Original Article

Granulomatous Mastitis: Unusual Presentation and Management, Experience at Birdem General Hospital

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Abstract

Tuberculosis of breast is an unusual presentation of extrapulmonary tuberculosis. It occurs mostly in women who are of reproductive age group, multiparous and lactating. Common presentation is tumor like but patients of our study group mostly presented with abscess and mastitis. This study was carried out at BIRDEM GENERAL HOSPITAL, ShegunBagicha, Dhaka. Retrospective data of 9 patients with breast tuberculosis was analyzed. Information about demographic details, clinical presentation, cytology, histopathology, comorbidity and management was taken into account. Out of 1202 patients who presented with breast problem during the study period only 9 (0.75%) suffered from tuberculosis of breast. Their age ranged from 20 to 55 years. All patients except 2 presented with abscess formation, 1 with lump and 1 with multiple sinuses. All patients were subjected to histopathology. Their pathological examination showed chronic granulomatous inflammation with caseous necrosis and langerhans giant cells suggestive of tuberculosis. All 9 patients were treated with Anti TB drug therapy after adequate surgical intervention when required. The rare entity tubercular mastitis is a disease of relatively younger age group. Though the usual presentation is tumor like, the patients of the study group mainly presented with abscess formation. Diabetes might be a contributing factor for the unusual presentation among the patients of my study group.

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Introduction

Tuberculosis is an age old disease but continues to be a major health hazard along with new diseases like AIDS. It is among top 10 infectious causes of global mortality[1]. Despite high prevalence of tuberculosis breast tuberculosis is a rare form of tuberculosis. Mammary cells offer great resistance to survival and multiplication of mycobacterium tuberculosis[2]. This is due to the fact that, like skeletal muscle and spleen, it provides infertile environment for the survival and multiplication of tubercular bacilli[3]. Thus tuberculosis of breast is an extremely rare disease even in countries where the incidence of pulmonary tuberculosis is high[3]. Sir Astley Cooper was the one who reported the first case of mammary tuberculosis in 1829 and named it "scrofulous swelling of bosom", since then there are off and on few cases reported in the literatures[4]. The incidence of breast tuberculosis varies from 0.1%-3% of all breast diseases[5]. The significance of breast tuberculosis lies in its rarity of occurrence and conflict in diagnosis with breast cancer, acute granulomatous mastitis or pyogenic abscess. Diagnosis is based on typical histological features or the finding of tubercular bacilli under microscope. Antitubercular treatment with or without surgical intervention is the mainstay of treatment.

Matirials and Methods

The study was done at BIRDEM GENERAL HOSPITAL-2, Shegunbagicha, Dhaka,Bangladesh. It is a retrospective analysis of data of 1202 diabetic patients attending the breast clinic with various breast problems namely (1) benign or malignant breast lump, (2) abscess formation (3) mastitis. Study period was from March 2015 till March 2018. Of all cases presenting to the breast clinic only cases with tuberculosis of breast were taken into account. The source of information was the record sheets of the selected patients. From the record sheet clinical sign symptoms, method of diagnosis and treatment and outcome were noted.

Results

Nine breast TB cases were treated at BIRDEM 2 Hospital in the period of 3 years. All 9 (100%) patients were confirmed histopathologicaly as tubercular mastitis. All 9 (100%) patients were non-lactating diabetic females. Thier age were from 20 to 55. Among them 6 (66.67%) were between the age group of 20-40 years. 3 (33.33%) of them

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were of age between 45-55 years. Of all patients 7 (77.78%) presented with abscess and mastitis except 1 (11.11%) patient who presented with lump formation and 1 (11.11%) presented with lump formation with multiple sinuses. All patients had unilateral presentation. 3 (33,33%) were right sided and 6 (66.66%) were left sided. 7 (77.78%) patients were treated with incision and drainage of abscess and excision biopsy. Surgery was followed by four drug antitubercular therapy for 6-9 months. In All patients' tuberculosis of other sites were excluded. Only one patient who presented with lump formation had suffered from intestinal tuberculosis 4 years prior which was treated accordingly and adequately. All patients were followed up clinically and ultrasonologically and with CRP and CBC monthly.

