A case of coexisting carcinoma and tuberculosis in one breast

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ABSTRACT

Coexistent carcinoma and tuberculosis in a breast is a rare entity. It poses problems right from the diagnosis and staging of carcinoma to treatment and patient compliance. Proper clinical examination and investigations should be performed in such cases as both carcinoma and tuberculosis are major diseases with no definite symptoms or signs to distinguish the two. Herein, we report the case of a 45-year-old female who presented with complaints of a lump and pain in left breast, weight loss and weakness for the past 4 months. Fine needle aspiration cytology from the breast lump showed clusters of malignant cells along with many loose clusters of epithelioid cells on a background showing caseous necrosis. A diagnosis of coexisting breast carcinoma and tuberculosis of the breast was made and antitubercular treatment was started. The patient was operated and histopathology confirmed the diagnosis.

Key words: breast carcinoma, tuberculosis, FNAC

INTRODUCTION

In developing countries, breast carcinoma and tuberculosis are common, but their coexistence in a single breast is a rare phenomenon.[1] The incidence of tuberculosis complicating breast carcinoma is around 5-20/1000 cases.[2] This may lead to overstaging of cancer and poor patient compliance. The two major diseases may occur in the form of cancer with tubercular mastitis, cancer with tubercular lymphadenitis or both.[3] Immunosuppression due to cancer or chemotherapy may lead to activation of latent TB; hence, it is recommended to start antitubercular treatment (ATT) prior to chemotherapy.[4] However, to ensure compliance, proper patient and family education and follow-up are necessary.

CASE REPORT

A 45-year-old postmenopausal female presented to the surgical outpatient department with complaints of lump and pain in the left breast for 4 months. She had five children with history of adequate breast feeding in all. There was no history of any similar complaints in the family, trauma to the breast or hormonal therapy. She gave a history of incomplete ATT for tubercular lymphadenitis about 5 years back. On examination, the right breast was normal while the left breast was larger in size with nipple and areola at a higher level. Multiple, mobile, enlarged lymph nodes in the central group were present in the left axilla. The patient was investigated and her erythrocyte sedimentation rate was raised to 45 mm in the first hour. Mammography showed a small opacity with few micro calcifications in the upper outer quadrant of the left breast suggestive of breast carcinoma. Fine needle aspiration cytology (FNAC) showed clusters of malignant duct epithelial cells having raised nuclear — cytoplasmic ratio, pleomorphic nuclei with clumped chromatin and prominent nucleoli [Figure 1a]. Apart from this, many epithelioid cell granulomas and caseous necrosis were also seen [Figure 1b]. The smears showed

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positive staining for acid fast bacilli (AFB). FNAC from the axillary lymph nodes was suggestive of reactive lymphadenitis. A diagnosis of breast carcinoma with tubercular mastitis was made on cytology. ATT was started and the patient was planned for modified radical mastectomy. The resected specimen with axillary lymph nodes was sent for histopathology, which showed sheets, tubules and individually scattered malignant cells along with many granulomas composed of epithelioid cells, lymphocytes and Langerhans type of giant cells with central caseous necrosis [Figure 2a,b]. Sections from the axillary lymph nodes showed similar granulomas, but no metastatic deposits were seen. Hence, a final diagnosis of coexistent breast carcinoma and tubercular mastitis was made.

DISCUSSION

Coexistent TB and breast cancer creates clinical and radiologic difficulties along with problems in treatment.[4] Tuberculosis occurs commonly in patients with Hodgkin's disease, lung cancer and sarcomas, but it is rare with carcinoma of the breast.[5] Tulasi *et al.* studied five cases of coexistent carcinoma and tuberculosis in the breast and axillary lymph nodes and stated that TB leads to overstaging of cancer and poor patient compliance.[1] TB that develops as a result of decreased immunity because of neoplastic process or chemotherapy is more severe and causes high mortality. Therefore, early diagnosis and treatment of TB is necessary in such cases.[2] Granulomas within the tumor stroma or draining lymph nodes as a response to tumor antigens has been reported in many cases.[5,6] Tuberculosis, sarcoidosis and fungal infections are common causes of granulomas along with tumors.[7] In developing countries where tuberculosis is common, it is sometimes difficult to differentiate tumor-related granulomatous response from that of TB, and this may lead to erroneous diagnosis and inappropriate treatment.[8] Tuberculosis and breast cancer coexisting within the same breast is uncommon, with only around 100 cases reported in the literature.[9] In the present case, the patient initially had tubercular lymphadenitis but

