

Breast tuberculosis -a need for a diagnostic algorithm

Abstract

Tuberculosis of the breast is assuming significant proportions in urban India. Lack of a diagnostic algorithm leads to delay in the diagnosis. Concomitant malignancy in the same breast makes it even more complicated. The editorial discusses the salient features of the diagnostic hurdles faced by the surgeon in cases of breast tuberculosis.

Keywords: breast cancer, tuberculosis, diagnosis, management

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Editorial

Tuberculosis of the breast once a rare entity is now assuming prominence especially in urban centres. The natural history of breast tuberculosis is variable. The clinical presentation is deceptive ranging from features of pyogenic abscess to frank breast cancer. Majority of cases of breast tuberculosis were reported from the Asian subcontinent where tuberculosis continues to be a major healthcare problem. Since the incidence of breast tuberculosis is significantly low as compared to other benign or malignant conditions of the breast and even in comparison to the incidence of tuberculosis in the other organ systems, detailed appraisal of the pathology, clinical features and diagnosis is still unavailable.

Breast tuberculosis may be primary or secondary. However with respect to the diagnosis, this of least concern. The clinical presentation of breast tuberculosis may range from a simple pyogenic abscess to that simulating a classical breast cancer.¹ Co-existence of tuberculosis and breast cancer has been described in various case reports adding to the complexity of diagnosing this lesion.² A non-lactating woman presenting with a pyogenic breast abscess should raise the suspicion of either tuberculosis or malignancy.^{1,3} Drainage of the pus with biopsy from the underlying mass is essential. This can help in diagnosis of tuberculosis either by demonstrating acid fast bacilli or by demonstrating classical epithelioid granulomas studded with Langhan's giant cells. Malignancy of the breast can also be ruled out with authenticity by means of a biopsy.⁴ Patients presenting with a lump with equivocal consistency pose the biggest challenge. FNAC may reveal epithelioid cells or Langhan's giant cells. The chance of identifying acid fast bacilli (AFB) by FNAC is extremely less. However, diagnosis of epithelioid cells on FNAC is enough evidence to arrive at a diagnosis of tuberculosis.^{5,6} In the event of sparse cellular aspirate, an FNAC may be inconclusive. In such cases a calculated risk of dissemination of the disease process has to be taken for the sake of a tissue biopsy. In patients presenting with a mass accompanied by sinuses diagnosis becomes quite easy. Sinus tracks are pathognomonic of tuberculosis.⁷ These are invariably associated with an underlying mass. FNAC from this mass is diagnostic.

No haematological or radiological investigations can guarantee a high sensitivity and specificity for diagnosis of breast tuberculosis. Majority of investigations are suggestive but not diagnostic, making the diagnosis more complex and challenging. Various studies from the western hemisphere describe the presence of AFB as absolutely essential for diagnosis of tuberculosis. However the chance of picking up AFB in majority of tuberculous breast lesions is extremely low. Absence of AFB from a lesion does not mean absence of tuberculosis. This is a peculiar phenomenon typical of tuberculosis. Immunological tests in majority of cases are equivocal or inconclusive.^{7,8} Hence they cannot be relied upon for diagnosis. Therefore, if FNAC is inconclusive, biopsy remains the only hope for diagnosis. Presence of epithelioid granulomas with central caseation is diagnostic.

The traditional concept of empiric treatment for tuberculosis still holds true. As demonstrating AFB in all lesions to confirm tuberculosis is not possible, one has to rely on affirmative surrogate criteria. These include typical clinical features supported by histological features of tuberculosis as confirmed by biopsy. Commencing anti-tuberculous treatment based on these criteria continues to be termed as empiric treatment in modern day clinical practice. Empiric treatment is pivotal as it proves to be both diagnostic and therapeutic in tuberculosis of the breast. Resolution of the presenting features usually happens within 6 weeks of therapy. The duration of anti-tuberculous chemotherapy is usually 6 months. The first two months comprise of a 4 drug induction therapy followed by 4 months of maintenance chemotherapy. Majority of the lesions resolve with this treatment. However in select few cases surgical excision is warranted. Histopathological study of the residual lump is essential as an undiagnosed hidden malignancy could be brought to light.^{9,10} Concomitant tuberculosis and malignancy in the same breast remains to be a challenge to the surgeon. Delay in diagnosis of malignancy can be detrimental to the prognosis. Therefore, 6 weeks of anti-tuberculous treatment should be followed by a critical assessment of the lesion. If the response is suboptimal a true cut biopsy or formal biopsy would be best option.¹⁰

Tuberculosis of the breast therefore continues to pose the biggest diagnostic challenge. A holistic approach taking into consideration clinical signs, FNAC and biopsy reports followed by response to anti-tuberculous therapy can only lead to an affirmative diagnosis. In cases

exhibiting suboptimal response to medical treatment with persistence of lump a strong suspicion of malignancy should be considered, warranting further investigations in the form of an open biopsy. Meta-analysis of case series and isolated case reports across the continents is essential to develop a diagnostic algorithm for breast tuberculosis.

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Conflict of interest

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