



Metaplastic chondrosarcoma of breast-A case report

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Abstract :

Metaplastic carcinoma of breast with chondroid differentiation is a rare neoplasm of breast. We describe one such case, its clinical presentation, cytology, histology, immunohistochemistry and discussion focussing on the histogenesis of the tumor, malignant behaviour and management principles.

Keyword : Breast, Metaplastic carcinoma, chondroid differentiation.

Introduction

Carcinoma of breast arises from mammary glandular epithelium and usually shows ductal or lobular differentiation. Few cases of breast cancer transform into non glandular growth patterns and they are termed as metaplasia of carcinoma. This metaplastic carcinoma is broadly divided into squamous metaplasia which is more commoner (3.7%) compared to heterologous metaplasia (0.2%)(1). Heterologous metaplasia most commonly presents as metaplasia of connective tissue, bone or cartilage.(1,2)

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A 65 years old postmenopausal woman presented to surgery OPD with complaints of lump in her Right breast for 6 months. There was no history of nipple discharge or axillary swelling or history suggestive of metastasis. There was no family history of breast cancer. Patient was married with three children.

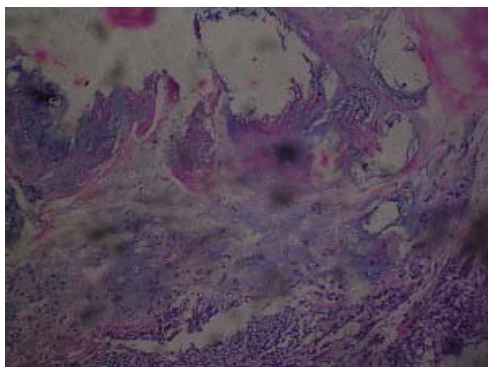
On examination a hard lump of size 7×3 cm was present occupying the upper quadrant of right breast. Nipple, areola and skin were normal. The lump was free and not fixed to skin and chest wall. There were no axillary and supraclavicular lymphadenopathy. Contra lateral breast and axilla were normal.

A clinical diagnosis of carcinoma breast stage IIB T3 N0 M0 was made.

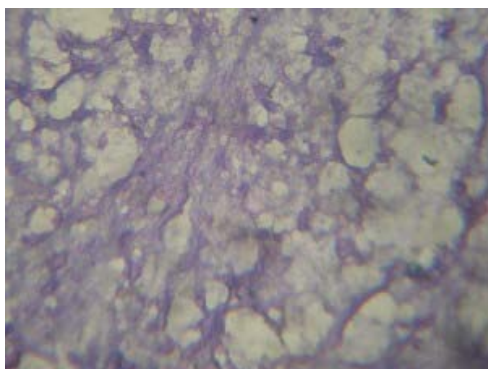
FNAC reported as metaplastic carcinoma with predominant chondromatous foci.

Subsequently a modified radical mastectomy was performed.

Histopathology: Metaplastic carcinoma with chondroid differentiation with no nodal me-



Ductal & Chondromatous elements in low power



Chondromatous elements in high power

Immunohistochemistry:

CK - Focally positive

Vimentin - Focally positive

S-100 – Positive in chondroid area

Post operatively patient was given adjuvant, chemotherapy FAC regime 4 cycles (5FU 400 to 500 mg/m² day 1 & 8, Cyclophosphamide 400 -500 mg/m² day 1, Adriamycin 40-50mg/m² day 1)

Follow Up: Patient was under follow up for 1 yr
No loco– regional recurrence or distant metastasis during the follow up period.

Discussion

Tumors showing carcinomatous and sarcomatous features are very uncommon(2). They are frequently termed as bi-phasic sarcomatoid carcinomas. In

breast they are called metaplastic carcinoma. Incidence of these bi-phasic tumors are 0.2%. The most common metaplastic pattern is focal squamous metaplasia followed by heterologous metaplasia(1,9). Light microscopy demonstrates the mesenchymal components with epithelial component demonstrable by immunohistochemistry for cytokeratin(2). The development of this type of tumor is by the transformation of carcinoma cells into sarcoma with detection of epithelial features in sarcomatous cells(1). The cartilaginous component in this case is probably due to direct cartilaginous metaplasia of carcinoma cells(1,3). The most popular theory regarding the histogenesis of metaplastic component is through transformation of myoepithelial cells (2,4). Some consider the tumor might have been derived from the same duct progenitor cells. A P53 point mutation in these cells initiate the differentiation of luminal cells to ductal carcinoma, basal cells differentiate into squamous carcinomatous elements and the cells of myoepithelial cells differentiate into chondrosarcomatoid elements(5).

Breast carcinoma with metaplasia is characterised by rapid growth and are largely poorly differentiated duct carcinomas(10). Metaplastic Ca rarely exhibits nuclear reactivity for estrogen and progesterone receptors (1,6). Patients with this disease tends to have favourable prognosis(7). Even though the lesion presents with relatively large size, it tends to lack local and distant spread(2). Duration of symptoms, TNM stage, tumor size and axillary node status are significant factors of survival(6).

Metastasis derived from a metaplastic Ca may consist entirely of adenocarcinoma, entirely of metaplastic elements or a mixture of these components(1) . Metaplastic Ca of breast commonly bypass axillary lymph nodes and present as distant metastasis (2,7). Surgical and adjuvant treatment should follow the guidelines of other most common breast cancers. Role of chemotherapy is under study(8).

References:

1)Rosen PP,Oberman HA.Tumors of the mammary gland Washington DC:Armed forces institute of pathology 1992p 194-200

2)Kurian KM,AI-NafussiA.Sarcomatoid/metaplastic carcinoma of the breast:A clinicopathological study of 12 cases Histopathology 2002;40;58-64

3)Chhien C,CranorM,LesserME,RossenPP.Metaplastic carcinoma of breast with osteocartilagenous elements.Am J Surg Pathology

4)WargotzES,Norris HJ,Metaplastic carcinomas of the breast.I.Matrix producing carcinoma Hum Patho 1989;20;628-35

5) WangX,Mori I, Tang W,YangQ, Nakamura Y et al.Metaplastic carcinoma of the breast:P 53 analysis identified the same point mutation in the three histologic components ModPathoi 2001;14 1183-6

6)ChaoTC,WangCS,ChenSC,Chen MF,Metaplastic carcinomaof breast J Surg Oncol 1999;71:220-5

7)Cattropo JF,LaraJF>Metastaticmetaplastic carcinoma of breast MCB; An uncharacteristic pattern of presentation with clinicopathologic correlation

Diagn cytopathol 2001;25 :285-91

8)BellinoR,Ariso R,D'AddatoF,Attini R, DurandoA,daneseS et al. Metaplastic breast carcinoma Pathology and clinical outcome. Anticancer Res 2003;23(1B):669-73

9)Haber Gattuso spitz David Differential diagnosis in surgical pathology 618-19

10)A case of carcinoma of the breast with metaplasia to chondrosarcoma: Light microscopic and immunohistochemical features.Archive of Oncology 2003;11(4):273-6