

CASE REPORT

SYNCHRONOUS BILATERAL BREAST CARCINOMA

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ABSTRACT: This is a report of a case of carcinoma of breast occurring simultaneously in both breasts in a middle aged woman who presented initially with a mass in the left breast. On clinical and radiological examination a mass lesion was also identified in the contralateral breast. Histopathology revealed infiltrating ductal carcinoma in both breasts. The salient features of bilateral breast carcinoma are presented.

KEYWORDS: Breast cancer, Bilateral breast carcinoma, Screening, Histopathology.

INTRODUCTION: Breast cancer is one of the most common cancers affecting women globally. Carcinoma of breast is usually unilateral and solitary. The incidence of bilateral breast carcinoma is however very uncommon. Bilateral breast cancer is diagnosed as synchronous when contralateral cancer is identified within six months after the breast cancer.^[1] Contralateral breast cancer, diagnosed with an interval of more than 6 months, is termed as metachronous breast cancer. Bilateral breast cancer has an incidence of 4-20% in patients with primary operable breast cancer. ^[1] We present a case of bilateral breast carcinoma which occurred simultaneously in a middle aged woman. Varying concepts and distinct characteristics of bilateral primary breast cancers are discussed. The importance of awareness and screening of the contralateral breast in patients who present initially with unilateral breast cancer is highlighted.

CASE REPORT: A 50 year old woman presented with a mass in the left breast. There was no positive family history of breast cancer. Clinical examination showed tumour masses in upper and outer quadrants of both breasts and palpable axillary lymph nodes. Ultrasonography and mammography were done followed by fine needle aspiration and surgery. Bilateral radical mastectomy was done and resected specimens were received. The specimens were fixed in formalin, embedded in paraffin and routinely processed. Microscopy of Haematoxylin and Eosin stained sections was followed by Immunohistochemistry with markers Estrogen Receptor (ER), Progesterone Receptor (PR) and Herceptin (Her2neu).

Left Mastectomy: Serial cut sections showed a gray white and gritty tumour of 6x5x5cmsize in the upper and outer quadrant beneath the skin with infiltrating margins. On microscopic examination a diagnosis of infiltrating ductal carcinoma was made [Figure1a]. Vascular invasion and infiltration of basal cut margin were seen. In situ carcinoma component of 30% with comedo and cribriform patterns was noted in the adjacent areas [Figure 1b]. All the nine axillary lymph nodes showed secondary deposits. Immunohistochemistry showed negativity for ER [Figure 1c] and PR [Figure 1d] but strong positivity for Herceptin [Figure 1e].

CASE REPORT

Right Mastectomy: Serial sections of right mastectomy specimen also revealed a gray white and gritty tumour measuring 4x2x1cm in size. Microscopy revealed an infiltrating ductal carcinoma [Figure 2a] along with in situ component of 50% showing comedo and focal cribriform patterns [Figure 2b]. Areas of calcification were seen. All the resected margins were free of tumour infiltration. One of three axillary lymph nodes showed metastatic deposit. Immunohistochemistry showed similar results. Both ER [Figure 2c] and PR [Figure 2d] were negative whereas strong positivity was observed for Herceptin [Figure 2e].

DISCUSSION: The occurrence of bilateral breast carcinoma is very uncommon. The incidence of primary synchronous bilateral breast carcinoma ranges from 0.3% to 12% partly because of application of various definitions by different workers to describe this entity.^[2] While some workers consider contralateral breast cancer diagnosed within one year as synchronous others term only those bilateral cancers diagnosed with in three months of each other as synchronous variant.^[3,4,5]

Controversy still prevails regarding the origin and behaviour of Primary synchronous bilateral breast cancers though they are considered to be of independent origin rather than metastatic. According to De la Rochefordiere A et al, these tumours can arise from a single cell with secondary spread to the opposite breast or a specific favourable hormonal milieu induces similar morphological features and biological behaviour in different tumours of both breasts.^[6] Distinct morphological criteria like the presence of intraductal component, different histological variants and different degrees of differentiation in bilateral tumours indicate their origin as primary cancers.^[7] The presence of in situ component is the most important feature which excludes metastatic origin of bilateral breast tumours.^[8] In our case, in situ component was found in both left breast (30%) and right breast (50%).

It is suggested that 5 to 10% of all breast cancers are hereditary and women with BRCA mutations are at increased risk for bilateral breast cancer. ^[9] In our case there was no positive family history and genetic testing was not done.

