

**CASE REPORT**

Metaplastic Carcinoma of Breast

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Abstract

Metaplastic carcinoma of breast is a rare neoplasm. Although it is a tumor of ductal type, the predominant component may have an appearance other than the glandular pattern and usually runs an aggressive course.

Key Words

Metaplastic Carcinoma, Breast

Introduction

Metaplastic carcinoma is a rare heterogenous neoplasm generally characterized by a mixture of adenocarcinoma with dominant areas of spindle cells, squamous and/or other mesenchymal differentiation (1). The reported incidence is 0.2% of all breast cancers (2). It includes various categories such as sarcomatoid carcinoma / carcinosarcoma, spindle cell carcinoma, carcinoma with osteoclast like giant cells, squamous cell carcinoma and others. The case merits presentation because of its rarity and is difficult to diagnose if the tumor is composed mainly of sarcomatous elements.

Case Report

We report a case of Metaplastic carcinoma of Breast in a 37 yrs old female. She presented with a lump right breast for last 4 months in the Department of Surgery, Govt. Medical College, Jammu. A mastectomy specimen was received in the Histopathology Section, Department of Pathology, in February 2008. Gross examination of specimen revealed a growth 4 x 1.5 cm in upper outer quadrant of breast. The growth was greyish white in color, firm in consistency and not adherent to the overlying skin. The specimen was fixed in 10% formalin. Paraffin sections were prepared and stained with haematoxylin and eosin. No lymph nodes were retrieved from the specimen. *Microscopic Examination* of the sections from the growth revealed a poorly differentiated ductal carcinoma breast with moderate desmoplasia. The tumor cells formed nests and cords with grade III nuclei. The

atypical nests of invasive ductal carcinoma extended into areas where the tumor cells depicted sarcomatous morphology resembling malignant fibrous histiocytoma with scattered mononuclear and bizarre tumor. Many abnormal mitosis were also seen. The tumor showed extensive areas of necrosis. The adjoining breast tissue showed fibrocystic change. All skin margins, nipple and areola were free of tumor invasion. Based on these histological features a histopathological diagnosis of Metaplastic Carcinoma with high grade spindle cell component was made.

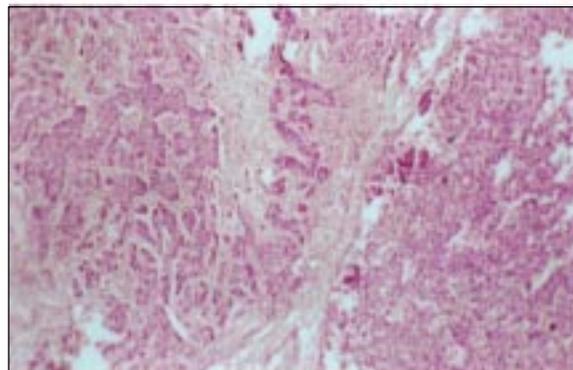


Fig. 1 Glandular and Spindle Cell Components in Metaplastic Carcinoma Breast (100X)

Discussion

Metaplastic carcinoma is a rare tumor of breast consisting of intraductal or infiltrating carcinoma contiguous or subtly merged with a highly cellular, mitotically active

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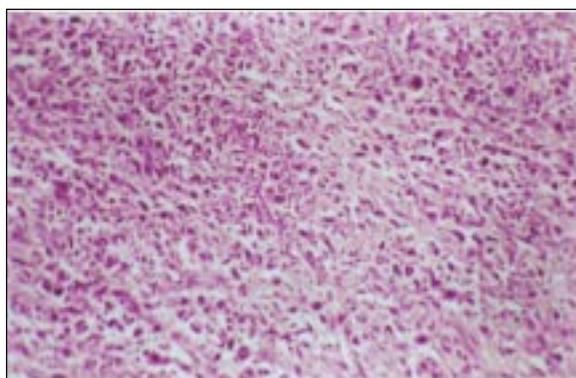


Fig. 2 Same Tumor Showing High Grade Spindle Cell Component with Tumor Giant Cells (100 X)

pleomorphic spindle cell stroma (3) Carcinomas showing extensive metaplastic change to squamous cells, spindle cells and heterologous mesenchymal elements are well recognized in breast (4). The diagnosis can be difficult to establish both on clinical and histopathological basis (2). However, in most tumors areas of infiltrating ductal carcinoma even though small and focal are present with transition to metaplastic elements. The tumor shows varying proportions of carcinomatous and pseudosarcomatous elements, as seen in the present case. The sarcoma like component may resemble malignant fibrous histiocytoma, chondrosarcoma, osteosarcoma, rhabdomyosarcoma or a combination of these (4). In the present case, the sarcomatous element resembled a malignant fibrous histiocytoma with presence of bizarre giant cells and is similar to the presentation reported by Atahan *et al* (6).

This tumor probably is derived from myoepithelial cells. The myoepithelial cell has been suggested as a link that can differentiate into epithelial as well as mesenchymal elements (5). The incidence of lymph nodal metastasis from metaplastic carcinoma is lower than might be anticipated for infiltrating duct carcinoma, in keeping with the sarcomatous phenotype. Purely spindled / sarcomatoid tumors have significant lower rate of nodal metastasis than conventional ductal and lobular carcinomas (6). The reported case differs from the previous case reports by Patrikar *et al* (2), is that it did not show any malignant squamous differentiation.

An aggressive course has been seen in metaplastic carcinomas -sarcomatoid type as compared to the matrix producing metaplastic carcinomas, which have a favourable course. Most metaplastic carcinomas are

negative for ER and PR & HER 2/neu (7) and are managed by radical mastectomy followed by radiation and chemotherapy. The present case was doing well in post mastectomy period and was receiving radiotherapy at present.

Immunohistochemistry is of particular value in evaluation of the tumors that lack evidence of carcinoma. The sarcoma like elements of these tumors may have acquired vimentin positivity and other features of mesenchymal nature (phenotypical switch), it is always possible to demonstrate epithelial markers (wide spectrum cytokeratin positivity) in at least occasional cells (8-9).

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