A RARE CASE ON METAPLASTIC SQUAMOUS CELL CARCINOMA OF BREAST

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Abstract
Metaplastic breast carcinomas represent a morphologically heterogeneous group of invasive breast cancers in which a variable portion of the glandular epithelial cells comprising the tumor have undergone transformation in an alternate cell type – either a nonglandular epithelial cell type or a mesenchymal cell type. Metaplastic carcinomas are uncommon lesions, representing less than < 5% of all invasive breast cancer. This is a case of 51 year old female with left breast swelling since 3 months. She underwent Modified Radical Mastectomy. The histopathological findings were in favour of diagnosis invasive metaplastic carcinoma of breast – squamous cell variant – well differentiated.

Keywords: squamous, metaplastic, radical mastectomy

1. Case Report:
A 51 year old woman presented with complaints of pain and swelling in lower outer quadrant of left breast since 3 months.

There was a single, palpable, firm, mobile mass measuring 9x 6x 4cm. Overlying skin was normal, there was no signs of ulceration or redness. Nipple was also normal. There was no retraction or inversion of nipple, neither there was nipple discharge or ulceration. Patient then underwent Modified Radical Mastectomy and the specimen was sent for histopathological examination.

2. Histopathological Examination
2.1 Gross Examination: Modified Radical Mastectomy specimen was received with axillary tail measuring 22x14x7cm. Skin flap measured 12x10 cm and axillary tail measuring 7x6x4cm. There was an ill-circumscribed growth with irregular border just 0.5cm beneath the nipple measuring 5x4x4 cm with surrounding necrotic areas. Lower margin of growth was 1 cm above base. Largest LN measuring 3x2x1 cm with central hemorrhagic area and second largest LN measuring 3x2x1 cm with central jelly filled material. Total 15 LN were identified.

2.2 Microscopic Examination: The sections from growth showed presence of extensive keratinisation, squamous keratin pearls, presence of cyst formation, severe chronic inflammation and tumor necrosis and at places foci of glandular ductal element was seen. There was extensive lymph vascular invasion. The sections from nipple, all margins and base were free from tumor invasion. Out of 15 LN isolated 3 LN showed evidence of metastasis of metaplastic carcinoma of breast. Rest of LN showed extensive sinus histiocytosis.

Thus patient was diagnosed as Invasive Metaplastic Carcinoma – Squamous cell variant – well differentiated – Grade 1. BR score- 5.

TNM staging was T3pN1a Mx - stage IIIA.
T3p - Tumor size >5cm
N1a - Metastasis in 3 ipsilateral axillary LN out of 15 LN
Mx - Presence of distant metastasis can not be assessed

3. Discussion
Metaplastic breast carcinoma is uncommon. It is thought to constitute between 0.2% and 5% of all breast cancers. The term describes a range of cancers of mixed epithelial and mesenchymal origin. Histologically, the neoplastic epithelial cells show non-glandular...
differentiation. The degree of differentiation varies from small foci to complete glandular replacement. Microscopically, the tumour can show a pure spindle cell pattern or mixed epithelial and mesenchymal pattern. The epithelial component is often of a ductal, non-specific type pattern but may also have squamous features or apocrine, medullary and mucinous pattern.

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. The incidence of lymph node metastasis from metaplastic carcinoma is lower than might be anticipated for infiltrating duct carcinoma. Purely spindled / sarcomatoid tumors have significant lower rate of node metastasis than conventional ductal and lobular carcinomas. Similar to patients with invasive carcinoma – NST with IC with regard to age at presentation, the manner in which these tumors are detected and location within breast in which these tumors arise.

There are no known specific radiological features of metaplastic breast cancer. Most cases have presented with masses on mammography. These vary from relatively well defined to ill defined and speculated. The gross appearance of metaplastic carcinoma is not distinctive and these tumors can either be well-circumscribed or show an indistinct irregular border. Microscopically, metaplastic carcinomas are highly distinctive but vary in the types, extent.

Most reports divide metaplastic carcinomas into two broad categories: those that show squamous differentiation and those that feature heterologous elements, such as, cartilage, bone, muscle, adipose tissue, vascular elements, and even melanocytes, among others.

Investigators at the Armed Forces Institute of Pathology categorize metaplastic carcinoma into five categories: squamous cell carcinomas, spindle cell carcinomas, carcinosarcoma, matrix-producing carcinomas, and carcinomas with osteoclast-like giant cells. Squamous differentiation can range from well to poorly differentiated. In some tumors composed primarily of squamous cells, there is prominent cystic degeneration. Spindle-cell differentiation is common in metaplastic carcinomas, and is frequently seen in association with squamous differentiation. There are no data on specific treatment for metastatic breast cancer.

The determination of prognosis for metaplastic breast carcinoma is limited by the uncommon occurrence of this cancer. In a study of 29 metaplastic breast carcinomas from Michigan, it was suggested that prognosis best correlated with the size of the lesion rather than with the nodal status. The study indicated that patients with tumors less than 4 cm had a better prognosis than those with larger lesions. Microscopic pattern had no correlation with prognosis. Tumour size, nodal status, grade, histological type and treatment are the usual determinants of prognosis. The degree of differentiation and morphological type might also affect outcome. Previous studies show 5-year survival rates ranging from 38 to 86%. The study concluded that duration of symptoms, TNM stage, tumour size, and nodal status were significant prognostic factors for survival. The conclusion was that patients with metaplastic carcinomas might have a favourable prognosis.

Most metaplastic carcinomas are negative for ER and PR & HER 2/neu and are managed by radical mastectomy followed by radiation and chemotherapy.

**Conclusion:**
In conclusion, metastatic breast SCC is an extremely rare and aggressive disease. Associated with frequent loco regional and distant relapses and resultant deaths. Better systemic therapy is therefore needed to improve patient outcomes. Therefore, pathological examination of these breast lump and other body lesion is must.

**References**


**Figure :- 01** The sections from growth showed presence of extensive keratinisation, squamous keratin pearls, severe chronic inflammation [H & E 10X]

**Figure : - 02** keratinisation, squamous keratin pearls, at places foci of glandular ductal element was seen. [H & E 10X]

**Figure: - 03 squamous keratin pearls** [H & E 40X]

**Figure: - 04 From Lymph node shows squamous metaplasia** [H & E 10X]