

# Tuberculous Mastitis - A Diagnostic Dilemma

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## ABSTRACT

**Background:** Breast tuberculosis is a rare occurrence and is usually mistaken as breast cancer or pyogenic breast abscess. Clinically as well as radiologically/pathologically it may mimic both pyogenic abscess and malignancy.

**Aim:** To determine diagnostic validity of mammography and ultrasonography for tuberculous mastitis.

**Methods:** This retrospective study was carried out at Ittefaq Hospital Trust Lahore over a 4 years period i.e., July, 2010 to July, 2014. A total of 22 patients with tuberculous mastitis were included. The cases were retrieved after studying medical records. Their clinical, radiological and pathological data was reviewed in detail. Cases with proven histological diagnosis of tuberculous mastitis were included.

**Results:** The average age at presentation was 35.6 years. The right breast involved in 60.5% and left in 39.5% cases. The most common presentation was a painful lump in 54.5%, painless lump 35.5% and discharging sinus in 10%. Mammography showed ill-defined opacity in 40.5% and asymmetrical density in 35.8%. On ultrasound 45.5% of lesions appeared hypoechoic mimicking mass while 31.6% were hypoechoic with internal debris having abscess like appearance.

**Conclusion:** Tuberculous mastitis is chronic inflammatory disease mimicking other pathologies like abscess or carcinoma.

**Key words:** Tuberculous, Mastitis, Breast

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## INTRODUCTION

Breast lumps constitute a significant proportion of surgical cases in women of both developed and developing countries<sup>1</sup>. Tuberculous mastitis is rare, especially in Western countries.<sup>2</sup> Tubercular mastitis is a rare because mammary gland tissue, like spleen and skeletal muscle, offers resistance to the survival and multiplication of the tubercle bacillus. Tuberculous mastitis (TM) is found mostly in young, multiparous women. Male TM is extremely rare, and accounts for only 4% of all cases. This strikingly lower incidence in males points towards a significant role of parity, pregnancy and lactation as likely predisposing factors<sup>3</sup>. Tuberculosis of the breast can mimic carcinoma, whereas in young patients it can be mistaken for a pyogenic breast abscess, thus labeled a "great masquerader" in recognition of its multifaceted presentation<sup>4</sup>. It can clinically mimic malignancy-causing misdiagnosis as breast cancer<sup>5,6</sup>. The significance of primary tubercular mastitis is due to rare occurrence and often overlooked and misdiagnosed as pyogenic breast abscess or malignancy<sup>7</sup>. Its incidence in developed countries is 0.1-0.5%. It can be primary or secondary. In undeveloped nations it is between 3 and 4%<sup>8</sup>. The incidence of tubercular mastitis although decreasing in the West, could show a resurgence with the global pandemic of AIDS<sup>9</sup>. It should be included in the differential diagnosis of breast lesions in immune

compromised patients especially in tuberculosis endemic areas of the world<sup>10</sup>. Except in patients presenting with sinuses, it is a challenge to diagnose<sup>11</sup>. Knowledge of its varied clinical presentation and diagnostic modalities help in diagnosing this easily treatable disease<sup>12</sup>. Alternative diagnoses such as idiopathic granulomatous mastitis should be made only after failure of an adequate trial of anti-tuberculosis treatment. FNAC is a useful diagnostic tool even if AFB cannot be demonstrated<sup>13</sup>. Anti-tuberculosis antibiotic therapy may be associated with surgery in case of extension<sup>14</sup>.

## PATIENTS AND METHODS

This retrospective study was included 22 patients and conducted in Radiology Department of Ittefaq Hospital Lahore from July 2010 to July 2014. All female patients with biopsy proven tuberculous mastitis were included in the study. Patients in which biopsy was not done were excluded. Performa with features like age, sex, clinical presentation, mammographic, ultrasound features and histopathological results was recorded. Statistical analysis was carried out using SPSS 16. Results were presented as frequencies and percentages.

