DOI: https://doi.org/10.53350/pjmhs211561376

ORIGINAL ARTICLE

Tuberculous Mastitis: A 7 year Experience in Sir Ganga Ram Hospital; Lahore.

HINA KHAN[1], MUHAMMAD ASLAM JAVED[2], LIAQUAT ALI BHATTI[3], KHALID JAVEED KHAN[4]
[1-4]Department of Surgery, Fatima Jinnah Medical University / Sir Ganga Ram Hospital Lahore.
Correspondence to Dr. Muhammad Aslam Javed, Email: aslamjaved0304@gmail.com, Contact: 03045713206

ABSTRACT

Background: Tuberculous mastitis is a rare clinical entity and it often resembles breast malignancy and pyogenic breast abscess both radiologically and clinically. It usually affects females from the Africa and Indian sub-continent.
Aim: To find out the clinical feature, diagnostic criteria and need for surgical intervention in tuberculous mastitis.
Methods: Patients with clinical suspicion of breast tuberculosis were subjected to a set of investigations for confirmation and were included in the study. The main diagnostic measures were thorough history and examination. All were subjected to complete blood examination, ESR, Monteux test, ultrasound (for patients aged<40 years), mammogram (for patients aged>40 years), fine needle aspiration cytology andAFB staining. Abscesses were aspirated, lumps greater than 2cm were subjected to true cut biopsy and less than 2cm were excised and histopathology performed on the specimen. Data was recorded in a predesigned proforma and parameters like age, site, size, mode of presentation etc., were recorded along with need of surgical intervention.
Results: 264 patients were included with mean age of 31.4.23 patients had bilateral disease. Primary disease was found in 162 patients and secondary in 102. Multifocal disease was found in 45. Mode of presentation was discharging sinus in 115, lump in 61, cold abscess in 60 and non- healing ulcer in 28 cases. Cytology and AFB staining had diagnostic value in 60 cases. Wall biopsy after drainage of abscess 43, true cut biopsy47 and wide local excision biopsy confirmed the diagnosis in 68 patients after the specimen were subjected to histopathology. Even after anti-tuberculous therapy, surgical intervention wasrequired for 171 patients.
Conclusion: Tuberculous mastitis may masquerade malignant lesion of breast and poses diagnostic difficulties without histopathological examination. Surgical intervention may be required.
Keywords: Tuberculous mastitis; discharging sinus; granulomatous mastitis.

INTRODUCTION

Tuberculosis is an important cause of both morbidity and mortality in developing countries.[1]There were 10 million new patients and 1.5 million deaths reported annually due to tuberculosis.[2]

Sir Astley Cooper described the disease in 1892 as "scrofulous disease of bossom."[3] It poses diagnostic difficulties as the disease is not easily diagnosed because of its clinical resemblance to carcinoma, bacterial abscesses and other granulomatous disorders like idiopathic Granulomatous Mastitis.[3] The prevalence of isolated Tuberculosis of the breast in the world ranges from 0.10% to 0.52% and is scarcely reported in endemic countries with a high incidence of tuberculosis infection.[3]Tuberculous of breast tissue remained a novel disease despite the increasing number of cases with pulmonary tuberculosis in developing countries.[4] It simulates breast malignancy, granulomatous mastitis and fibro adenoma both clinically and radiologically.[5] Tuberculosis of breast is considered as an ailment of developing countries, a constant rise in the number is seen in developed countries due to increasing cases of HIV and migration of population from endemic areas.[6]Tuberculous mastitis may be primary if involve breastsolitarily or secondary if other parts of body are also involved.[7]

The main aim of this study was to find out the clinical features, its diagnosis and surgical treatment.

Received on 12-01-2021
Accepted on 27-05-2021

METHODS

It was a case series study conducted in Well Women Breast Clinic in Sir Ganga Ram Hospital, Lahore. The duration of study was 7 years starting from 15th December 2012 to 14th December 2019. All patients presenting to breast clinic with discharging sinuses, breast lumps, cold abscess and non- healing ulcers with clinical suspicion of tuberculosis of breast, were selected for tuberculous work up. Patients diagnosed with granulomatous mastitis, chronic non- specific inflammation, duct ectasia and carcinoma were excluded from this study.

Through history, bilateral breast examination along with axillae were the main diagnostic tools. All the enrolled patients had complete blood examination, ESR, Monteux test, fine needle aspiration cytology (FNAC) and staining for Acid fast bacilli (AFB). X-Rays of chest may diagnose concomitant pulmonary tuberculosis. Ultrasonography and mammogram were done in patients with lump breast and cold abscess, non- healing ulcers and discharging sinuses. In cases, where FNAC was indecisive, core cut biopsy followed by histopathology confirms the diagnosis.True cut biopsy was employed in lumps greater than 2 cm and in lumps less than 2cm wide local excision and biopsy confirmed the diagnosis.