Cavaliere A et al reported that the incidence of invasive lobular carcinoma and presence of lobular carcinoma in situ was higher in primary synchronous bilateral breast carcinoma in comparison to unilateral cancer.^[10] In our case, both tumours showed infiltrating ductal carcinoma with in situ ductal component.

In one study multifocality was found in 18% of synchronous cancers on both sides and it was suggested that the presence of multi centric tumours was a risk factor for bilateral breast cancer. ^[11] However in our case, the tumours were unifocal in both breasts.

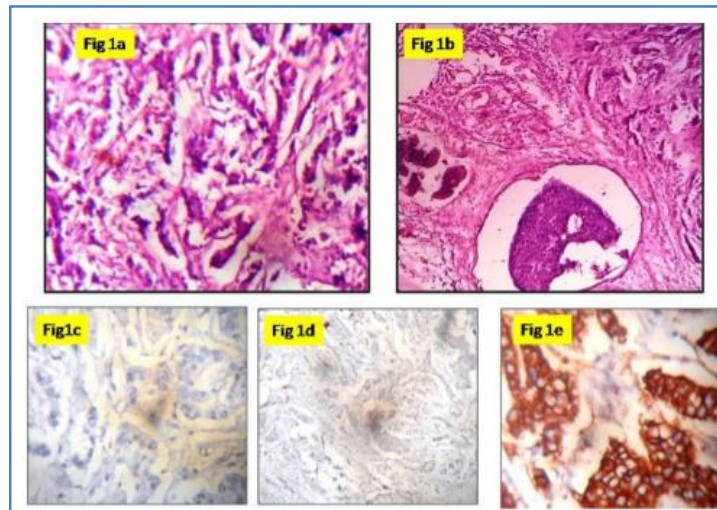
Many studies reported a higher rate of positivity for ER and PR.^[12] In our case, Immunohistochemistry revealed negativity for ER and PR and positivity for Herceptin.

CONCLUSION: Bilateral breast cancer is uncommon and synchronous bilateral breast carcinoma is extremely rare. However it is important to screen the contra lateral breast in patients who present initially with unilateral breast carcinoma because these cases usually present in an advanced stage. Majority of bilateral breast cancers are considered to be primary in origin and the presence of in situ component in both tumours implies their independent origin.

CASE REPORT

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**Fig. 1: (Left Breast): 1a- Invasive ductal carcinoma, 1b- insitu component
1c: ER Negative, 1d: PR Negative, 1e: Her 2neu: strong positive 3+**

CASE REPORT

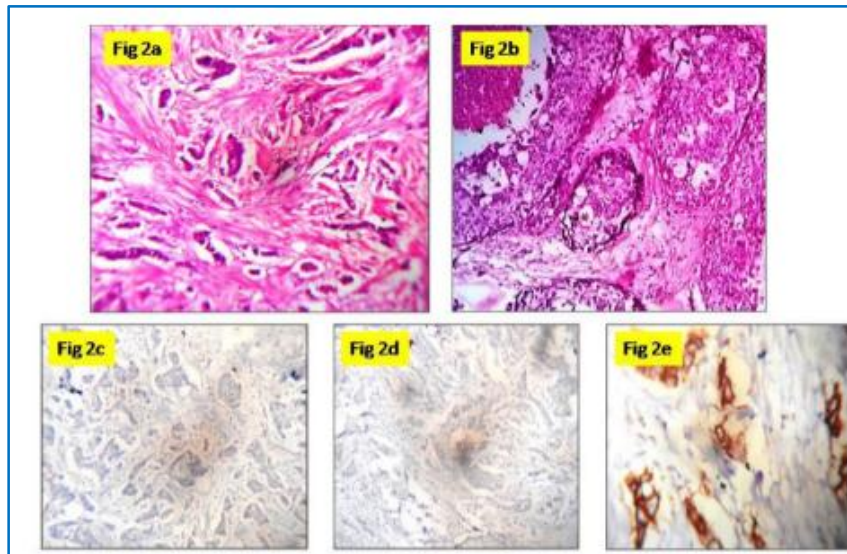


Fig. 2: (Right Breast): 2a: Invasive ductal carcinoma, 2b: Insitu component 2c- ER Negative, Fig2d-PR Negative, 2e: Her 2 neu-strong Positive 3+

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