Case report

Bilateral tubercular abscess of breast in axillary tail in a 21 year old puerperal lady

Karmakar A[1], Ghosh S[2], Dewasi N[3], Ghosh TK[4]

Abstract

Tuberculosis is a very common disease in the Indian subcontinent. Though it can affect any system of the body, primary involvement of the breast is relatively rare even in India. Involvement of the axillary tail is even rarer. Bilateral involvement is also a rare phenomenon (3%). Moreover the disease is often overlooked and misdiagnosed as carcinoma or pyogenic abscess. Here we report a case of bilateral tubercular abscess of breast in the axillary tail in a 21 year old puerperal lady diagnosed by FNAC and AFB stains and further confirmed retrospectively by response to anti-tubercular drugs.

Keywords: Tuberculosis, Breast.

Introduction

Breast tuberculosis (TB) is a rare disease, with an incidence of less than 0.1% of all breast lesions in Western countries and 4% of all breast lesions in TB endemic countries[(1) (2)]. It typically affects young lactating multiparous women and can present either as an abscess or as a unilateral, painless breast mass[(1) (2)]. Breast TB is paucibacillary and consequently tests such as microscopy, culture and nucleic acid amplification tests such as polymerase chain reaction techniques do not have the same diagnostic utility as they do in pulmonary tuberculosis[(3)]. Thus, it is not uncommon for breast TB to be misdiagnosed either as non-specific abscess or carcinoma[(4)(5)]. We are presenting this case because of its rarity.

Case summary

A 21 year old lady presented with painful bilateral axillary swellings along with fever, severe weakness for 3 months. She was P_{3+0}, LCB-1 month and lactating normally at the time of presentation. There was no history of tuberculosis in her family. On Examination there were bilateral nodular tense cystic axillary swellings at the anterior axillary folds each measuring 5 x 4 x 4 cm(approx.) with smooth hyperpigmented surface with no ulceration or sinus. Tenderness and local rise of temperature were present. Right sided axillary lymph node was significantly enlarged measuring 2 x 1.5 cm. Breasts and nipple areola complexes were apparently normal with no nipple discharge present. The patient was severely pale and both hemithoraces were clear on auscultation. Chest X-ray was within normal limits.

Both the axillary swellings and the right sided axillary lymph node were aspirated with aspiration of pus from the right sided swelling and the lymph node and serosanguineous material from the left sided swelling. H & E stained smear revealed enormous fibroblastic and vascular proliferation along with infiltration of lymphocytes, macrophages and polymorphs along with clusters of ductal epithelial cells of breast in caseous necrotic background indicative of a caseous necrotic granulomatous lesion of

1. Dr Arindam Karmakar, PGT,
2. Dr Sulekha Ghosh, Associate Professor,
3. Dr Nikhilesh Dewasi, PGT,
4. Dr Tapan Kumar Ghosh, Demonstrator,

Department of Pathology, Burdwan Medical College, West Bengal, India.

*Corresponds to: Dr. Sulekha Ghosh, 40, Kotalhat, Burdwan-2, Burdwan-713102, West Bengal, INDIA. *Email:* ghosh.drtapan@gmail.com, tapan_58@rediffmail.com.

axillary tail of breast. ZN stained smear demonstrated acid fast bacilli.

Her peripheral blood showed severe anemia with neutrophilic leucocytosis and moderately raised ESR (Hb- 6.4 g%, TLC-10,500/cmm, Platelet – 2,35,000/cmm, DLC – $N_{92}L_{07}M_{01}E_0B_0$, ESR – 73 mm/1st hour). Serologies for HIV 1 & HIV 2 were non-reactive.

Figure1: Photograph showing bilateral lump in axillary tails of breasts. Inset (upper) photomicrograph showing tubercular granuloma (H&E stain x 400) and Inset (lower) photomicrograph showing tubercular bacilli and ductal epithelial cells (ZN stain x 1000)

She was on Anti tubercular regime (Isoniazid, Rifampicin, Pyrazinamide, Ethambutol for 1st 2 months and Isoniazid and Rifampicin for next 4 months thrice weekly) and the swellings subsided with treatment and she is doing well at present. Her child has no significant ailments.

Discussion

Breast TB commonly presents as a lump in the central or upper outer quadrant of the breast. Bilateral disease is uncommon (3%) [(2)]. Studies have shown that a high proportion of breast TB patients do not present with pulmonary or systemic symptoms [(1) (2)]. Breast TB is classified as nodular, disseminated and abscess varieties. Tubercular breast abscess, though less common than the nodular form, is a common mode of presentation in young women. Breast TB can either be primary when the breast lesion is the only manifestation of TB or secondary where there is a demonstrable focus of TB elsewhere[(1)(5)]. Primary breast TB is considered rare and it is assumed that most cases are secondary even if no primary focus can be found [(2)].

The mammogram has limited utility in diagnosis of breast TB as the findings are indistinguishable from carcinoma.

Additionally breast TB typically affects young women, whose dense breasts are difficult to analyse mammographically[2]. Ultrasonography helps to better define the lesion and improve the success rate of fine needle aspiration cytology (FNAC), rather than provide definitive diagnosis.

FNAC from the breast lesion can diagnose breast TB in as many as three quarters of cases when both epithelioid cell granulomas and necrosis are present [2]. However failure to demonstrate necrosis on FNAC does not exclude TB as often a spectrum of histological abnormalities can be found in breast TB specimens [2]. Mycobacterial culture, the gold standard for the diagnosis of TB, is often negative due to the paucibacillary nature of breast TB. Polymerase chain reaction (PCR) is rapid and specific but suffers from low sensitivity especially in AFB smear negative cases. Sensitivity as low as 50% have been reported in some series [6]. Further complicating the issue is the presence of polymerase enzyme inhibitors in approximately 20% of extra pulmonary specimens [6]. If formalin fixed tissue is the only available material sensitivity of PCR is compromised further. Thus a negative PCR result does not exclude TB disease with certainty. The Tuberculin skin test, interferon gamma release assays and serology are of limited diagnostic value given that adults from TB endemic areas are expected to have high rates of positivity for these tests [7] [8].

Treatment of breast TB with standard antitubercular therapy for 6 months usually results in good clinical response. The regimen consists of a two month intensive phase (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol) followed by a four month continuation phase (Isoniazid and Rifampicin). Surgical intervention is only necessary if there is poor response to anti-TB therapy, and is reserved for draining cold abscesses or excision of residual lumps. Simple mastectomy with or without axillary clearance is reserved for cases with extensive disease causing a large painful ulcerated mass involving the entire breast[2].

This case represents a tubercular abscess of axillary tails of both sides without any known primary in lung or other site. So it may be a case of secondary tuberculosis of axillary tails of breasts (as in most of the cases) or more rarely true primary tuberculosis of breast. Nevertheless differentiation between the two is not required for treatment.

So in case of suspicion of tuberculosis of axillary tail of breast FNAC along with ZN stained smear preparation and PCR should be carried out for early detection and treatment with a curative intention. In areas where PCR can't readily be done due to financial constraints diagnosis is often confirmed retrospectively by response to anti-tubercular therapy as in our case.

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