



**ORIGINAL RESEARCH PAPER**

**General Surgery**

**METAPLASTIC CARCINOMA OF BREAST : A CASE REPORT**

**KEY WORDS:**

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**ABSTRACT**

Metaplastic breast cancer constitute nearly 1 % of all breast carcinoma cases. There is metaplasia of normal epithelial components of the breast into other types. They are highly aggressive with very poor prognosis. Here we present a case of 30 year old female who presented with a breast lump in her left breast associated with dull aching pain. It was 10 x 10 cm in size involving upper inner, upper outer, lower outer quadrants and retroareolar area of left breast. USG was suggestive of BIRADS VI lesion. Axillary lymph nodes were not found enlarged clinically or radiologically. Core biopsy report showed Phylloides tumor of breast. The patient underwent simple mastectomy of left breast and histopathology revealed spindle cell variant of metaplastic breast cancer. The cell blocks sent for immunohistochemistry were negative for estrogen, progesterone receptors and Her2neu receptor. The post surgical treatment of this type of breast cancer is still under study.

**INTRODUCTION :**

Metaplastic breast cancer is a rare variety of breast cancer in which tumor cells differ from that of ductal carcinoma or lobular carcinoma proper. As per the name itself, there is metaplasia of normal epithelial components of breast tissue into other types. The variants range from those producing matrix with mesenchymal elements, spindle cells, squamous cells to mixed types of metaplastic carcinoma, low-grade adenosquamous carcinoma, and fibromatosis-like metaplastic carcinoma.<sup>1</sup> This type of carcinoma is very aggressive in its course with usually short interval between its onset and progress. Although the exact prevalence of this disease is unknown but it accounts for nearly 1% cases of breast carcinoma. It is associated with worst prognosis and contributes to majority of cases causing mortality due to breast cancer.<sup>2</sup> When compared to non metaplastic tumor of the breast, this distinct variety has higher rate of recurrence and decreased overall survival.<sup>3</sup> The treatment modalities for this type of carcinoma are still emerging and need more cases to study the effect of chemotherapy, immunotherapy and hormonal therapy. Here, we present a case of spindle cell variant of metaplastic carcinoma of breast in a young female.

**Case report :**

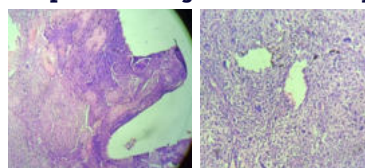
We are reporting a case of a 32 year female who presented to our OPD on 2<sup>nd</sup> June 2021 with the complaint of a breast lump in her left breast since 10 months. It was initially small in size when she noticed it but rapidly progressed to large size over a duration of 6 months. The pain in lump was dull aching and was relieved with analgesics. There was no history of any discharge from nipple. It was not associated with any other symptoms like jaundice, bone pain, abdominal pain, breathlessness, cough, vomiting, headache or blurring vision. There was no history of similar lump in the past or in the other breast. Her menstrual cycles were regular. She gave birth to two children and breastfed each of them for two years, family history was not significant in this case. On examination, the lump was roughly spherical of about 10x10 cm size firm, non tender involving upper inner, upper outer, lower outer quadrants and retroareolar area of left breast (Image 1). The overlying skin was thinned out with visible dilated veins and local temperature was raised. There was no ulceration or any kind of skin change over the lump and not fixed to chest wall. The other breast was apparently normal.

The axillary and supraclavicular lymph nodes of ipsilateral and contralateral breast were not palpable.

Ultrasonography of left breast was suggestive of a well encapsulated solid cystic lesion with few foci of calcification noted within it measuring approx 11.6x12.3x11.9 cm taking minimal vascularity on color Doppler noted at mammary and premammary zone of all quadrants of left breast. It was suggestive of BIRADS VI lesion. Axillary lymph nodes were not detectable either clinically or radiologically. Core biopsy taken from the lump was suggestive of phylloides tumor. Ultrasonography of abdomen and pelvis, radiography of chest were normal. The patient underwent simple mastectomy of left breast and the sample was sent for histopathological evaluation. The report revealed sections showing polygonal to spindle shaped malignant bizarre tumor cells arranged haphazardly with squamous metaplastic changes noted with calcification at some places (Image 2 and 3). Multinucleated tumor giant cells were also seen. It was indicative of metaplastic carcinoma breast. The cell blocks sent for immunohistochemistry were negative for estrogen, progesterone receptors and Her2neu receptor. Ki67 was 60% reactive. For further management, patient was planned for adjuvant chemotherapy and radiotherapy.



**Image 1 : Preoperative image of left breast of patient**



**Image 2 and 3 : Histopathological images showing polygonal to spindle shaped malignant bizarre tumor cells arranged haphazardly with squamous metaplastic changes noted with calcification at some places**

**DISCUSSION :**

The actual incidence of metaplastic carcinoma of breast is still unknown due to lack of studies and differing definitions and classification systems. The mean age at diagnosis of this type of cancer is slightly older age group about 55-60 years.<sup>4</sup> In our study, this tumor is diagnosed at an earlier age of 30 years. This is similar to study by M Kumar et al<sup>5</sup> where the age of patient was 24 years. But in most of the studies by Fernandez P et al<sup>6</sup>, Adams S. et al<sup>7</sup>, M. Han et al<sup>8</sup>, the age at presentation was more than 50 years. These tumors begin as a palpable lump in all quadrant of breast and rapidly grow to a large size upto or more than 10 cm. They may be associated with changes in skin and resemble inflammatory carcinoma of breast.<sup>6</sup> Mammography and ultrasound show ill defined borders. It is seen that despite its large size, it is less frequently associated with axillary node involvement ranging from 6- 26% .

The term metaplastic carcinoma was coined by Huvos et al.<sup>12</sup> As per WHO classification 4<sup>th</sup> edition, metaplastic carcinoma breast is classified into epithelial type and mixed type. The epithelial type is further classified into squamous type, adenocarcinoma with spindle cell differentiation and adenosquamous type. Mixed type is subdivided into carcinoma with chondroid metaplasia, carcinoma with osseous metaplasia, and carcinosarcoma.<sup>1</sup> In a study by Tse et al , metaplastic breast cancer is subdivided into three subtypes- epithelial type , biphasic ( epithelial and sarcomatoid ) and monophasic spindle cell carcinoma.<sup>13</sup> Oberman et al in his study concluded that microscopic features has no correlation with prognosis and therefore metaplastic breast cancer should be considered as one single group.<sup>14</sup>

The treatment modality is usually surgical with radical mastectomy with or without lymphadenectomy. Sentinel lymph node biopsy may be useful. Surgery is followed by chemotherapy or radiotherapy. The five year survival rate is found to range from 38-65%. More than 50% cases recur before this time.<sup>6</sup> Immunohistochemistry plays an important role in the diagnosis. Metaplastic carcinoma of breast is ER/PR and Her2neu negative and vimentin, SMA, para keratin positive.<sup>5</sup>

The efficacy of radiotherapy and chemotherapy is yet to be established due to rarity of disease. Due to lack of a considerable number of cases in literature, a further study is needed to decide a plan of management and future prospects for post surgical treatment in cases of metaplastic carcinoma of breast.

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