

## CASE REPORT

# METAPLASTIC SQUAMOUS CELL CARCINOMA IN ASSOCIATION WITH INVASIVE LOBULAR BREAST CARCINOMA WITH METASTASIS TO AXILLARY LYMPH NODES

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Squamous cell carcinoma (SCC) of the breast is very rare entity and when encountered it is found in association with invasive ductal carcinoma of the breast. We report a very unusual association of an invasive lobular carcinoma with metaplastic squamous cell carcinoma of the breast which was found not only in a mastectomy specimen but also in the axillary lymph nodes. The patient reported first with a lump breast which was diagnosed a case of invasive lobular carcinoma in a lumpectomy specimen, followed by adjunct radiation and chemotherapy. We encountered such association in only one case report in the literature.

**Keywords:** squamous cell carcinoma, lobular carcinoma, Mastectomy, axillary lymph nodes

## INTRODUCTION

Breast cancer is the most common female malignancy worldwide. Invasive lobular carcinoma is the 2<sup>nd</sup> most frequent histological subtype in the Western countries as incidence is much lower in Asia. Metachronous bilateral cancers occur in the rate of 0.5–1% per year.

Squamous cell carcinoma (SCC) is the malignancy of skin and other organs like oral cavity, larynx pharynx, anus, vagina, cervix and lungs. In the breast it is rarely encountered and when found needs to discriminate this entity from malignancies of the skin over laying the breast or metastasis of a squamous cell carcinoma from somewhere else in the body. Only few cases are reported in the literature, while incidence of primary squamous cell carcinoma of the breast varies between 0.04 and 0.1% or even less than 0.04% of all breast Cancers.<sup>1-3</sup> The reported series shows rare association of inraductal carcinoma with squamous cell carcinoma of an ipsilateral and contralateral breast while only one case of rare association of lobular and squamous cell carcinoma.<sup>4</sup> We report a case of lobular carcinoma of breast which was treated by lumpectomy, radiotherapy and chemotherapy followed by recurrence and ulceration with enlarged ipsilateral lymph nodes in a 38 years premenopausal women which proved to be double malignancy in a single breast with both the variants metastasizing to axillary lymph nodes.

## CASE REPORT

A 38-year-old premenopausal women presented in OPD with history of non-healing ulcer in the left breast involving paraareolar region and upper inner quadrant with an underlying lump of the size of 6×4 Cm and discrete multiple enlarged ipsilateral lymph nodes for the last 3 months. Two years ago she presented in another hospital with small breast tumour (3×4 Cm) in

upper outer quadrant of her left breast where lumpectomy revealed invasive lobular carcinoma and she was offered mastectomy which she refused and underwent full 6 cycles of FEC chemotherapy followed by radiotherapy. She remained symptom free for 6 months when 3 months before presenting to our department she developed small lump followed by an ulceration of the skin (Figure-1).

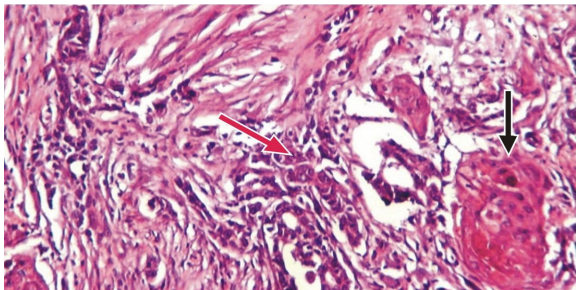
She did not have a family history of breast cancer. She had pain and tenderness in the lesion but discharge was scanty. FNAC of the lump showed invasive lobular carcinoma. There was no evidence of distant spread of the disease. The patient underwent mastectomy with axillary lymph nodes dissection with uneventful postoperative recovery.

Histopathology of the specimen revealed a 24×12.4×5 Cm left mastectomy specimen grossly showed irregular firm areas around nipple, areola and underlying tissue. The axillary tail also contained 16 greyish white firm lymph nodes, the largest of them measured 2.5 Cm in diameter. Representative sections including those of margins and lymph nodes were submitted for microscopic evaluation. The sections of the breast tumour revealed infiltrating lobular carcinoma composed of small neoplastic cells arranged in Indian files. Interestingly there were also areas where frank squamous cell carcinoma had emerged from the lobular carcinoma areas (Figure-2).

