Original Research Paper

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Tubercular mastitis on FNA: The issues in diagnosis

Pathology

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ABSTRACT Tubercular breast disease is a rare form of tuberculosis, clinically simulating breast carcinoma and pyogenic breast abscess. FNA can play a vital role in correct diagnosis and treatment of these lesions. Two cases of breast tuberculosis are presented which were diagnosed on FNA and AFB stain of the aspirate.

Case history:

Case 1: A 25 year old female presented with lump in the right breast which was noticed 1 month back. There was no history of pain over the swelling and no history of fever. The patient had been diagnosed with pulmonary tuberculosis 8 months back and had completed anti tubercular treatment for 6 months. On examination, a lump was palpable in the right breast above the areola measuring 1.5x 1.5cms, mobile, soft, non tender with well defined margins.

FNAC was performed and pus like material aspirated. MGG stained smears from the aspirate showed an inflammatory cell infiltrate comprising of lymphocytes, neutrophils, scattered epithelioid cells and few ill defined granulomas in a background of necrosis. ZN stain for AFB was done and found to be positive. A diagnosis of tubercular mastitis was given based on these findings. HIV test was negative.

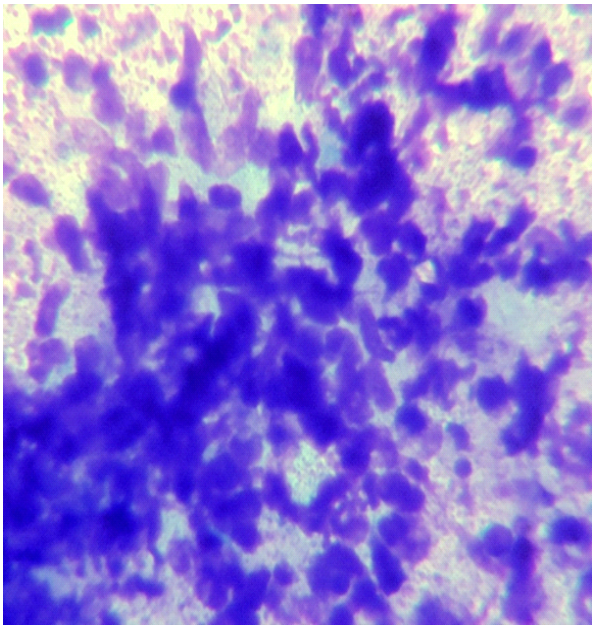

Fig 1 showing epithelioid cell granuloma in aspirate from breast lesion(MGG, 100X)

Case 2: A 40 year old female presented with swelling in the upper and outer quadrant of the left breast since 3 years. The was no history of pain, fever or trauma. No contact history of TB was present. On palpation multiple ill defined swellings were noted, soft to firm in consistency with no associated tenderness. Overlying skin was normal. FNA was done and revealed blood mixed material.

MGG stain of the smears showed chronic inflammatory cells comprising of predominantly lymphocytes and few well formed epithelioid granulomas. ZN stain for AFB was done and came out positive. The case was diagnosed as tubercular mastitis based on cytological findings and AFB staining. The patient tested negative for HIV.

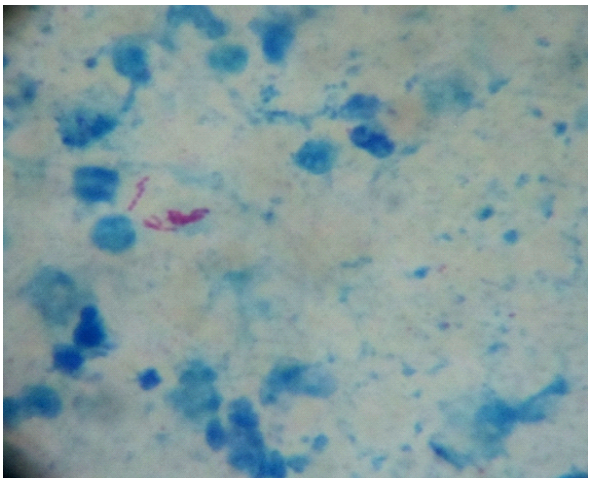

Fig 2 showing tubercle bacilli on ZN stain(100X)