## RESULTS

The average age at presentation was 35.6 years [range 25-52 years]. The right breast involved in 60.5% and left in 39.5% cases. The most common

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presentation was a painful lump in the upper outer quadrant of the breast 54.5%, painless lump 35.5% and discharging sinus in 10%. Mammography showed ill-defined opacity in 40.5% and asymmetrical density in 35.8%. On ultrasound 45.5% appeared hypoechoic mimicking mass while 31.6% were hypoechoic with internal debris having abscess like appearance. Rest of lesions 22.9% had mixed echogenicity. Diagnosis was obtained via fine needle aspiration 10(45.5%), core biopsy 9(40.9%) and excision biopsy 3(13.6%). Recurrence was seen in only one patient who was managed with conservative surgery and another course of antituberculous therapy (Table 1).

Table 1: Demographic presentation of data

Variable	No.	%
<b>Site</b>		
Right	13	60.5
Left	9	39.5
<b>Presentations</b>		
Breast lump (painful)	12	54.5
Breast lump (painless)	8	35.5
Discharging sinus	2	10.0
<b>Mammographic features</b>		
Ill-defined	9	40.5
Asymmetrical density	7	30.8
Not done	6	28.7
<b>Ultrasound</b>		
Hypoechoic lesion	10	45.5
Ill-defined hypoechoic	7	31.6
Mixed echogenicity	5	22.9
<b>Biopsy</b>		
FNAC	10	45.5
Trucut	9	40.9
Excision	3	13.6

## DISCUSSION

Breast tuberculosis (breast TB) is an extremely rare disease, so case reviews are also rare. With the re-emergence of TB, atypical forms are appearing, with an increase in the proportion of extra-pulmonary disease and a widening of the age range at presentation.<sup>3</sup> Our mean age of presentation was higher than reported from neighboring countries.<sup>15</sup> This could be due to the late presentation attributable to cultural norms prevalent here. Likewise Indian workers found that 49.20% patients were below 30 years of age.<sup>12</sup> Our study showed the preponderance of left breast while Afridi et al found it to be equal in both breasts.<sup>16</sup> The upper outer quadrant was determined to be the favorite site and it is consistent with other studies.<sup>17,18</sup> In an Indian study by Mehta et al<sup>12</sup> the commonest presentation was with painless lump (73%) more than almost double of our study. This could be due to the late presentation in our population. In Iran also the prevalence of painless

lump was more than ours.<sup>15</sup> Although most studies describe the prevalence of painful lump less as compared to painless lump<sup>19</sup>, we found the opposite due to the reasons described above. The proportion of discharging sinus was more compared to other studies<sup>18</sup>, which again is due to late presentation in our population. However our percentage of sinuses was equal to an Egyptian study<sup>20</sup>, which has similar cultural stigmata. The prevalence of asymmetrical density (nodular) on mammography was less and ill-defined (diffuse) more than reported in a Saudi study.<sup>21</sup> The causes of this difference are not known but further studies are needed in this regard. Other finding on mammography described in literature are mass lesion mimicking malignant tumors, smooth bordered masses, axillary or intramammary adenopathy, asymmetric density, duct ectasia, with skin thickening and nipple retraction, with macrocalcification, and skin sinus.<sup>20</sup> The percentage of hypo echoic masses on ultrasonography was more than reported in an Irish study<sup>20</sup> but less than reported in America.<sup>22</sup> Fine needle aspiration cytology has become the first choice in diagnostic procedures in the management of a variety of breast diseases. The technique can be successfully used to diagnose granuloma in breast aspirates and to demonstrate the presence of acid-fast bacilli.<sup>23</sup> Our study utilized FNAC for diagnosis in the majority of cases and indeed FNAC acted as an efficient modality for collection of material for PCR by Indian workers.<sup>24</sup> Mehta et al<sup>12</sup> found that FNAC is a sensitive tool of diagnosis in 74.60% patients; however 25.39% cases were diagnosed with biopsy. In our study biopsy was done in comparatively more patients. This has probably something to do with technical differences.

## CONCLUSION

Tuberculous mastitis is a rare entity but it should be considered in differential diagnosis in patients with mammary disease. Biopsy is gold standard to confirm the diagnosis of mastitis. Anti-tuberculosis drugs are better treatment and conservative surgery seems to be adequate treatment.

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