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Case Report

PRIMARY TUBERCULAR MASTITIS – CASE SERIES

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ABSTRACT:

Breast tuberculosis also known as tuberculous mastitis is an extremely rare form of tuberculosis. It accounts for less than 0.1 percent of all breast diseases. It often mimics breast carcinoma or pyogenic breast lesions.

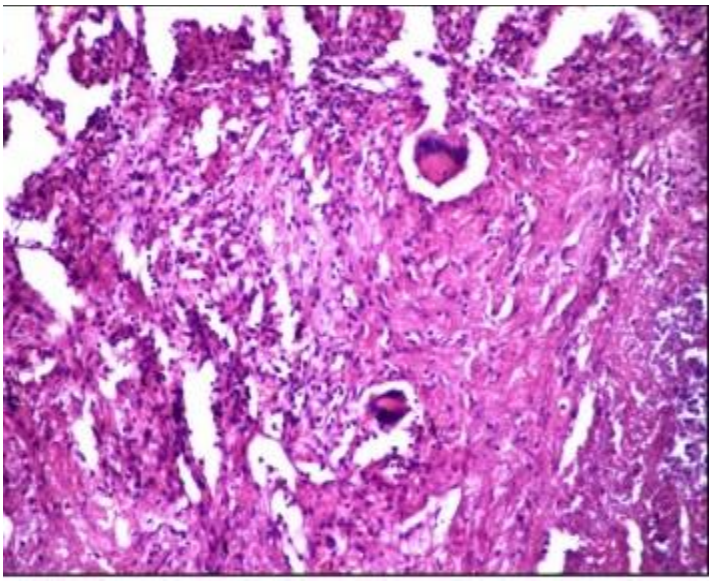
Key words: Tuberculosis, Tuberculous mastitis

INTRODUCTION:

Tuberculosis is chronic granulomatous disease caused by mycobacterium tuberculosis, which can infect any organ and show various presentations [1]. Breast tuberculosis is a rare condition, especially as primary manifestation. Incidence is estimated to be 0.1% in the developed nations and 3 to 4% in countries where tuberculosis is endemic [2]. It often mimics breast carcinoma and pyogenic breast abscess clinically and radiologically [3]. Mycobacterium tuberculosis is rare but an important cause of mastitis. Breast tuberculosis is difficult to diagnose and is often misdiagnosed as breast cancer [4]. Here we report case series of primary tubercular mastitis.

CASE: 1

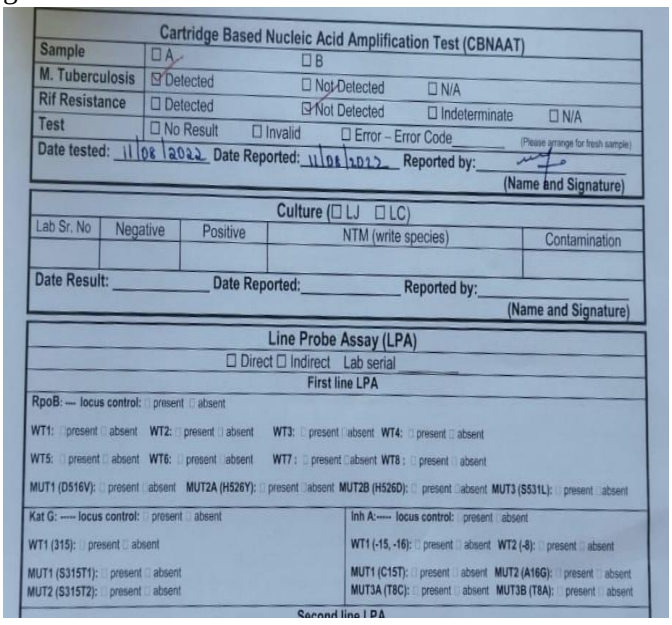
37 years old female presented with complaints of painful left breast lump for one month. She had no history of fever, weight loss, apatite loss or other respiratory complaints. On general examination no abnormality was seen. Her past medical and surgical history was not significant along with her personal, family and menstrual history. After getting informed consent local examination was done which revealed mass of about 5 x 3 cms size in left upper outer quadrant with tenderness. Erythema skin was seen. No nipple retraction or peau d'orange appearance was seen. Axillary, cervical including supraclavicular lymph nodes were not enlarged. Respiratory system examination was not remarkable. Her blood routine showed elevated total count and ESR with normal liver function, renal function and serum electrolytes. Her chest x ray was unremarkable. USG breast showed ill defined ill marginated lump measuring 4.3 x 2.9 cms in the left upper quadrant with subcutaneous edema with soft tissue thickening. Lump was predominantly hypoechoic not causing any compression of the surrounding parenchyma and nor infiltrating it. Skin, nipple, areola and subareolar area were all normal. FNAC from the lump shows epitheliod cell granuloma along with multinucleated giant calls against an inflammatory back ground. Gene X pert from the lump showed MTB detected low with rifampicin sensitive. With no other organ involvement, diagnosis of primary tubercular mastitis was established and patient was started on anti tuberculosis medication based on NTEP guidelines.