Discussion: Tuberculosis of breast is a rare form of tuberculosis, clinically simulating breast carcinoma and pyogenic breast abscess. First described by Sir Astley Cooper in 1829 as 'Scrofulous swelling of the bosom', the estimated incidence in India is between 0.1 and 3%. There are no well defined clinical features for the diagnosis of this condition. Proper diagnosis can be established only through AFB staining of aspirate or biopsy or with the help of mycobacterial culture. FNA as a first line investigation in breast lesions can play a vital role in correct diagnosis and treatment.

Breast tuberculosis is an uncommon disease even in countries with high incidence of pulmonary and extrapulmonary tuberculosis. It usually affects women in reproductive age group, especially during the lactational period and commonly present as a lump in the breast. Pain may be present usually as a dull ache, though our two cases did not complain of any pain in the breast. Typically, the clinical picture is not one of active disease. In a review of 100 cases of TB mastitis in India, it was reported that constitutional symptoms of fever, weight loss, night sweats, and failing general health , commonlr seen in pulmonary tuberculosis, were present in 20% of patients only.

Breast tuberculosis was originally classified by McKeon et al into the following categories: (a) acute miliary type (b) nodular type (c) disseminated type (d) sclerosing type – minimal caseation and extensive hyalinization of the stroma, shrinkage of the breast tissue with early skin retraction and late sinus formation; clinically indistinguishable from carcinoma; and (e) tuberculous mastitis obliterans – a rare form due to intra ductal infection with fibrosis and obliteration of the ductal system with infrequent sinus formation.

McKeown and Wilkinson classified breast tuberculosis as primary when the breast lesion was the only manifestation of tuberculosis (as seen in one of our cases), and secondary when there was a demonstrable focus of tuberculosis elsewhere in the body. However nowadays it is believed by many that though primary tuberculosis can occur, mammary tuberculosis usually develops secondary to a lesion at some other part of the body.

Clinically many cases of tuberculosis of breast are mistaken for a fibroadenoma , carcinoma or pyogenic abscess. Radiological investigations are helpful only in delineating the extent of the lesion as the mammographic features may mimic carcinoma or even a breast abscess. Fine needle aspiration cytology in experienced hands can clinch the diagnosis in most cases with staining for acid fast bacilli. FNA often shows picture of granulomatous mastitis with presence of epithelioid cell granulomas, giant cells and caseous necrosis.

The finding of granulomas however brings into consideration other diagnostic possibilities like foreign body granulomas, idiopathic granulomatous mastitis and other infectious granulomas. A positive staining for AFB by ZN stain as seen in our cases is helpful in ruling out the other differentials. However, a negative stain does not rule out tuberculosis. In all cases of granulomatous mastitis in an endemic country , a high degree of suspicion for tubercular infection is a must as Ziehl–Neelsen staining for AFB is positive in only 25% of cases and hence is not mandatory for diagnosis. Tubercle bacilli culture and PCR are other options which can help in diagnosin these cases. However, even in case of negative result, the finding of granuloma in FNAC warrants empirical treatment for tuberculosis in endemic countries. Our patients were treated with debridement and are currently undergoing anti tubercular therapy.

Conclusion: Tuberculosis of the breast should be considered in the differential diagnosis in patients with suspicious breast lumps, especially in countries with high prevalence of TB. We reported two cases of tubercular mastitis where the diagnosis was unsuspected clinically and radiologically prior to FNA. Increased knowledge and awareness of its occurrence is important among clinicians and pathologists for its correct diagnosis as these patients would benefit from anti tubercular treatment.

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