

An Article on Carcinoma Breast with Ipsilateral Tubercular Lymphadenitis: A Diagnostic Dilemma

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ABSTRACT

Co-existing tuberculosis with cancer has been reported in many organs, especially with lung cancer. But the coexistence of breast cancer and tuberculosis is rare. Even the existence of an isolated axillary tuberculosis is uncommon, but simultaneous occurrence of carcinoma breast and axillary tuberculosis in the absence of axillary metastasis is even rarer. This can create a dilemma in the diagnosis and treatment as there are no pathognomonic symptoms or signs to distinguish both diseases. A 45 years old female patient presented with right sided breast lump, which proved to be invasive carcinoma breast. No history or examination suggestive of tuberculosis was present but the histopathological examination of resected nodes showed the presence of tubercular lymphadenitis and Antitubercular treatment (ATT) was started. Lymphadenopathy in patient diagnosed with carcinoma breast should not be labelled as metastatic unless biopsy proved especially in parts of world endemic to tuberculosis as this may be the sole presentation of tuberculosis and if overlooked not only alter the staging and hence the prognosis of carcinoma breast but may also delay the start of ATT therapy.

Keywords: Tuberculosis, Carcinoma Breast, Axillary metastasis, Isolated axillary tuberculosis, ATT

INTRODUCTION

Many cases of mammary tuberculosis had been mentioned in the literature since the Astley cooper's first description of "Scrofulous swelling of bosom" in 1829⁽¹⁾. Even so, synchronous occurrence of carcinoma breast and tuberculosis is unusual. Earliest known report of such a case is that of Pillietand Piatot in 1897. The tuberculosis of axillary lymph nodes was reported by Warthin in 1899.⁽²⁾

Breast cancer is responsible for the largest proportion of female deaths of any form of cancer worldwide. However, significant improvements regarding mortality and morbidity have been achieved as a result of increased breast cancer awareness, breast self-examination, targeted radiotherapy, the development of effective hormone therapy and chemotherapeutic agents, and improvements in mammography and other screening methods. Successful outcomes are mainly due to the stage and prognostic factors. The most important factors for clinical and pathological staging of the disease are whether axillary metastases are present and the number of axillary lymph nodes in which metastasis is detected. In other words, one of the most significant prognostic factors in breast cancer is the involvement of axillary lymph nodes and the number of involved lymph nodes. Hence, treatment protocols should be based on axillary lymph node involvement because the survival of patients with axillary metastasis is markedly lower than that in patients with negative lymph nodes. The cause of enlarged lymph nodes of the axilla in carcinoma of the breast is often metastasis.

Furthermore, many malignant and granulomatous diseases other than breast cancer cause axillary lymphadenopathy. The most frequent among these are lymphoma, AIDS, tuberculosis (TB), brucellosis and sarcoidosis. Thus, a careful histopathological analysis of breast and axillary dissection material makes detecting the coexistence of various diseases easier and enables administration of the correct treatment. This condition has a much higher significance in the developing

countries where tuberculosis is still a major public health issue. Tuberculosis can be Pulmonary TB(PTB) or Extra Pulmonary TB(EPTB). EPTB accounts for 7-30 % cases of TB in which lymphadenitis accounts for over 17% of the cases. Axillary involvement is much less frequent. Tubercular axillary lymphadenitis without proof of tubercular mastitis is even more uncommon and often causes problems in the differential diagnosis, particularly for breast carcinoma.^(3,4) In this study, we present a case of invasive ductal breast carcinoma with axillary lymph nodes harboring tubercular lymphadenitis in which no proof of primary TB was found elsewhere .

CASE DETAILS

A 45 years old female patient presented with lump in right breast for past eight months. History of weight loss was there for 6 months. No significant past history or family history pertaining to carcinoma breast or tuberculosis was present. On examination right breast was slightly enlarged and a 6X6 cm non tender lump was noted in upper outer and upper inner quadrant which was irregular in shape and surface, hard in consistency and no changes of the overlying skin or nipple areola complex and no fixity demonstrated to skin or chest wall. A single 2X2 cm firm nodule was palpated in the axilla, behind the lateral border of pectoralis major muscle. Examination of the other breast and axilla was normal and rest of the systemic examination was also normal. It was clinically diagnosed to be locally advanced Stage IIIa carcinoma breast. FNAC was highly suspicious of malignancy. Tru-cut biopsy showed features of invasive duct carcinoma. X-ray chest was normal. Modified radical mastectomy was done and specimen was sent for histopathological examination. Gross examination of breast specimen revealed infiltrating mass of 4.5X4.5 cm with grey yellow diffuse area. Microscopically there was evidence of Invasive duct carcinoma with slight desmoplastic and slight lymphocytic infiltration (**Fig 1**). No lymphatic invasion was seen and dissected margins were clear. IHC marker study revealed Invasive mammary carcinoma, no special type (ductal, not otherwise specified) and negative hormonal markers. Gross examination of fibro fatty axillary specimen showed several nodes from 0.2-1.5 cm, thirteen of which were processed. Microscopic examination showed evidence of tubercular pathology with granuloma with Langerhans giant cells, epithelioid cells and lymphocytes but no evidence of malignancy was seen(**Fig2**). Final stage was T2N0M0.