Histology of case one showing epitheliod granuloma with multinucleated giant cells

CASE: 2

27 years old female presented with complaints of right breast lump associated with pain and tenderness for 20 days. She had no complaints of fever, loss of weight or apatite. On general examination no abnormality was seen. Her past medical and surgical history was not significant along with her personal, family and menstrual history. After getting informed consent local examination was done which showed lump of about 7 x 5 cms in right upper inner quadrant. Lump was firm and fixed. There was no nipple retraction or peau d'orange appearance. No obvious axillary or cervical lymphadenopathy was palpable. Respiratory system examination was not remarkable. Her routine hematological examination was normal except for elevated ESR. Her chest x ray was normal. Her USG breast revealed 7.1 x 4.8 cms lump in the right upper inner quadrant with subcutaneous edema and soft tissue thickening. Lump was neither compressing the surrounding parenchyma nor infiltrating it. Skin, nipple, areola and subareolar area were all normal. FNAC from the lump shows acute and chronic inflammatory infiltrates comprising of neutrophil, lymphocytes, and macrophages along with numerous multinucleated giant cells with granulomas. Gene X pert from the lump showed MTB detected low with rifampicin sensitive. Since the diagnosis of primary tubercular mastitis was firmly established she was started on anti tuberculosis medication based on NTEP guidelines.



Cartridge Based Nucleic Acid Amplification Test (CBNAAT)

Sample	☐ A	☐ B		
M. Tuberculosis	☑ Detected	☐ Not Detected	☐ N/A	
Rif Resistance	☐ Detected	☑ Not Detected	☐ Indeterminate	☐ N/A
Test	☐ No Result	☐ Invalid	☐ Error – Error Code_____	(Please arrange for fresh sample)

Date tested: 11/08/2022 Date Reported: 11/08/2022 Reported by: _____ (Name and Signature)

Culture (☐ LJ ☐ LC)

Lab Sr. No	Negative	Positive	NTM (write species)	Contamination

Date Result: _____ Date Reported: _____ Reported by: _____ (Name and Signature)

Line Probe Assay (LPA)

☐ Direct ☐ Indirect Lab serial

First line LPA

RpoB: — locus control: ☐ present ☐ absent

WT1: ☐ present ☐ absent WT2: ☐ present ☐ absent WT3: ☐ present ☐ absent WT4: ☐ present ☐ absent

WT5: ☐ present ☐ absent WT6: ☐ present ☐ absent WT7 : ☐ present ☐ absent WT8 : ☐ present ☐ absent

MUT1 (D516V): ☐ present ☐ absent MUT2A (H526Y): ☐ present ☐ absent MUT2B (H526D): ☐ present ☐ absent MUT3 (S531L): ☐ present ☐ absent

Kat G: ---- locus control: ☐ present ☐ absent

WT1 (315): ☐ present ☐ absent

MUT1 (S315T1): ☐ present ☐ absent

MUT2 (S315T2): ☐ present ☐ absent

Inh A:---- locus control: ☐ present ☐ absent

WT1 (-15, -16): ☐ present ☐ absent WT2 (-8): ☐ present ☐ absent

MUT1 (C15T): ☐ present ☐ absent MUT2 (A16G): ☐ present ☐ absent

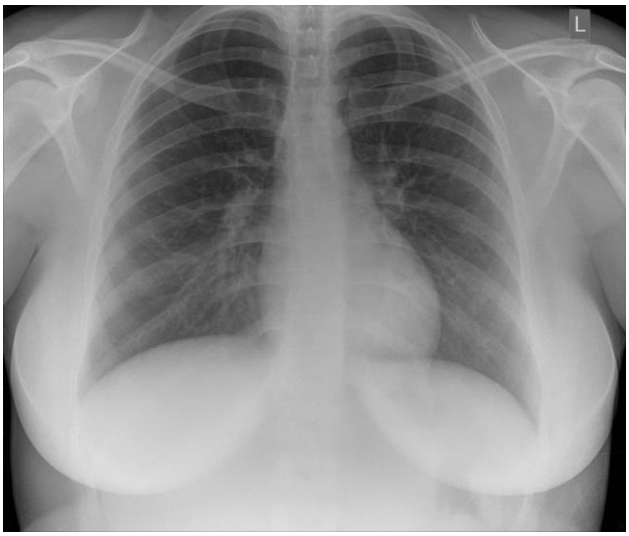
MUT3A (T8C): ☐ present ☐ absent MUT3B (T8A): ☐ present ☐ absent

