

Tuberculosis of Breast: Clinical Profile and Treatment Outcome

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ABSTRACT

Background: Tuberculosis of breast is a rare manifestation of extra-pulmonary localization of the disease which accounts for less than 0.1% of breast conditions in developed countries, but reaches 3–4% in regions where the disease presents with high incidence (India, Africa). It appears mostly in women of reproductive age, multiparous, lactating. The most common presentation is that of a tumor in the middle or upper-outer quadrant of the breast, with multifocal involvement being rarely documented.

Study design: The study was done at Pariyaram Medical College, Kannur, Kerala, India. A retrospective analysis of data of patients with extra pulmonary tuberculosis (EPTB) registered for treatment under DOTS for the period of 1 January 2012 to December 2014 was carried out. From the records, only cases of tuberculosis of breast were sought out. From the case sheets the type of clinical presentation, method of diagnosis and treatment given were noted. These data were analysed.

RESULTS: Total of 200 extra pulmonary tuberculosis was diagnosed in the study period. Nine (4.5%) patients were diagnosed and confirmed as tuberculosis of breast. Their age ranged from 20 to 50 years but majority were under 30. All patients presented as lump in the breast. Fine needle biopsy and excision biopsy were done to their breast lesions. Their pathological examinations showed chronic granulomatous inflammation with areas of central necrosis, epithelioid granulomas with Langerhans giant cells and lymphohistocytic aggregates suggestive of tuberculosis. 8 patients out of 9 were started on CAT 1 anti tuberculous treatment (ATT). One patient was started on CAT2 ATT.

CONCLUSION: The tuberculosis of breast is a disease of younger age group. This study argue that breast TB should be included in the differential diagnosis of breast lesions, like breast carcinoma, persistent breast abscess and infectious patterns with fistulizations, especially for patients from high risk populations and endemic regions.

KEYWORDS: Antituberculosis treatment, Breast, Tuberculosis.

INTRODUCTION

Tuberculosis of breast is an extremely rare disease, only 500 cases of mammary tuberculosis have been documented, most of which are from past generations¹. Tuberculosis has been named, the great masquerader in recognition of its multifaceted presentation, and thus, the clinician may confuse tuberculous mastitis with either carcinoma or breast abscess. In 1829, Sir Astley Cooper described tuberculosis mastitis as "scrofulous swelling in the bosom of young women"². Since then there have been numerous reports of the disease, the most recent coming from South Africa and India³ where tuberculosis is still prevalent. Breast tuberculosis has no defined clinical features. Radiological imaging is not diagnostic.

Diagnosis is based on identification of typical histological features or the tubercle bacilli under microscopy or culture. Antitubercular therapy for 6 months with or without minimal surgical intervention forms the mainstay of treatment today⁴. The incidence of tuberculosis, in general, is still quite high in India and so is expected of the breast tuberculosis. But the disease is often overlooked and misdiagnosed as carcinoma or pyogenic abscess. Thus, reports on breast tuberculosis from India have been few⁵.

AIMS

To study the clinical profile and treatment outcome in patients with tuberculosis of breast.

MATERIALS AND METHODS

The study was done at Pariyaram Medical College, Kannur, Kerala, India. A retrospective analysis of data of patients with extrapulmonary tuberculosis registered for treatment under DOTS for the period of 1 January 2012 to December 2014 was carried out.

From the records only cases of tuberculosis of breast were sought out. The sources of information were the TB register and patient record sheets. From the case sheets the type of clinical presentation, method of diagnosis and treatment given were noted. These data were analysed.