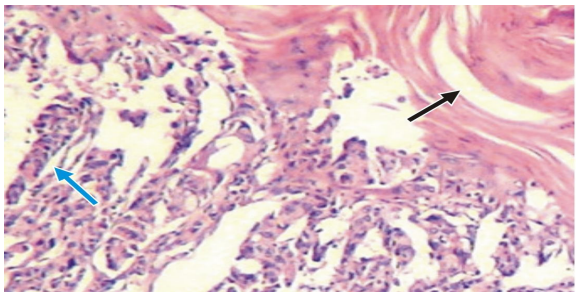
The squamous cell carcinoma contained bizarre nuclei and showed certain differentiation. The sections of the axillary lymph nodes contained areas of both lobular carcinoma and keratinising squamous cell carcinoma (Figure-3). Foci of necrosis were observed both in the primary and metastatic lobular carcinoma. Immunohistochemistry for oestrogen and progesterone receptors (ER, PR), HER2 receptors revealed triple negative breast cancer (ER-, PR- and HER2-Negative). Tumour was E-cadherin negative as well.



**Figure-1: Preoperative gross manifestation of recurrence of invasive lobular carcinoma breast**



**Figure-2: Squamous metaplastic elements (black arrow) in lobular carcinoma breast (red arrow)**



**Figure-3: Squamous metaplastic component (Black arrow) and lobular carcinoma (Blue arrow) in metastatic focus (axillary lymph node)**

## DISCUSSION

Breast carcinoma arises from the mammary glandular tissue and therefore exhibits the features of adenocarcinoma. However, in <5% of the cases a non-glandular growth pattern is found. This process is termed as metaplasia, i.e., the replacement of one cell type by another. Increasing knowledge of molecular and cellular processes has shown that microscopic phenotype or immune phenotype does not represent the histogenesis of the tumour. In fact in some cases, as in metaplasia, the phenotype may obscure the histogenesis of the tumour.<sup>5</sup>

Metaplastic changes in breast carcinomas are very common but under reported because small foci of

such changes can be easily overlooked. This is especially the case with squamous and spindle cell metaplasias. These metaplasias are usually found in poorly differentiated ductal carcinoma but also rarely found in lobular and papillary carcinoma.<sup>5</sup>

The age of such metaplastic carcinoma is not very different from the usual types of invasive breast carcinomas. Large tumours may show skin and surrounding tissue infiltration.<sup>6</sup> Rarely bilaterality is also observed.<sup>7</sup> Such tumours tend to grow rapidly and have circumscribed appearance radiographically.<sup>8</sup>

In tumours with squamous metaplasia, the topic of our interest, when the squamous element is predominant, a spectrum of differentiation may be found in it. Also a predominant round cell infiltrate is seen which is so predominant that the diagnosis of squamous metaplastic carcinoma should be questioned when it is not found.

Metastasis derived from metaplastic carcinoma gives rise to metastasis composed entirely of adenocarcinoma or metaplastic component or a mixture of both. Tumours with squamous metaplasia often give rise to metastasis with component of squamous elements in axillary lymph nodes and at other sites.<sup>5</sup> However, incidence of such metastasis in axillary lymph nodes is rarely seen in heterologous metaplastic carcinomas. Squamous cell carcinomas are reported to result in less lymphatic spread than adenocarcinomas. Squamous cell tends to give more distant metastasis than adenocarcinoma of breast.<sup>9</sup> Squamous cell carcinomas are generally not having hormone receptor but comparatively more radiosensitive than adenocarcinomas of breast. When found in combination or pure squamous cell carcinoma it has less five years survival than adenocarcinomas.<sup>9-10</sup> Lobular breast carcinoma in association with squamous cell carcinoma of the breast is an unusual pathology. We could be able to find one reference in the recent literature.<sup>11</sup>

Our patient had recurrent lobular carcinoma following chemotherapy and radiotherapy, with ulceration of the skin and enlarged axillary lymph node. FNAC of this lesion was consistent with lobular carcinoma. Resection of the tumour revealed two metaplastic squamous cell pathologies in the breast tissues as well as in the axillary lymph nodes.

## CONCLUSION

Metaplastic squamous cell carcinoma may arise from ductal carcinoma however its association with lobular carcinoma is extremely rare. Simultaneous metastases of both components are also very unusual. This is a rare variant of the breast carcinoma, 'composite tumour', metaplastic squamous carcinoma-cum-invasive lobular carcinoma with axillary node metastases. Tumour is E-cadherin negative, ER negative, PR negative, and HER2 negative.

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