All patients were treated with anti-tuberculous therapy for a period of one year. For 2months, intensive therapy instituted with Isoniazid, Rifampicin, Ethambutol, Pyrazinamide and Streptomycin, if the disease is multifocal followed by 10 months therapy with Isoniazid and Rifampicin.When needed, surgical intervention was

conducted in patients not responding to drug treatment or having equivocaldiagnosis. Proceduresincluded werewide local excision, excision of discharging sinuses and ulcers, aspiration of cold abscesses and re-aspiration when required, and incision and drainage of acute abscesses along with wall biopsy from abscess cavity.

All findings were recorded in a research proforma, data analyzed to determine the mode of clinical presentation, type, side, site, effective diagnostic measures and surgical procedures.

RESULTS

Total 264 patients who fulfilled the inclusion criteria were enrolled. An incidence of 0.46% was noted in our study. The mean age of presentation was 31.4 (15-68) years with more patients of younger age group. 39% were unmarried and 61% were married. Mean ESR was 41.3+-12.4 mm /hour and mean hemoglobin was10.4+-1.2gm /dl.

Results like type of tuberculosis, clinical features, side and multifocality are tabulated in table (a), investigations in table (b) and surgical intervention in Table (c)

Table 1:

Type of disease	**% ages**	**No. of patients**
Primary	61.4	162
Secondary	38.6	102
Lymph nodes	26.3	69
Lungs	12.3	33
Clinical features		
Discharging sinus	43.5	115
Breast lump	23	61
Cold abscess	22.8	60
Non healing ulcer	10.7	28
Side		
Left	42.6	112
Right	48.6	129
Bilateral	8.7	22
Focal distribution		
Unifocal	83.8	219
Multifocal disease	17.2	45

Table b: Investigations

Investigations	**%ages**	**No. of patients**
Monteux test	17.5	46
FNAC	83	219
AFB smear	11.5	30
Cytology	11.2	30
Core cut biopsy	19.7	47
Biopsy from abscess wall	16.3	43
Wide local excision & biopsy	25.8	68

Table c. Details of surgical intervention

Operative procedures	**%ages**	**n**
Aspiration of cold abscess	22	58
Wide local excision	26.1	68
Excision of discharging sinuses	4.6	12
Repeat aspiration in recurrent abscess	8.3	22
Incision drainage & wall biopsy	2.1	6
Excision of non-healing ulcer	1.9	5

In our study, 129 patients with right, 112 with left and in 20 bilateral breast involvement was present. The most common presenting feature was discharging sinus in 115(43.5%) followed by lump breast in 61(23%). 219(83.3%) had unifocal and 45(17.2%)had multifocal disease (Figure 1&2).

Regarding investigations, Monteux test was positive in 46(17.5%) females. Cytology and smear for AFB was diagnostic in 60(22.7%). Diagnostic yield of FNAC is 83%. 68 patients underwent wide local excisionand its diagnostic yield is 26% but accurate. Almost all patients responded well to anti-tuberculous therapy.

DISCUSSION

Tuberculous mastitis is a novel disease. Worldwide incidence is 0.6-1.6%.[8]In our study, the incidence is low 0.46% mainly because of relatively small sample size and data was collected from a single center. It may present as primary or secondary lesion, the primary is considered rare, a study conducted in Qatar, only 10 patients were reported over a period of 10 years with the incidence of 0.4%/ year.[9]Our study reveals 61.4 %cases of primary tuberculosis mainly because all patients with suspicion of breast tuberculosis were included in the study.In a study by P. Saradaetal., no focus of tuberculosis was found in body, except for breast in 80% of patients while V. K. Partap described 100% cases in his study.[8]

Presentation of TBM (a) Crusted Plaque (b) Discharging Sinus

Bilateraltuberculous disease has been reported upto30% by McKeon and Wilkinson.[10]While Mehmood N and Zeeshan described that the incidence of involvement of both breast is equal.[8]In our study8.7% cases had bilateral disease.

Tuberculous mastitis occurs in females of child bearing age along with increased propensity to lactating breast.[8] The incidence of tuberculosis mastitis during lactation is reported 30% by R.Khanna et al., 7% by Shindeet al., and 33% in a study by Bannerjeeet al.[8]In our study the mean age of presentation is 31 which is comparable and there were 16.3% (43) lactating females.