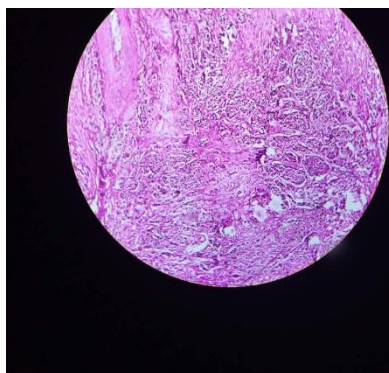


Fig. 1

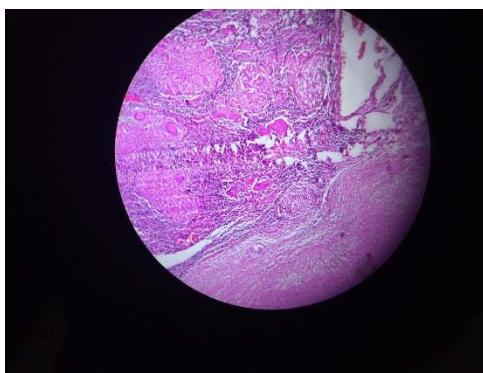


Fig. 2

DISCUSSION

Axillary tuberculous lymphadenopathy being rare, presents a problem with differential diagnosis, in which an occult breast primary should be sought but consideration of axillary TB in patients with clear diagnosis of carcinoma breast is frequently, if not always overlooked. The major diagnostic challenge on clinical evaluation was the overlapping symptoms of weight loss and malaise which could easily be attributed to carcinoma breast. Breast TB, a form of EPTB, was first defined by Sir Ashley Cooper in 1829⁽¹⁾. Subsequently, Warthin, an American pathologist, reported two cases demonstrating the coexistence of TB and breast cancer in 1899⁽²⁾. The first large patient series examining the coexistence defined by Warthin was published by Kaplan et al. in 1974⁽⁵⁾. They reported that breast TB was simultaneously detected in 28 of 14,742 patients with breast cancer. However, they did not provide clear data on the association between the TB and axillary involvement with the tumor. Although many large patient series on breast TB have been reported, only a few studies have reported the coexistence of breast cancer and TB. An association between TB and cancer has been found in most organs and has been described and explained in many different ways by a number of authors. Kaplan et al. searched for the coexistence of different cancer types with TB in a retrospective study covering 21 years in 58,245 patients with cancer. It was concluded that the coexistence of breast cancer and TB was third following cancer of the lung and of the head and neck region. Huang et al. reported that TB developed during follow-up in 54 of 2,187 patients with gastric cancer but without any previous history of TB. Studies indicate that the suppression of the immune system accompanying many cancer types may

make it easier for chronic diseases such as TB to develop⁽⁶⁾. However, many factors including old age, chronic diseases, poor nutrition, and living in an endemic region may enhance susceptibility to TB. An increase in EPTB cases in parallel with immunosuppressive diseases such as HIV infection also supports this immunosuppression hypothesis. It is rather striking that EPTB such as lymphadenitis rather than PTB increases in immunosuppressed patients independent of the cause.

It may be difficult to diagnose TB of the breast and axillary lymph nodes, as in all EPTB cases, due to a lack of specific clinical symptoms and signs. A TB diagnosis is generally made incidentally during histopathological analyses of mastectomy and/or an ALND specimen. However, diagnosis has been made in very few cases via biopsies obtained during the preoperative period, such as FNAC, tru-cut, core biopsy, and excisional and incisional biopsies.^(7,8) Establishing a breast and/or axillary TB diagnosis in patients with breast cancer during the preoperative period has some advantages. Firstly, some possible complications secondary to TB, including a sinus fistula or chronic wound infections, can be minimized via anti-TB therapy provided preoperatively. Secondly, axillary dissection can be performed easily when an anti-TB therapy is given preoperatively. Third, over-staging of lymph nodes is prevented when staging the disease, considering that palpable lymph nodes in the axilla are secondary to TB, this can make significant difference in type of approach to carcinoma. The coexistence of breast cancer and TB leads to a complex treatment and diagnosis. No clear consensus is available on the time of initiation and the duration of anti-TB therapy and its association with chemotherapy due to the lack of a sufficient number of cases.

CONCLUSION

Primary axillary tuberculosis coexisting with carcinoma is of rare occurrence. However, a possibility should always be borne in mind especially in patients from endemic areas. An accurate preoperative diagnosis is helpful not only for down-staging carcinoma of the breast and to avoid aggressive surgical axillary treatment for these patients but also for identifying curable disease. Therefore, special attention must be given to histopathological investigation of clinically palpable axillary lymph nodes before definitive surgical treatment of carcinoma breast.

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