RESULTS

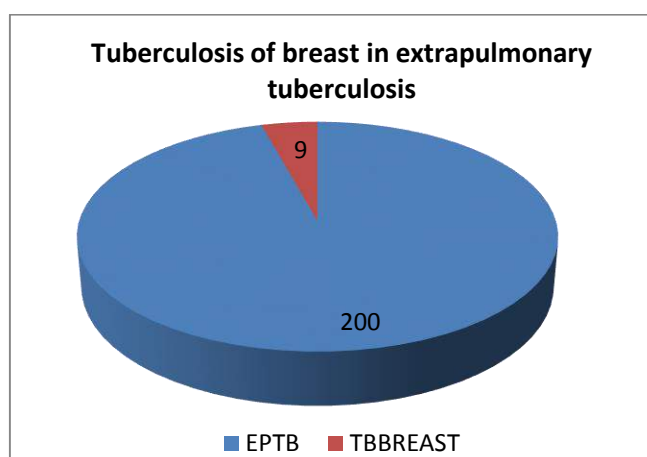
Total of 200 extra pulmonary tuberculosis cases were diagnosed in that study period. Nine patients were diagnosed and confirmed as tuberculosis of breast. All patients were non-lactating females. Their age ranged from 20 to 50 years but majority were under 30. In all the patients the main presenting symptoms were mastitis and

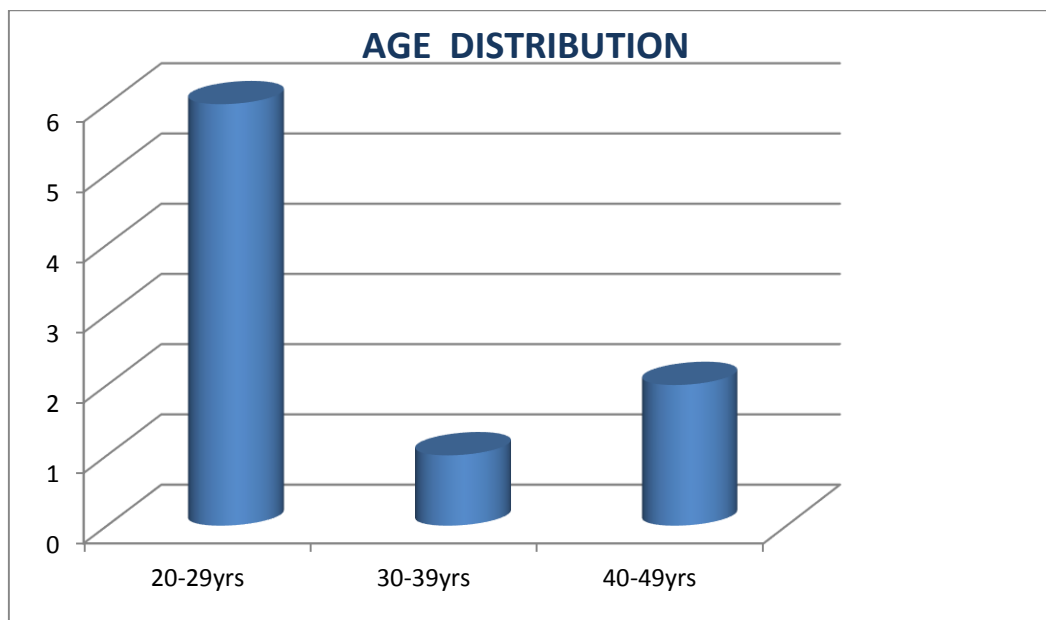
breast lump. Only one patient had chest wall swelling and cellulitis and cough. All patients had only unilateral occurrence. 6 patients on the right and 3 on the left. All cases were initially subjected to fine needle aspiration cytology. The diagnosis of tuberculous mastitis confirmed by excision biopsy of the lesion. All FNAC specimens were stained for Acid fast bacilli but no positive result obtained.

Treatment was given with anti-tubercular drugs. 8 patients were having only breast tuberculosis. One patient had pulmonary tuberculosis also with cold abscess in the pectoralis muscle and that patient had taken anti tuberculous treatment in the past for pulmonary tuberculosis. This patient was treated with category 2 antituberculous treatment (ATT) and others with category 1 ATT. All the patients were followed up by clinically and ultrasonologically. All patients completed ATT successfully and none of them had any treatment related adverse effects. All patients improved clinically.

Table 1: Type of breast tuberculosis, clinical presentations, side, site and investigations.