All patients completed the medical treatment without complications. All patients improved clinically and ultrasonographic evidence showed absence of inflammatory lesion after successful antitubercular drug therapy. Patients had undergone long time dressing. 3 (33.33%) patients required incision drainage of abscess more than once. Antitubercular drug was continued for 6 to 9 months.

Table I: Type of breast tuberculosis, clinical presentations, side, site and investigations.

Variables		Number	%
Side	Right	3	33.33
	Left	6	66.67
Type	Primary	9	100
	Secondary	0	0
Clinical presentation	Mastitis with abscess	7	77.78
	Lump alone	1	11.11
	Swelling and sinus formation	1	11.11
Investigation			
X-ray chest lesion	No	9	100
Mantoux test	Positive	3	33.33
	Negative	6	66.67
FNAC	Positive	6	66.67
	Negative	3	33.33
Biopsy & Histopathology	Tubercular granulomatous mastitis	9	100
Treatment	I/D or excision followed by anti TB therapy	7	77.78
	Anti TB therapy alone	2	22.22
Outcome (cured)			100

Discussion

Breast, skeletal muscle and spleen is remarkably resistant to tuberculosis. Tuberculosis of breast is a disease of younger age group. Sometimes it can present in older age group as lump mimicking carcinoma of the breast. In younger age group the presentation is of pyogenic breast abscess[7].

In our study tubercular mastitis comprised 0.75% of breast diseases and was approximately 37 times less common than breast carcinoma. Mammary tuberculosis is said to be primary if no other focus of tuberculosis exists and secondary in the presence of a demonstrable focus. This primary focus could be in lungs or lymph nodes including axillary, para tracheal and internal mammary lymph nodes[8].

In my seriese of 9 patients only primary tuberculosis of the breast was evident. In all cases bacilli infect the ducts and then spread to the lobules. Dialated ducts of pregnant and lactating women appear to be especially susceptible to infection. Retrograde spread of infection from lymphnode to the breast was observed in none of our patients. 4(44.44%) patients had clinically non-significant axillary lymph node enlargement.

Tuberculosis of breast has been classified into 5 different types. Acute milliary tubercular mastitis, Nodular tuberculosis mastitis, disseminated tuberculosis mastitis, Sclerosing tuberculosis mastitis and Tuberculosis obliterans[9]. There are three recognized modes of spread of the tubercle bacilli to the breast: direct, lymphatic and haematogenous[9]. It is seen that lactating females are more susceptible to develop breast tuberculosis. This could be due to vascularity of breast during lactation which facilitates infection and dissemination of bacilli. Shinde et al and Banerjee et al reported 7% and 33% of their patients to be lactating at the time of initial presentation[3,10]. All my patients were nonlactating but diabetic. Breast tuberculosis predominantly affects young multiparous women with most patients between the age of 20-40 years[11, 12, 13]. All my patients except 3 were between the age group of 20-40 years. 3 (33.33%) of them were of age between 45-55 years. Early diagnosis is difficult as the characteristic sinuses occur late in course. In addition appearance of sinuses is not the distinctive feature of tuberculosis. Several cases of non-tubercular granulomatous mastitis also present with sinuses. However tuberculosis should be suspected in a patient whoever has recurrent breast abscess after proper drainage on previous occasions. Biopsy and detection caseous necrosis confirmed final diagnosis in all my cases. The patients who present with lump are clinically indistinguishable from breast cancer. All my cases except 2(22.22%) presented with mastitis and abscess formation. One of my patients, a 20 year old girl presented with a firm lump mimicking breast neoplasm. Another patient presented with lump and multiple sinuses involving almost whole of her breast. Diabetes is a chronic disease and patients with diabetes are immunodepresant and florid infection is very common among diabetic patients. Diabetes can be a cause as to why most of my patients with tubercular mastitis presented with abscess and mastitis clinically mimicking pyogenic abscess.

Conclusion

Extra pulmonary tuberculosis occurring in breast tissue is extremely rare even in countries where tuberculosis is a prevalent disease. In the absence of well-defined clinical features the disease remains obscure and often is mistaken for carcinoma of breast or pyogenic abscess. Chronic debilitating diseases like diabetes probably can play a role in the clinical presentation of tubercular mastitis. Caseating granuloma in histopathology is diagnostic of tuberculosis. The disease is curable with antitubercular chemotherapeutic drugs needing surgical intervention occasionally.

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