In a study conducted by Farrokhet al.,[7] the most common presenting symptom of tuberculous mastitis was a solitary breast nodule (47.1% of patients), followed by multiple palpable masses (35.3%). Other frequent associated findings were inflammatory changes like skin discoloration, sinus tracts, ulcer and nipple discharge. The most commonly reported clinical presentation of Tuberculous mastitis in the literature is a solitary breast mass (Baharoon, 2008, Khannaet al., 2002, Mirsaeidiet al., 2007).[7]In our study, 23% of patients had lump breast. Discharging sinus is leading clinical feature in our study with43.5%. Skin fistulas and multiple sinuses are common findings in the disseminated form as described by Longman et al., 2017.[11]

Tuberculous mastitis can be diagnosed on FNAC as it may have evidence of epitheloid granuloma, lymphohistiocytic aggregates along with Langhan´s Giant cells.73% cases were successfully diagnosed by Kakkar*etal*.[12]Khanna described the diagnostic yield of FNAC as high as 100%.[12] Our study describes diagnostic yield of FNAC as 83%, mainly because the procedure is highly operator dependent. Monteux test is usually positive in adult population of endemic area hence has no diagnostic value. Khanna and Kalac[12] reported no case positive for AFB staining for tuberculosis while (5/14) 35% cases were reported by Rubab and Faisal.[13] 11.5% cases in our study had positive AFB smear.

The three clinical types of tuberculous mastitis are (i) nodular, mimics fibroadenoma or malignant breast lesion, (ii) disseminated leading to caseation and sinus formation and (iii) Sclerosing. Primary nodular mastitis may mimic carcinoma breast.[5] In our study 16.6% had suspicion of malignancy on clinical grounds as well as on mammographic features but histopathology revealed tuberculous mastitis leading to more conservative surgical intervention to breast. Histopathology, thus becomes the most sensitive diagnostic tool in diagnosis of tuberculosis of breast. Specimen may be taken by core cut biopsy, wall biopsy or by excision biopsy in patients having equivocal results of other investigations.

In our study 65% cases underwent surgical intervention with breast conservative approach mainly in patients with chronic discharging sinus, residual lump and / lump less than 2 cm and chronic non-healing ulcers.

CONCLUSION

Tuberculous mastitis is a novel benign disease which simulates breast malignancy and granulomatous mastitis. Radiological investigations can give misleading features. Cytology, AFB staining and FNAC can be helpful but investigation of choice should be histopathology on tissue diagnosis. Surgery reserved for residual or resistant lesions and for biopsy purposes.

REFERENCES

1. Agizew T, Surie D, Oeltmann JE, Letebele M, Pals S, Mathebula U *et al.*Tuberculosis preventive treatment opportunities at antiretroviral therapy initiation and follow-up visits. *Public Health Action*. 2020 Jun 21;10(2):64-69.
2. MacNeil A, Glaziou P, Sismanidis C, Date A, Maloney S, Floyd K. Epidemiology of Tuberculosis and Progress Toward Meeting Global Targets Worldwide, 2018. *MMWR Morb Mortal Wkly Rep*. 2020;69:281–85.
3. Strazzanti A, Trovato C, Gangi S, Basile F.Breast tuberculosis cases rising in Sicily. *Int J Surg Case Rep.* 2018;53:9–12.
4. Thimmappa D, Mallikarjuna MN, Vijayakumar A. Breast Tuberculosis. *Indian J Surg.* 2015;77(3):1378–84.
5. Baykan AH, Sayiner HS, Inan I, Aydin E, Erturk SM. Primary breast tuberculosis: imaging findings of a rare disease. *Insights Imaging*. 2021;12:19.
6. Xiao K, Zhong L. Primary breast tuberculosis in an HIV-infected patient.*Int J STD AIDS.* 2020;31(9):914-16.
7. Farrokh D, Alamdaran A, Laeen AF, Rastegar YF, Abbasi B. Tuberculous mastitis: A review of 32 cases. *Int J Infect Dis. 2019;87:135-42.*
8. Mehmood N, Zeeshan HK, Khan UA, Nawaz UA, Irfan M, Khan MI. Tuberculous Mastitis Presentation and Outcome in our Setup. *Ann Pak Inst Med Sci.* 2009;5(4):245-50.
9. Afridi SP, Memon A, Rehman S, Memon A, Baig N. Spectrum of Breast Tuberculosis. *J Coll Physicians Surg Pak*. 2009;19(3):158-61.
10. Sreeramulu PN, Venkatachalapathy TS and Prathima S.A Case Report of Bilateral Tuberculosis of Breast. *J Clin Case Rep.* 2012;2:16.
11. Longman CF, Campion T, Butler B, Suaris TD, Khanam A, Kunst H, *et al.*Imaging features and diagnosis of tuberculosis of the breast. *ClinRadiol*. 2017;72:217-22.
12. Asjad B, Ali M, Naeem BK, Abbasi UA, Nehal Z, Siddiqui S, et al. Breast Abcess and Tuberculosis and its Diagnostic Challenges: A Two-Year Prospective Study in Karachi, Pakistan. *Cureus*. 2019;11(10):e5909.
13. Ahmad R, Sultan F. Granulomatous mastitis :A Review of 14 cases. *J Ayub Med Coll Abbottabad*. 2006;18(1):52-4.