

Bilateral Metachronous Breast Cancer in a Patient: A Case Report

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ABSTRACT

The presence of breast malignancy bilaterally is not a common case scenario. With reference to the time of occurrence, a second primary malignancy can be either synchronous or metachronous. The synchronous cancer of the breast can also be present in the same breast. Usually, in metachronous bilateral breast cancer (MBBC), the histologically same type of malignancy is seen at different periods. However, we present a case of MBBC in a 62-year-old female patient who had two histologically different types of breast cancer. She presented in hospital with a lump in her right breast and a fungating mass in her left breast. On biopsy right-sided lump was invasive ductal carcinoma while the left-sided mass was borderline phyllodes tumor, at two separate biopsies from renowned histopathology labs. After chemotherapy for IDC, a simple mastectomy with a wide margin of skin was performed on the left side, while on the right side, a modified radical mastectomy was performed.

Keywords: Synchronous, metachronous, invasive ductal carcinoma, phyllodes tumor, mastectomy.

INTRODUCTION

Due to an increase in life expectancy and better management, it has been observed that incidence and survival have increased in patients with breast cancer. Consequently, there has been an increase in the incidence of patients with second new breast cancer (synchronous or metachronous) [1]. As compared to the general population, all breast cancer patients have a five times higher risk of developing another breast cancer in the future [2].

Phyllodes tumors count for 3-5 cases per 1000 patients of breast tumors [3] and have an overall prevalence of around 2.1 per million, of which maximum cases are noted between the ages of 45 to 49 years [4], with higher grades more common in elderly [5]. The presence of these tumors in a patient with another primary breast cancer of a different histological type is very rare. The etiology of having two distinct breast malignancies may involve common risk factors.

We found a case where the patient had IDC in the right breast and a Borderline Phyllodes tumor in the left breast. She had no significant risk factors in her history, still, she ended up having two different breast cancers. This is a rare case scenario.

CASE REPORT

A 62-year-old post-menopausal lady presented at Mayo Hospital Lahore in August 2020, with a complaint of 10x10 cm mass with skin excoriation on her left breast and a 3x3 cm palpable lump in the lower outer quadrant of the right breast (**Fig. 1**). History revealed that the left-sided lump was present for 8 years, was of the size of a lemon initially, and had grown in size for the last 4

months. She had no family history, was multiparous, had breastfed her children for a total of 6 years, was a non-smoker, did not have late menarche or early menopause, and did not have a history of OCPs. The right-sided lump had appeared 3 years ago, and was of the size of a pea initially, and was gradually increasing in size since then.

Tru-cut needle biopsy of the right-sided lump and a wedge biopsy of the left-sided lump was performed. Tru-cut biopsy showed IDC-II of the right breast with estrogen receptor (ER), progesterone receptor (PR) and human epidermal growth factor receptor 2 (HER 2) all three strongly positive. The wedge biopsy of the left-sided mass came out to be a borderline Phyllodes tumor. This tumor was negative for cytokeratin, CD34, and desmin receptors.

CT scan showed bilateral breast masses with axillary lymphadenopathy. CT scan of chest and abdomen showed no distant metastasis. A bone scan was also negative for metastasis.

The patient was attended by the oncology department where she received neo-adjuvant chemotherapy. She had 6 cycles of chemotherapy, consisting of Cyclophosphamide, Doxorubicin, and Docetaxel. It resulted in incomplete regression of IDC. After chemotherapy, she was referred back to the Surgery department.

Surgery was planned, to which, the patient agreed. Right-sided Modified radical mastectomy was performed with level II axillary lymph nodes dissection, while simple mastectomy with a wide margin of skin was performed on the left side. Post-operative histopathology and receptor positivity was the same as pre-operative. All margins were clear of tumor. Her post-operative recovery was unremarkable. And she had no active issues at the 1-month follow-up. All this information was recorded after the patients' consent.

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Fig. (1): Pre operative. Phyllodes tumor on left side.

DISCUSSION

The pathological etiology of bilateral breast malignancies is not well defined yet; however, it is considered that family history is more commonly associated with MBBC than with unilateral and with synchronous cancers. The risk factors for two primary breast cancers can be genetic, environmental, or the combination of more than one unrelated event [6]. The presence of bilateral breast tumors does not affect the survival of these patients significantly, as compared to unilateral breast tumors [7].

The exact incidence of phyllodes tumor in patients with a histologically different breast CA in the contralateral breast is not known, but it is an extremely rare scenario. In 2010 Abdul Aziz *et al.* described 39 cases in which phyllodes tumors coexisted with other breast cancers [8], out of which, the coexistence of these two types in distinct breasts occurred in only 7 cases. Regarding grades of phyllodes tumor, a benign tumor is the most common, accounting for 60% to 75% of cases. [9] In our case, it was borderline malignant.

Precise knowledge of preoperative histology allows for better operative planning and reduces the chances of the need for a second surgery (in case the tumor reappears and a wide local excision is needed) [10]. Tumor size and surgical excision margins are the major determinants of outcome in terms of local recurrence and distant metastasis [11].

On the other hand, IDC is the most frequently occurring invasive breast cancer. In our case, the patient already had a phyllodes tumor in the left breast and IDC appeared in the right breast after a gap of 5 years. In this case, bilateral carcinoma was consistent with the definition of MBBC, but with different histological types. There are a few reports about the presence of IDC and lobular carcinoma as MBBC, but in this case, there was

IDC and phyllodes tumor in contra lateral breasts as separate entities and with a gap of the period. Although no risk factors could be identified in this patient. This is a rare case scenario.

CONCLUSION

The presence of phyllodes tumor must be considered as a differential, in patients presenting with bilateral breast tumors.

CONSENT FOR PUBLICATION

Written informed consent was taken from the patient.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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