Primary Tuberculosis of Breast

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Abstract
Tuberculosis of the breast is a very rare entity. Nearly 500 cases of breast tuberculosis have been documented worldwide. Despite the high incidence of tuberculosis in India, reports of breast tuberculosis have been few. We report a rare case of TB of the breast, which resembled malignancy. This is the first case that presented to a unit of general surgery in a tertiary care municipal general hospital in Mumbai in the past 10 years thereby signifying the rarity of this disease.

Introduction
Tuberculous mastitis is a rare form of extra-pulmonary tuberculosis despite one third of the world’s population being infected with tubercle bacilli. The first case of mammary tuberculosis was recorded by Sir Astley Cooper in 1829 who called it ‘Scrofulous swelling of the bosom’. Breast tuberculosis commonly affects women in their reproductive age group, between 21-30 years, similar to the highest incidence of pulmonary tuberculosis reported in the same age group of females. It most commonly presents as a lump in the central or upper quadrant of the breast. It can also present as oedema of the breast or as a breast abscess.

Case Report
30 year old married, non lactating female came with complaints of lump in her right breast which was incidentally detected 1 month ago, the lump increased in size rapidly, was painful occasionally, associated with occasional low grade fever. There was also history of discharge per nipple which was straw-purulent coloured. Patient had a past history of left breast fibroadenoma being excised 1 year ago. She did not have any past or present history of Koch’s or Koch’s contact. There was no history of any lump or swelling in the axilla.

Physical examination revealed the patient to be well built and well nourished. There was no obvious lymphadenopathy. On local examination, a lump of size of around 10 X 8 cm, firm to hard in consistency, indurated, minimally tender, was found. The overlying skin was discoloured and also peau d’orange appearance was present. Nipple areola complex was normal. No axillary or supraclavicular lymphadenopathy was evident.

Clinical diagnosis of right breast mastitis with a differential diagnosis of inflammatory carcinoma of the right breast was made.

The patient was then subjected to routine investigations and Fine Needle Aspiration Cytology. The findings were as below:

- Haemoglobin-12.0 gm%, Total Leucocyte Count - 6800/mm³; Polymorphs 34%, Lymphocytes 64%, Eosinophils 2%. ESR - 28 mm at the end of one hour.
- Chest skiagram was within normal limits.
- FNAC of right breast lump was inconclusive.

In view of inconclusive FNAC and suspected malignancy, the patient was subjected to incisional biopsy.

A 2 X 2 cm tissue was taken from the lump and sent for histopathological examination. The biopsy report was suggestive of granulomatous disease with possibility of tuberculosis.

Based on the biopsy report, right breast lumpectomy was done. The entire lump was removed with wide excision. The final histopathology report was given as tuberculous inflammation of breast.

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No where did we find any stigmata of Koch’s!

By considering the histopathology report of breast and general and systemic examination of patient, the final diagnosis of primary tuberculosis of breast was made.

The patient was then started upon anti tubercular therapy in the category 3 regimen.

Patient after completing treatment on follow up is completely relieved.

Discussion

Breast tuberculosis is a rare form of tuberculosis. It is rare in the western countries, incidence being less than 0.1 per cent of breast lesions examined histologically.

But, with the global spread of AIDS, mammary tuberculosis may no longer be uncommon in the developed world (as an AIDS defining condition). 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. Extrapulmonary tuberculosis occurring in the breast is extremely rare. High resistance offered by the breast tissue to the survival and multiplication of tubercle bacilli has been postulated to be the cause for the uncommon nature of the disease. Among the various risk factors associated with tubercular mastitis are multiparity, lactation, trauma and past history of suppurative mastitis.

The disease is caused by the acid fast bacillus Mycobacterium tuberculosis. It principally affects females and more so the lactating group. The incidence varies from 0.06% in the developed countries to up to 3% of all the breast affections in the developing countries. The disease is classified as-

a) Primary -the breast tissue here is the primary focus of infection, and b) Secondary-The breast is affected due to dissemination by either haematogenous or lymphatic dissemination from a different primary focus such as lung, lymph node, etc. Most common presentation is unilateral involvement. Although simultaneous involvement of both the breasts is very rare, it has been reported to have an incidence of up to 3%. The incidence of tuberculosis of breast in males is very rare.

Breast tuberculosis was first classified in to five different types by Mckeown and
But at present, it may be reclassified as nodular, disseminated and abscess varieties. The sclerosing type, mastitis obliterans and miliary variety are of historical importance only. Nodular type is most common and the lesion presents as a localized mass with extensive caseation. Disseminated type involves the entire breast with multiple sinuses. Breast abscess is often a common mode of presentation of breast tuberculosis, especially in young women.\(^6\)

The disease mainly manifests in nodular form, which is predominantly seen in the elderly population, whereas in the younger groups it mainly presents as pyogenic breast abscess.

In majority of cases the diagnosis is established only after histopathological evaluation of the biopsy and the gold standard in establishing the diagnosis is demonstration of the causative organism Mycobacterium tuberculosis in Z-N stain or in culture. This again is very difficult to demonstrate.\(^7\) Polymerase chain reaction in the diagnosis of breast tuberculosis is less often reported, mostly as a tool to distinguish tubercular mastitis from other forms of granulomatous mastitis in selected reports. However, PCR is by no means absolute in diagnosing tubercular infection and false negative reports are still a possibility.\(^6\)

The differential diagnosis includes mainly as acute or chronic mastitis, Paget's disease, carcinoma of breast, as the presentation is grossly similar. The differentiation is possible only by tissue sampling and clinical history. Other differential diagnoses include actinomycosis of breast which can be diagnosed by anaerobic culture of breast tissue or discharge.\(^7\)

The treatment options include drainage for abscess and excision of the lump. This should be followed by a course of anti tubercular therapy for at least 6 months.

In our case, as the lump was excised completely and as the histopathological diagnosis confirmed the diagnosis of tuberculosis of breast; the patient was started on anti tubercular therapy in the category 3 regimen. The patient after completing the treatment is free of any symptoms.

**Conclusion**

Diagnosis warrants a high index of suspicion on clinical examination and pathological or microbiological confirmation of all suspected lesions. Tuberculous Mastitis, though rare, it should be considered as one of the differential in case of breast lump; as generalised tuberculosis is very common and can affect the breast as primary or secondary.

**References**