Case Report

Invasive cribriform carcinoma of male breast: A rare histopathologic entity

Abstract

Male breast carcinoma is a rare entity with an incidence of less than 1% of all breast cancer cases, and more than 90% of male breast cancers are invasive. All types of breast cancer seen in females are present in males, with the most common histological variant being infiltrating ductal carcinomas. However, invasive cribriform carcinoma, a rare type of invasive breast carcinoma, is extremely rarely seen in males. Here, we report a very rare case of invasive breast carcinoma in a male patient, with only three cases reported earlier.

Key words: Breast cancer, cribriform pattern, invasive, male breast cancer

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INTRODUCTION

Invasive cribriform carcinoma (ICC) of the breast is a rare distinct histological type accounting for 0.3-6% of all breast cancer cases and is extremely rare in males.[1-3] It was first described by Page *et al.* in 1983.[1] To the best of our knowledge, only three cases of male invasive cribriform breast carcinoma have been reported in English literature.[2,4,5]

Here, we report a rare case of an elderly male patient diagnosed as invasive cribriform breast carcinoma.

CASE REPORT

A 65-year-old male presented to us with an ulcerated mass of approximately 5 × 4 cm size in the left breast and involving the nipples and areola with occasional bleeding and pain. On examination, the mass was found to be fixed to the skin but was freely mobile on the chest wall [Figure 1a]. On axillary palpation, ipsilateral axillary lymph nodes were enlarged and fixed. Contralateral breast and axilla were normal. Clinical diagnosis of carcinoma male breast with stage T4bN2M0 was made. There was no history of similar complaints in either female or male members of the family. There was no history of any treatment in the form of radiotherapy, hormonal therapy, or any drug intake. There was no history of any other radiation exposure.

Investigations

Incisional biopsy of the mass revealed infiltrative ductal carcinoma with cribriform pattern. Patient was further investigated with routine blood tests, chest X-ray, USG both breast and abdomen, and liver function tests to rule not metastasis.

Treatment

Surgical intervention was done in the form of modified radical mastectomy with complete axillary dissection. Specimen was sent for histopathologic examination. Grossly on cut section, a gray-white tumor measuring 5 × 3.5 × 1 cm, located just below the nipple and areola and reaching close to the deep resected margin was identified. Eighteen lymph nodes were identified in the dissected axillary tissue, with the largest measuring 2 cm in size. Microscopy showed tumor arranged in cribriform pattern with stromal invasion but no evidence of basement like material or other secretions within the tumor. Tumor cells showed round vesicular nuclei with minimal pleomorphism and inconspicuous nucleoli [Figure 1b and c] with lymphovascular emboli. Tumor was seen involving the epidermis of nipple and areola. Surgical margins, including base of the resected specimen, were free of tumor. Fifteen out of 18 lymph nodes showed tumor deposits with perinodal extension. Tumor was diagnosed as

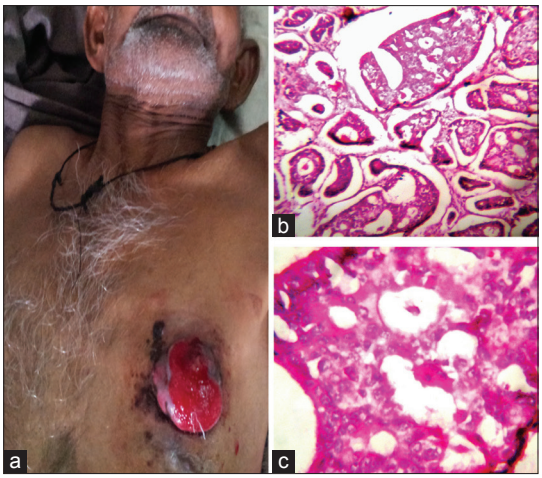

Figure 1: (a) Clinical photograph of the patient showing an ulcerated mass involving the nipple–areolar complex. (b) Hematoxylin and eosin (H and E), ×100, showing the tumor arranged in cribriform pattern. (c) H and E, ×200, showing vesicular nuclei of tumor cells with minimal pleomorphism and inconspicuous nucleoli

invasive cribriform breast carcinoma with axillary node metastasis, stage T4pN3aMx.

Outcome and follow-up

The patient was sent for chemo-radiotherapy to the radiotherapy department.

DISCUSSION

ICC is a rare, unique type of invasive breast carcinoma characterized by low malignant potential with excellent prognosis. It exhibits a characteristic sieve-like or fenestrated appearance known as cribriform pattern in majority of the invasive components[1,6,7] on histologic examination. Histologically, depending on the relative presence of the cribriform pattern, ICC is divided into classical (tumors with >50% cribriform pattern) and mixed types (tumors with <50% cribriform pattern).[1] Recently "pure type ICC," consisting of nearly 100% of cribriform pattern with absence of other infiltrating carcinoma types, has also been described[2,3,6,7] as we found in our case. The most common type of ICC is mixed (>50%), followed by classical (30%) and pure (20%) types. Pure and classical types of ICC have a low frequency of axillary nodal metastases involving <3 axillary lymph nodes showing a cribriform pattern too, while mixed ICC is more likely to metastasize to axillary lymph nodes with a noncribriform pattern.[1,2] Our case, though histologically was pure ICC, had involvement of 15 axillary lymph nodes.

There are no specific clinical features of ICC breast and diagnosis can usually be made histologically. Even on histology, ICC has to be distinguished from adenoid cystic carcinoma (ACC) and secretory carcinoma (SC) which also exhibit a cribriform pattern.[1,7,8] However, unlike ACC, ICC does not show basement membrane in the cribriform spaces.[7,8] SC is an invasive breast carcinoma that resembles lactating mammary glands and presents with extensive secretions.[5,6] In our patient, histologic diagnosis of ICC was made due to the absence of basement membrane or extensive secretions.

Majority of the ICC patients have been treated by modified radical mastectomy with axillary dissection, as we performed in our case, as the diagnosis of ICC is by histopathology. However, if the tumor is small and adequate excision can be performed, breast conservative surgery along with axillary dissection can also be done. In the absence of axillary nodal metastases, use of adjuvant therapies such as chemotherapy and radiotherapy is probably not warranted, especially when the tumors are <1 cm. If axillary lymph nodes are involved and the tumor is a high-grade tumor, then postoperative chemotherapy and/or radiotherapy according to the stage of tumor is advised.

Patients with mixed ICC tend to belong to older age group and have tumors little larger in size as compared to those with pure and classical ICC.[1] Our case, though, was of 65 years, had larger tumor, and showed histopathologic diagnosis of pure ICC.

The prognosis of patients with pure and classical ICC is excellent; the mixed presentation tends to be more aggressive. But overall prognosis for ICC of the breast is generally very good.[1-3,6-8]

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