



SYNCHRONOUS EXISTENCE OF CARCINOMA AND TUBERCULOSIS IN SAME BREAST: A CASE REPORT OF RARE DIAGNOSTIC DILEMMA

Pathology

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ABSTRACT

Coexistence of tuberculosis and breast cancer is rare but their existence in same breast is even rarer. Occurrence of breast cancer with axillary lymphadenopathy needs cautious diagnosis, as important management decisions are based on it, over-diagnosis may lead to extensive undesirable surgery. Since both, these lesions have different natural history, their coexistence poses a diagnostic dilemma to both surgeon and pathologist. Herein we report a case of 60-year-old female who presented with complaint of progressively increasing lump in breast over a duration of one year, without any remarkable systemic complaints and no history of previous exposure to tuberculosis. Patient underwent MRM and histopathology confirmed the diagnosis of Invasive Ductal Carcinoma - Medullary variant associated with tuberculosis in right breast with axillary lymph nodes showing tubercular granulomas without evidence of metastatic breast cancer. To our knowledge this is the first case to be reported in Rajasthan. In Indian scenario <5 and worldwide <100 cases are reported. Awareness of such dual pathology is important for early diagnosis and management, particularly in endemic regions of tuberculosis (t.b).

KEYWORDS

breast, carcinoma, tuberculosis

INTRODUCTION

Breast cancer is responsible for largest proportion of female deaths of any form of cancer worldwide. Synchronous existence of cancer and T.B in any organ is unusual. Earliest known report is of Pilliet and Piatot in 1897.¹ Still rarer entity is coexistence of cancer and T.B of breast. Originally described by Warthim in 1899.²

The incidence of T.B with breast cancer is around 5-20 / 1000 cases. In developing countries breast cancer and T.B are common but their coexistence in same breast is rare dual pathology known. Awareness of their coexistence is pivotal in avoiding delay in treatment to reduce, morbidity and mortality. To our knowledge this is the first case to be reported in Rajasthan. In Indian scenario <5 and worldwide <100 cases have been reported.³ Herein we present a case of invasive ductal carcinoma and tuberculosis in same breast with axillary lymph nodes harboring tubercular lymphadenitis in the absence of metastasis with no proof of primary T.B found elsewhere. Here, axillary nodal T.B masqueraded as metastatic breast cancer leading to loss of opportunity of breast conservation surgery.

Case report:

A 60-year-old postmenopausal female presented in surgical opd of MBGH- Udaipur with complaint of right sided breast lump of 1-year duration. She had history of weight loss and weakness, associated with episodes of unexplained fever off and on. She developed pain and slow increase in size of swelling in last 3 months. Patient had no significant past or family history of T.B or breast cancer.

On examination: patient had a lump measuring 5*3 cm in right upper quadrant of breast which was irregular, firm, non tender, fixed to underlying tissue. Single lymph node of approximately 1 cm diameter was palpated in right axilla. Examination of other breast and axilla was normal and rest of the systemic examination was unremarkable.

X ray chest was within normal limits. USG showed hypoechoic mass in outer upper quadrant of right breast measuring approximately 16*10 mm. Another elongated thick-walled cystic mass on right side measuring 23*10 mm. with few enlarged lymph nodes in right axillary region largest measuring 18*8 mm.

FNAC was highly suspicious of invasive ductal carcinoma. Lymph nodes showed necrotic material and was inconclusive. It was clinically diagnosed to be locally advanced stage IIIa carcinoma breast. Right sided MRM with right axillary lymph node excision up to level II was performed and specimen was sent for histopathological examination.

Grossly: We received specimen of partially skin covered breast measuring 19*13*3 cm. there was irregular thickening of skin 5.5 cm

away from nipple. On serial cutting Single diffuse grey white growth was identified measuring 1*3*1.5 cm situated 3 cm away from the nipple areola and 1.5 cm below skin. Growth was firm. A cystic area of 1 cm in diameter was identified on growth filled with grey white friable material. The dissected margins were clear. Total 5 lymph nodes were identified ranging from 0.5 to 1.0 cm diameter, cut section was grey white.

Microscopically: Multiple sections from different areas of growth showed presence of caseating tubercular granulomas comprising of central caseous necrosis surrounded by epithelioid and Langerhans multinucleated giant cells. (Figure 1) Other foci showed features of invasive ductal carcinoma- medullary variant. Tumor cells were large pleomorphic with large nuclei and prominent nucleoli along with lymphoplasmacytic infiltrate arranged in syncytial or sheet like pattern. (Figure2) Sections from all 4 margins and deepest were free from tumor infiltration. Sections from all 5 lymph nodes showed tubercular granulomas but no evidence of malignancy was seen (Figure3). Final diagnosis of coexistent breast cancer and tuberculosis was made, final stage being T2 N0 M0.