Second line LPA

Gene X Pert Report of case two from the breast lump

CASE: 3

34 years old female presented with complaints of right breast lump which was gradually increasing in size for the last one year. Initially the lump was not associated with pain but she started experiencing pain from 10 days with tenderness along with pus discharge. She had no complaints of fever, loss of weight or loss of appetite. On general examination no abnormality was seen. Her past medical and surgical history was not significant along with her personal, family and menstrual history. After getting informed consent local examination was done which showed lump of about 4 x 3 cms lump in the right upper inner quadrant. Warmth and tenderness was present with no nipple retraction or peau d'orange appearance. Pus discharge was seen from the lump. Respiratory system examination was not remarkable. Her blood routine showed elevated total count and ESR. Her liver function test, renal function test, serum electrolytes and chest x ray were all normal. FNAC from the lump showed granular histocytes and ill formed epitheliod granuloma along with foci caseous necrosis with scattered lymphocytes and occasional neutrophiles. Gene X pert from the pus showed tuberculosis with rifampicin being sensitive. Primary tubercular mastitis was established and patient was started on anti tubercular medication based on NTEP guidelines.



Normal chest x ray of case three

DISCUSSION:

Tuberculous mastitis is an extremely rare disease and was first reported in the year 1829 [5]. It is also known as great masquerader due to its varied presentation. Due to its non specific clinical and imaging characteristics and lack of familiarity, the entity often gets misdiagnosed as breast cancer or pyogenic breast abscess. Tuberculous mastitis can be due to direct inoculation of the bacilli in the lactiferous ducts, secondary to primary infection elsewhere in the body or rarely due to the direct extension of the infection from the chest wall [1]. This is more

commonly seen in the females of reproductive age group, especially during lactation because of increased vascularity and trauma. Both breasts are equally involved with bilateral disease being very rare. Duration of symptoms varies from few months to few years but most of the cases get diagnosed within a year [6]. There is varied tissue presentation in the breasts like focal or diffuse changes in breast architecture, solitary or multiple breast mass, abscess, sinus tracts, skin ulcers or skin thickening [1]. The most common symptom is lump. Classical presentations like matted nodes, multiple sinuses, ulcers are unfortunately less common making the diagnosis more difficult and challenging. Other uncommon presentation includes discharge from the nipple or fluctuant swelling when incised producing discharging sinus [6]. Tuberculous lump is usually ill defined, irregular and occasionally hard thus making it difficult to differentiate from carcinoma. The pain is more common in tuberculosis than in carcinoma often being dull. Involvement of nipple and areola is very rare in tuberculosis. Regional lymph nodes may also be enlarged [3]. In diagnosis mammography has low sensitivity. Histopathology of the lesion can be useful to identify chronic granulomatous inflammation with necrosis [7]. In our case series, all of our three patients had granuloma along with MTB being detected in all of our cases in gene x pert. The treatment of breast tuberculosis is medical with routine anti tubercular medications [8].

CONCLUSION:

Diagnosis of tubercular mastitis is challenging often requiring high index of suspicion. Along with histopathological examination, Gene X Pert is also becoming an important diagnostic modality in TB mastitis.

NOTE:

Our patients did not give consent for taking photos of the lumps.

REFERENCES:

[1] Farrokh D, Alamdaran A, Feyzi Laeen A, Fallah Rastegar Y, Abbasi B. Tuberculous mastitis: A review of 32 cases. Int J Infect Dis. 2019 Oct;87:135-142

[2] Tazzioli G, Macolino A, Combi F, Palma E, Papi S, Codeluppi M, Mussini C. Breast tuberculosis: A case report of primary type mammary tuberculosis. Clin Case Rep. 2019 Oct 23;7(12):2346-2348

[3] Aggarwal V, Bhargava P. Breast tuberculosis–a case report. J Indian Med Assoc 2008 Jan;106(1):38-40, 40

[4] Sagara Y, Hatakeyama S, Kumabe A, Sakuragi M, Matsumura M. Breast tuberculosis presenting with intractable mastitis: a case report. J Med Case Rep. 2021 Mar 4;15(1):101

[5] Cooper A. Illustrations of the Diseases of the Breast. London: Longman, Rees, Orme, Brown and Green; 1829

[6] Al Soub H, Chacko K. Tuberculous mastitis: a rare disease. Br J Clin Pract 1996 Jan-Feb;50(1):50-51

[7] Sakr AA, Fawzy RK, Fadaly G, Baky MA. Mammographic and sonographic features of tuberculous mastitis. Eur J Radiol. 2004;51:54-60.

[8] Luh S, Hsu JD, Lai YS, Chen SW. Primary tuberculous infection of breast: experiences of surgical resection for aged patients and review of literature. J Zhejiang Univ Sci B. 2007;8:580-583.