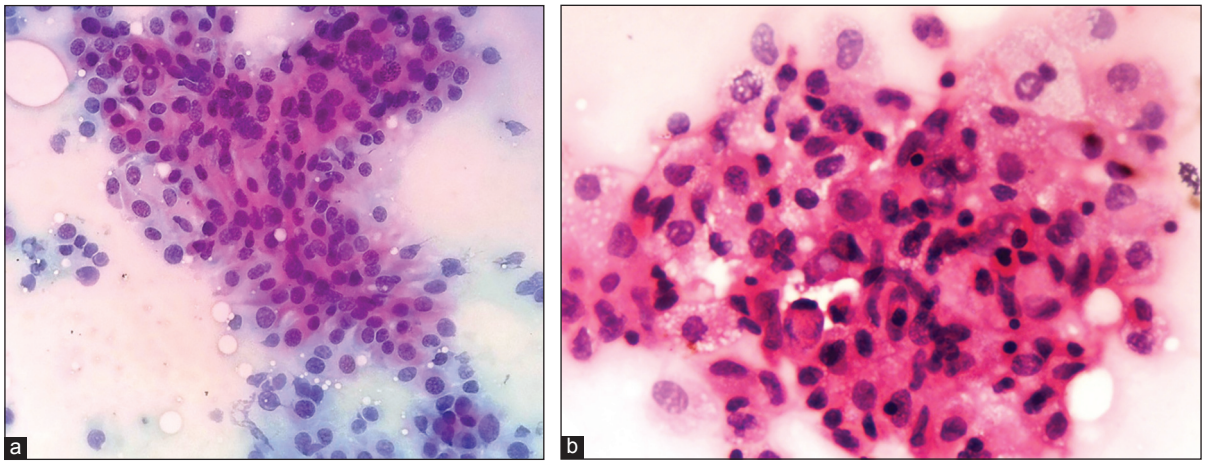

Figure 1: Fine needle aspiration cytology smear (Hematoxylin and Eosin, ×400). a) Showing clusters of malignant breast duct epithelial cells with pleomorphic nuclei, raised N:C ratio and clumped chromatin with prominent nucleoli; b) granulomas composed of epithelioid cells, lymphocytes and macrophages

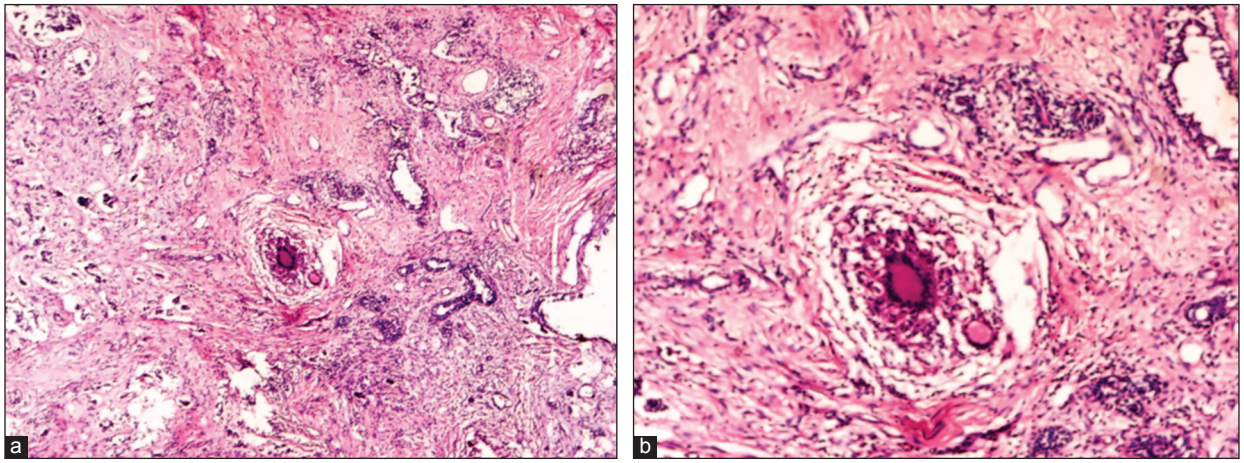

Figure 2: Histopathologic findings of the resected specimen with axillary lymph nodes, Hematoxylin and Eosin. a) Section showing cords and nests of malignant ductal cells along with a granuloma showing Langerhans giant cell (×100); b) High-power view of the granuloma (×400).

she did not take complete treatment for this. She later on developed a lump in her left breast. FNAC from the lump was suggestive of tubercular mastitis with breast carcinoma. Prior to surgery and chemotherapy for breast cancer, ATT was started. The patient was operated and histopathology confirmed the diagnosis. The patient is under follow-up and is showing improvement.

CONCLUSION

Coexisting breast carcinoma and tubercular mastitis is a rare phenomenon. Surgeons and pathologists should be aware of this entity for proper patient treatment and care. Also, differentiating tuberculosis from other granulomatous conditions where the incidence of the disease is high is very important.

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