

Metaplastic Carcinoma of Left Breast

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Abstract: The term metaplasia has traditionally been reserved for neoplasms that exhibit microscopic structural changes which diverge from glandular differentiation. In the breast, these phenotypic alterations represent the expression of genotypic properties not manifested in normal myoepithelial cells or glandular epithelial cells of the breast. Metaplastic breast carcinoma is a rare breast neoplasm with an incidence of 0-2.5%. This heterogenous group of tumors are characterised by an admixture of adenocarcinoma with dominant areas of spindle cells, squamous cells and/or mesenchymal differentiation.

Keywords: Metaplastic, spindle cells, breast.

INTRODUCTION

Metaplastic breast carcinoma is a rare breast neoplasm with an incidence of 0-2.5%. It encompasses a group of neoplasms characterised by differentiation of neoplastic epithelium into squamous cells and/or mesenchymal looking elements, including but not restricted to spindle cells [1]. Thus metaplastic carcinoma of breast is a rare entity with positive distinguishing features of having epithelial and mesenchymal tissue types incorporated within one tumor [2].

CASE REPORT

A 47 years old female presented with lump in the left breast from past one year. Clinically and radiologically it was diagnosed as carcinoma. Fine Needle Aspiration Cytology [FNAC] was done using 10 cc needles and the aspirate was hemorrhagic. Cytology smears show highly cellular smears showing highly pleomorphic cells with anisonucleosis, occasional binucleate cells, mitotic figures and spindle cells against hemorrhagic background. Cytologically it was diagnosed as positive for malignancy and advised for biopsy. Left radical mastectomy was done and sent for histopathological examination.

The specimen measured 14x12x5 cm. The overlying skin and nipple areolar complex appeared to be normal. On cut section there was a irregular solid gray white mass measuring 4x 4.5 cms seen in outer upper quadrant of breast, it was firm in consistency. Sections were taken from the tumour proper and it was diagnosed as metaplastic carcinoma. No lymph nodes identified. Microscopically it show tumour cells arranged bizzarly and in sheets and at places clusters. Many spindle to elongated cells also seen, occasional osseous elements, 5 mitotic figures /10 hpf, at places showing squamous metaplasia and many binucleate cells seen [Figure 1&2. Based on all these features it was diagnosed as metaplastic carcinoma of breast – spindle and squamous type.

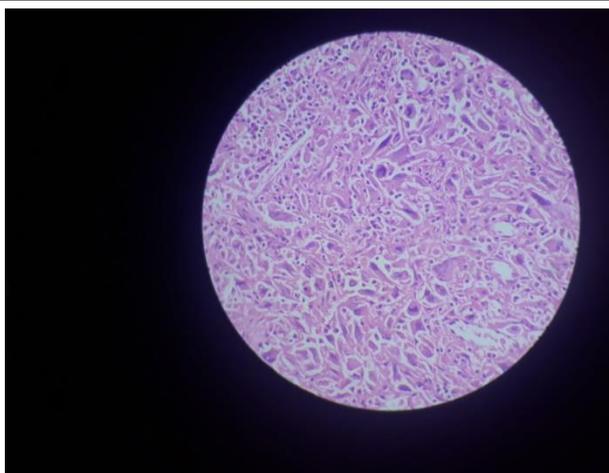


Fig-1: Section showing tumour tissue showing marked pleomorphism with many spindle shaped cells [H&E, x40]

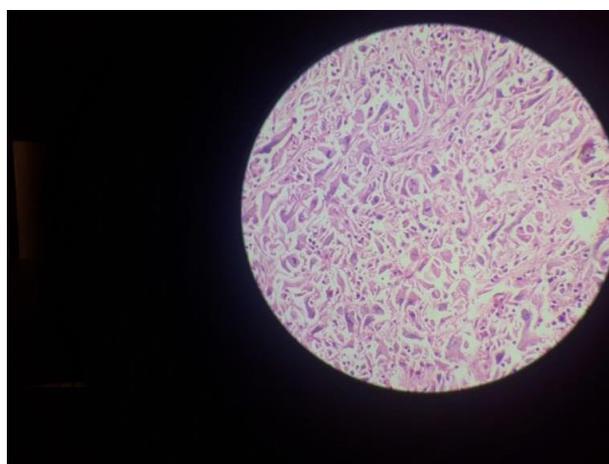


Fig-2: Section showing many spindle shaped cells and occasional squamous cells [H&E,x40]

DISCUSSION

Metaplastic carcinomas are rare forms of invasive carcinomas of breast. Metaplastic carcinoma is a generic term for breast carcinoma of ductal type in which the predominant component of the neoplasm has an appearance other than glandular and epithelial and more in keeping with other cell type. It includes various categories like; Sarcomatoid carcinoma, carcinosarcomas and matrix producing carcinomas, spindle cell carcinomas, carcinomas with osteoclast like giant cells, squamous cell carcinoma, melanocytic differentiation, choriocarcinomatous features and pleomorphic carcinomas[3].

The differential diagnosis of metaplastic carcinomas depends on the degree of atypia observed in the tumor and includes exuberant scars, fibromatosis, nodular fasciitis, myofibroblastomas, pseudoangiomatous stromal hyperplasia, acute and chronic abscess with fat necrosis, malignant phyllodes tumor and primary or metastatic sarcoma[4].

In general metaplastic carcinomas are triple negative and do not respond to trastuzumab. These

tumors classically express HER1/EGFR, thus majority of metaplastic carcinomas are treated with EGFR inhibitors such as gefitinib and cetuximab.⁵ metaplastic carcinomas of the breast are rare but aggressive tumors. Early diagnosis is essential because they are triple negative, but over-express EGFR requiring a change in the therapeutic regime.

Metaplastic carcinomas with evident spindle cell atypia must be distinguished from malignant phyllodes tumor and primary or metastatic sarcoma. The distinction between metaplastic carcinoma and malignant phyllodes tumors of the breast is critical because the treatment and prognosis differ significantly. Leaf like architecture and lack of cytokeratin expression can be helpful hints favoring a diagnosis of phyllodes tumor. The possibility of a prominent stromal component of a malignant phyllodes tumor is more likely than it is with a pure sarcoma, and a careful evaluation for the presence of a benign, epithelial component should be attempted, for which extensive tissue sampling should be done as we did for our case. The metaplastic breast carcinoma has poor prognosis as compared to breast adenocarcinoma.

CONCLUSION

Metaplastic carcinoma breast is a rare malignant tumor composed of mostly spindle cells component. It is an aggressive malignancy with poor prognosis hence the early diagnosis is must considering the high risk of recurrence after surgery. Though cytology, imaging studies, histopathology and IHC will be helpful for diagnosis but histopathology is the gold standard tool for final diagnosis of metaplastic carcinoma breast.

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