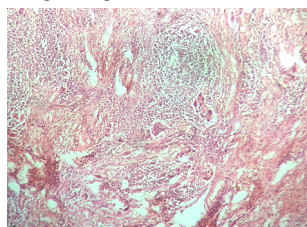


Figure 1: Clumps of malignant cells with granulomas in breast (H&E stain; 100X)

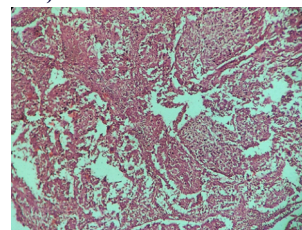


Figure 2: Sheets of atypical malignant cells along with lymphocytic infiltrate in separating fibrous septa in breast. (H&E stain; 100X)

DISCUSSION:

Mammary T.B is uncommon, it frequently occurs during childbearing age. Breast T.B a form of extrapulmonary T.B was first defined by Sir

Ashley cooper in 1829. Various permutation and combination of their coexistence have been reviewed. In review by Akbulut et al 29 cases were reviewed in 2011. 21 of these patients had breast cancer along with T.B of axillary lymph nodes without having T.B of breast. Only 5 patients out of 8 had both T.B of breast and carcinoma. Tuberculous mastitis is rare even in endemic countries of T.B accounting for only 0.1% of cases. This is probably due to increased breast tissue resistance to survival and multiplication of mycobacteria bacilli and underdiagnosis of tubercular mastitis.

T.B of breast is traditionally described as a great masquerader. It may present with a mass to begin with or a septic lesion in form of abscess. Either of them ends up with formation of sinus causing extensive scarring of overlying breast or a grossly deformed nipple areola complex. As seen in the case presented. It should raise suspicion of T.B however these findings closely simulate malignancy making diagnosis extremely difficult.

There is no causal link between mammary T.B and breast cancer and no evidence of T.B being carcinogenic at any site.

Overlapping of symptoms of weight loss and malaise is major diagnostic challenge on clinical evaluation as can be easily attributed to cancer breast. Radiological features of tubercular mastitis are non-specific mimicking many lesions including benign and malignant lesions of breast.

Establishing a breast &/ or axillary T.B diagnosis in patients with breast cancer during preoperative period has some advantages. Firstly, some possible complications secondary to T.B including sinus, fistula or chronic wound infection can be minimized via ATT provided preoperatively. Secondly, over staging of lymph nodes can be prevented, avoiding extensive undesirable surgery. Treatment compliance is major problem in developing countries when 2 major diseases are being treated together. However, no clear consensus is available on the time of initiation and duration of ATT and its association with chemotherapy due to lack of sufficient number of cases.

In cases of coexistence of 2 lesions it is advisable to commence treatment for malignant lesion which may involve surgical intervention along with neo-adjuvant therapy.⁵

A diagnosis of malignancy is pivotal as radical surgery can be performed without delay especially in early stages. T.B by itself requires no surgical intervention. In our case if T.B were detected preoperatively clinical staging would be T2 N0 M0 and patient would have been offered BCS but clinical over staging led to loss of opportunity.

Patients may develop serious side effects from chemotherapy drugs. Necessitating temporary cessation of therapy. Therefore, it is safe practice to commence ATT after completion of cancer chemotherapy treatment. This can avoid morbid complications associated with either group of drugs.

CONCLUSION:

T.B involving lymph nodes can create a diagnostic dilemma in presence of malignant process due to similar clinical and radiological presentation. So histology remains keystone in confirming diagnosis. Accurate preoperative diagnosis is helpful in downstaging carcinoma breast, to avoid aggressive axillary dissection and for identifying curable disease. Full liaison between surgeon, radiologist and pathologist is especially important to plan best management of such condition.

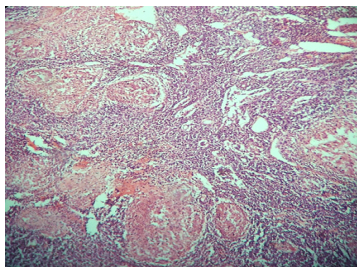


Figure 3: Tubercular granulomas in lymph node tissue. (H&E stain; 100X)

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