VARIABLES		NUMBER	%
Side	Right	6	66.66%
	Left	3	33.33%
Type	Primary	8	88.88%
	Secondary	1	11.11%
Clinical presentation	Mastitis+swelling	5	55.55%
	Swelling alone	3	33.33%
	Abscess+pectoralis major abscess	1	11.11%
Investigation			
Xray chest Lesion	Yes	1	11.11%
	No	8	88.88%
Mantoux	positive	6	66.66%
	negative	3	33.33%
FNAC		9	100%
Smear AFB	Yes	0	0
	No	9	100%
Wide excision biopsy		9	100%
Treatment	Cat1 ATT	8	88.88%
	Cat2ATT	1	11.11%
Outcome (Cured)		9	100%





DISCUSSION

Breast is remarkably resistant to tuberculosis, as are skeletal muscle and spleen.⁶ The tuberculosis of breast is a disease of younger age group; uncommonly an older patient may present with a mass that mimics carcinoma, whereas the younger patient usually manifests sign of a pyogenic breast abscess.⁷ In our series secondary tuberculosis of breast was present in one cases and in remaining 8 cases primary source was not traceable except the lesion in breast itself. Vassilakos⁸ has cautioned against making diagnosis of primary disease, since it is probably quite rare and is diagnosed because the clinician is unable to detect the true nidus of disease. However, according to Hamit⁶, in 60 per cent of cases it may not be possible to recover acid fast bacilli from any site, but the breast. Acid fast bacilli were not recovered from any of the cases in our series. In 1829, Cooper postulated that the breasts get secondarily involved by retrograde lymphatic extension from primary foci of disease in the lymph nodes of the mediastinum, axilla and parasternal and cervical region.⁹ Supporting this hypothesis is the fact that axillary node involvement occurs in 50 to 75 per cent of cases of tuberculosis mastitis. There are three recognised modes of spread of the tubercle bacilli to the breast: direct, lymphatic and haematogenous.^{1,10} Rarely, infected sputum can reach the underlying breast through superficial abrasions of the skin of the breast. In all cases bacilli infect the ducts and spare the lobules. Dilated ducts of the breast in pregnant and lactating women appear to be especially susceptible to infection.¹⁰ Retrograde spread of infection from lymph node to the breast was observed in one of our patients in whom axillary lymph node preceded the appearance of a breast mass.

Tuberculosis of breast has been classified into five different types:¹⁰ Acute miliary tuberculosis mastitis,

Nodular tuberculosis mastitis, Disseminated tuberculosis mastitis, Sclerosing tuberculosis mastitis and Tuberculosis mastitis obliterans. 8 of our cases can be classified as the nodular tuberculosis group and one as disseminated tuberculosis mastitis.

Early diagnosis is difficult, as the characteristic sinuses occur late in the course of the disease. In addition, presence of sinuses is not the distinctive feature of tuberculosis, as several cases of non-tuberculosis granulomatous mastitis also present with sinuses. However, tuberculosis should be suspected in a patient who has a recurring breast abscess after adequate drainage on previous occasions. Multiple biopsies and detection of acid fast bacilli in wet film and culture is essential to establish final diagnosis. The patient who presents with a lump in the breast is clinically indistinguishable from a case of carcinoma of the breast. Mammographic appearances are very similar to fibroadenosis. In clinical presentation, actinomycosis must also be considered, though this disease is rare in the breast.

Before the discovery of anti-tuberculosis drugs, surgeons performed mastectomies to treat mammary tuberculosis. Wilson and MacGregor⁹ recommended simple mastectomy for most cases, due to development of local recurrence in three of their five patients following less severe procedures. However, today the combination of drug therapy and limited excision of diseased breast tissue is a method of choice.^{1,10} In our series, anti-tubercular chemotherapy was given to all 9 cases.

CONCLUSION

Extra pulmonary tuberculosis occurring in the breast is extremely rare. Breast tuberculosis is uncommon even in countries where the incidence of pulmonary and extra pulmonary tuberculosis is high. In the absence of well-

defined clinical features, the true nature of the disease remains obscure and it is often mistaken for carcinoma or pyogenic breast abscess. It also presents a diagnostic problem on radiological and microbiological investigations and thus high index of suspicion acquires an important position. Caseating epitheloid cell granulomas in the tissue samples are diagnostic of tuberculosis. The disease is eminently curable with the modern antitubercular chemotherapeutic drugs with surgery.

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LIMITATIONS

Single centered & a retrospective study.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

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