

**DUCTAL CARCINOMA OF BREAST WITH METACHRONOUS CONTRALATERAL
CARCINOSARCOMA: A RARE CASE REPORT****Vasudha Singh¹, *Dr. Vinita Trivedi¹, Richa Chauhan¹, Ravishwar Narayan², Usha Singh¹, Naveen Kuna¹ and
Rita Rani¹**¹Department of Radiation Oncology, Mahavir Cancer Sansthan.²Department of Nuclear Medicine, Mahavir Cancer Sansthan.***Corresponding Author: Dr. Vinita Trivedi**

Department of Radiation Oncology, Mahavir Cancer Sansthan.

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ABSTRACT

Breast cancer is the most common malignancy among women globally. The overall incidence of contralateral breast cancer is low with development of a second primary being even rarer. Here we report a case of infiltrating ductal carcinoma of left breast developing a metachronous carcinosarcoma in right breast which is the first ever reported case in literature as per the best of our knowledge.

KEYWORDS: Carcinoma breast; Bilateral; Infiltrating ductal carcinoma; Metaplastic breast cancer.**INTRODUCTION**

Breast cancer is the most common cancer among women with an estimated 1.67 million new cancer cases diagnosed in 2012 (25% of all cancers). It is the most frequent cancer in women both in more and less developed regions with slightly more cases in less developed (883,000 cases) than in more developed (794,000) regions.^[1] Over last ten years or so, incidence of breast cancer has been rising steadily and now breast cancer has become the most common cancer in women in India, ahead of cervical cancer.^[2] Patients of breast cancer have a slightly increased risk of developing a second malignancy including a second primary in contralateral breast. However, the overall incidence of contralateral breast cancer is low with about 2-11% of all patients diagnosed with breast cancer eventually developing contralateral breast cancer.^[3]

We report a case of primary infiltrating ductal carcinoma of left breast in a post menopausal female who developed a metachronous carcinosarcoma in right breast. Our review of scientific literature did not show any positive result for an infiltrating ductal carcinoma as primary breast cancer with a metachronous carcinosarcoma in contralateral breast. Thus, to the best of our knowledge this is the first reported case of its kind.

CASE REPORT

A 56 years old post menopausal female presented in our out patient department with a left breast lump of 5 months duration. On examination, general condition of the patient was good. A hard, fixed 14X10 cm left breast lump in upper outer quadrant with peau d'orange was palpable along with multiple hard, fixed and matted left

axillary lymph nodes, largest measuring 3.5X4 cm. Left supraclavicular fossa was normal. Contralateral breast, axilla and supraclavicular fossa was normal (cT4bN2Mx). Past history and family history were non significant. Mammography showed a large lobulated hypoechoic mass lesion (160 x 110 mm) with few spicules in upper outer quadrant of left breast at 2-4 o'clock position. Multiple enlarged left axillary lymph nodes, largest measuring 48x35 mm. Right breast and axilla was normal. Core needle biopsy of left breast lump was suggestive of infiltrating ductal carcinoma grade III; ER/PR/Her 2 negative. Metastatic work up done was unremarkable. In view of locally advanced disease (Stage IIIB), patient received 3 cycles of neoadjuvant chemotherapy (Cyclophosphamide, Adriamycin, 5 Fluorouracil regimen) followed by left modified radical mastectomy. Post operative histopathology showed infiltrating ductal carcinoma grade II; tumour size 8X6X5 cm; modified Richardson Bloom score=6; lymphovascular invasion and perineural invasion negative; base, skin, nipple areola complex free of tumour; lymph nodes: 9/9 negative (pT3N0M0). She was given 3 cycles of adjuvant chemotherapy (Cyclophosphamide, Adriamycin, 5 Fluorouracil regimen) and was advised for adjuvant radiotherapy. However, the patient defaulted for the same.

Patient presented again, about 8 months after the completion of her last chemotherapy. This time the presenting complaint was lump in her right breast of 2 months duration. On examination, general condition of the patient was good. A hard mobile 4x3 cm right breast lump in lower outer quadrant was palpable. Right axilla and supraclavicular fossa was normal. Left chest wall,

axilla and supraclavicular fossa showed controlled status of disease (cT2N0Mx) Core needle biopsy of right breast lump was suggestive of metaplastic carcinoma. Metastatic work up showed no evidence of metastasis. Patient underwent right modified radical mastectomy. Post operative histopathology showed malignant lesion, differential diagnosis being 1) Sarcomatoid carcinoma 2) Sarcoma; tumor size 5X4X3.5 cm; lymphovascular invasion and perineural invasion negative; base, skin, nipple areola complex free of tumour; tumour 0.4 cm

away from base and 1 cm away from overlying skin; lymph nodes: 14/14 negative; ER/PR/Her2neu negative. Immunohistochemistry was suggestive of metaplastic carcinoma (carcinosarcoma) with CK7 positive, CK20 negative, Vimentin diffusely positive. Patient was started on adjuvant treatment. Patient received 6 cycles adjuvant chemotherapy (Paclitaxel, Carboplatin regimen). Further patient received adjuvant radiotherapy to the right chest wall (50 Gray/ 25 fractions).

