H&E, X400)

DISCUSSION

Tuberculosis (TB) remains one of the leading causes of death from infectous diseases worldwide. Breast TB is one of its rarest forms. The first case was recorded by Sir Astley Cooper in 1829 who described it as "scrofulous swelling of the bossom".[5] Breast TB usually affects women in their reproductive age group of 20-40 years[1, 5]. The various associated risk factors are multiparty, lactation, trauma, immunosuppression, past history of suppurative mastitis, pulmonary tuberculosis and tuberculous lymphadenitis involving the cervical, axillary or mediastinal nodes.[1,6] Primary as well as secondary tuberculosis rarely affects the breast, as mammary tissue provides infertile environment for the survival and multiplication of tubercle bacilli.[7] Mammary tuberculosis may be primary when the breast lesion was the only manifestation of tuberculosis and secondary when there was a demonstrable focus of tuberculosis elsewhere in the body. Primary infection of breast may occur through abrasions or through direct openings on the nipple.[8] In our patient probably involvement of breast was primary as she had no other focus of tuberculosis. Breast TB was first classified into five different types by Mckeown & Wilkinson[9] as (i)Nodular tubercular mastitis (ii)Disseminated or confluent tuberculosis mastitis (iii)Sclerosing tuberculous mastitis (iv)Tuberculous mastitis obliterans (v)Acute military tuberculous mastitis[6, 9] The nodulocaseous tuberculous form presents as a well circumscribed slowly growing painless mass that progresses to involve the overlying skin and may ulcerate forming discharging sinuses. The disseminated form is characterised by multiple foci throught the breast that later caseate leading to sinus formation with or without painful ulceration. The sclerosing variety affects older females,with excessive fibrosis rather than caseation and mimicks scirrhous carcinoma. Tuberculous mastitis obliterans is characterised by duct infection producing proliferation of lining epithelium with marked epithelial and periductal fibrosis. There is occlusion of ducts and cystic space formation resembling cystic mastitis.[1,2,9] Acute military tuberculosis is part of generalised miliary tuberculosis. Our patient presented with nodulocaseous form with mass involving overlying skin forming sinus. The histopathological differential diagnosis of tuberculosis of breast includes other infections, sarcoidosis and granulomatous reaction to tumour. In breast tuberculosis, acid fast bacilli are identified in only 12% of patients. Hence, demontration of caseating granulomas and Langhans giant cells in the breast tissue may be sufficient for diagnosis.[10] Though fine needle aspiration cytology (FNAC) is very useful and is a promising technique in expert hands a biopsy is mandatory for confirmation of diagnosis[1, 10]. In present case FNAC along with histopathological examination confirmed the tuberculous mastitis. Treatment is medical, consisting of ATT as per RNTCP guidelines. Surgical drainage or simple mastectomy is required in some cases of failure of ATT or large ulcerative lesion involving entire breast[8 ,10]

CONCLUSION

Tuberculosis of breast should be considered in the differential diagnosis of any case of clinically painful or painless breast abscess or carcinoma in an endemic country like ours. The disease should be diagnosed timely, to provide close follow up and appropriate treatment.

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