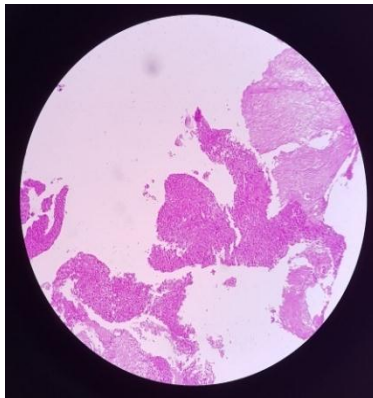


Fig 1: H&E of IDC

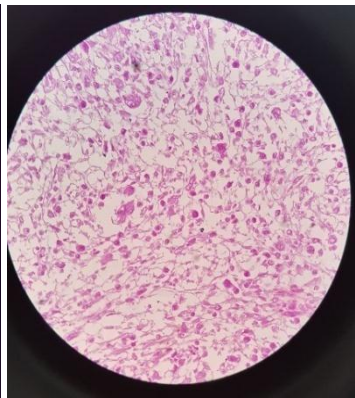


Fig 2: H&E of MBC

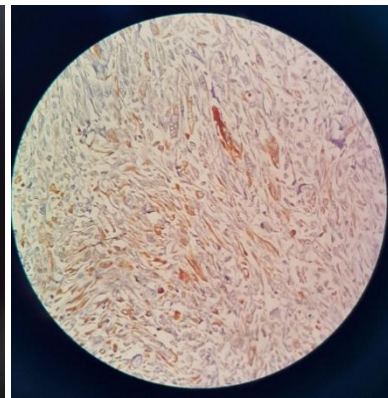


FIG 3: IHC of CK positivity

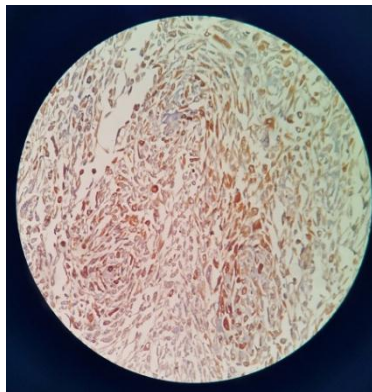


FIG 4: IHC of CK7 positivity



FIG 5: IHC of Vimentin positivity



FIG 6: Patient post treatment

DISCUSSION

The most common second malignancy for breast carcinoma patients is cancer of the contralateral breast

representing about the 30%–50% of all second primary malignancies in women affected by primary breast cancer.^[4] Contralateral breast cancers are called

synchronous if the second tumour develops within a short time interval (usually within 3 months) from the first tumour and metachronous if the time interval between the two tumours is longer (usually > 3 months). However, a clear cut-off time is not defined in the literature.^[5] Synchronous breast cancers account for approximately 30% of all contralateral breast cancers while 70% are metachronous breast cancers.^[6]

The risk factors associated with bilateral occurrence are: familial or hereditary breast cancer, young age at primary breast cancer diagnosis, lobular invasive carcinoma, multicentricity and radiation exposure.^[7] However, none of these risk factors were found associated with our patient.

Chaudary et al. proposed criteria for the diagnosis of second primary breast cancer in 1984 as follows: (i) there must be in situ change in the contralateral tumor, (ii) the tumor in the second breast is histologically different from the cancer in the first breast, (iii) the degree of histological differentiation of the tumor in the second breast is distinctly greater than that of the lesion in the first breast, (iv) there is no evidence of local, regional, or distant metastases from the cancer in the ipsilateral breast.^[8]

The most common histopathological type in these bilateral breast cases is infiltrating ductal carcinoma.^[9] The concordance rates of histological types were 50% in synchronous cancers and 33% in metachronous cancers.^[9]

Sarcomatoid carcinomas of the breast account for <0.1% of all breast malignancies. These are a form of metaplastic breast cancer with overt carcinomatous and sarcomatous features.^[10] Median decade of presentation in the 60's with majority of tumors in stage II at presentation with no local or metastatic involvement.^[11] Metaplastic breast cancers (>90%) display triple negative phenotype, preferentially has a basal like or claudin low molecular subtype and frequently harbours mutation in TP53 gene.^[12] Age and hormone receptor status of our patient was found to be consistent with the literature.

Aggressive biological parameters are more frequently associated with metaplastic breast cancer compared to infiltrating ductal carcinoma of breast which drives a more aggressive treatment approach.^[12] Role of radiotherapy is unclear for metaplastic breast cancer. There are a few retrospective studies that support the role of radiotherapy in patients of metaplastic breast cancer in terms of improved overall and disease specific survival following lumpectomy as well as mastectomy.^[13] However, because of the rarity of the disease none of the prospective randomized trials have addressed the role of adjuvant radiotherapy. Thus these retrospective findings need to be further confirmed by conducting prospective studies.

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