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# Synchronous Bilateral Breast Tumour of Different Histology: A Case Report.

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**ABSTRACT**

Breast cancer is one of the most common cancers in the world and affects a great number of women over the entire globe. This group of tumors rarely present as bilateral disease and when it does, normally occurs within the same histological type. We report a rare case of concurrent bilateral breast cancer with two different histological types, a breast carcinoma and a breast sarcoma, in a 47 -year-old woman. A 47-year woman presented with a nodule in the left breast of 2.0 × 1.5 cm, and, in the right breast, lump of size 16X12 cm suspected of malignancy and with clinically negative armpit. Biopsies had revealed sarcoma (right breast) and invasive mammary carcinoma (left breast). She was submitted to bilateral modified radical mastectomy. A histological study showed an infiltrating ductal carcinoma nos type with invasion of seven of the 15 excised axillary nodes in the left breast and, in the right breast, a sarcoma of the mammary stroma, for which the immunohistochemistry study was negative for epithelial biomarkers and positive for vimentin. Later, she was subjected for chemotherapy(six cycles of 75 mg/m2 5-fluorouracil, epirubicin and cyclophosphamide). Hormone receptors were negative in the tumor of the left breast. She presented no sign of negative evolution in the last consultation.The risk of development of bilateral breast cancer is about 1% each year within a similar histological type, but it is higher in tumors with lobular histology. In this case, the patient presented with two histologically distinct tumors, thus evidencing a rare situation.

**Keywords**: phyllodes, synchronous, bilateral breast tumours, sarcoma

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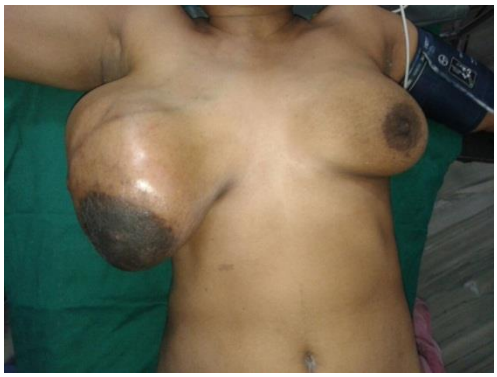
## INTRODUCTION

Breast cancer is one of the most important health problems in the world. In 2007, it represented about 26% of all types of cancer, and its mortality rate was about 15%[1,2]. Women with breast neoplasia had (per year) about a 0.5% risk of developing contralateral neoplasia and in these cases, we expect tumors of the same histological type [1]. Lobular carcinoma in situ (LCIS) is both multifocal and bilateral in a large percentage o fcases. After an average of about 10 years, 15% of these patients had invasive carcinoma diagnosed in the ipsilateral breast, and 9.3% had invasive carcinoma in the contralateral breast [3]. The most frequent histological type is ductal carcinoma (70% to 80%), followed by lobular carcinoma [4,5]. Sarcomas are uncommon tumors and represent about 0.5% of all breast tumors; sarcomas exhibit characteristic differences in original cells (mesenchymal), disease site, likelihood and site of metastasis, growth propensity, and chemosensitivity[6,7]. The widespread use of mammography for breast screening and the introduction of other sensitive radiological techniques have placed increasing demands on the pathologist for the accurate diagnosis and histological categorization of screening-detected lesions [8]. Mutation carriers have a significantly greater risk of contralateral breast cancers [2,9]. We report a rare case in a 47year-old woman presented with synchronous bilateral breast cancer with different histological types.

**Case Presentation**

A 47-year-old woman, housewife from chennai, noticed a gradually progressive lump in the right breast over a period of 2 year and another lump in the left breast for the past 3 months as on August 2014. She was postmenopausal with an obstetric history of two pregnancies.The first when she was 21 years old, and no history of abortions. She denied the use of oral contraceptive pills and hormone replacement therapy. Not exposed to radiation in childhood. Her sister had carcinoma breast and treated with modified radical mastectomy followed by chemotherapy.



On examination a lump of size 16X12 cm, globular shape, mobile along with the breast tissue, firm to hard in consistency, involving all the quadrant of right breast. There were dialated veins over right breast. Another lump of size, 3X2.5 cm, ovoid shape , hard in consistency in the left breast. Mammography revealed “a large round radiodense lesion with coarse and plaquelike calcification suggestive of phyllodes tumour in the right breast and a radiodense lesion with pleomorphic calcification in upper outer quadrant of left breast suspicious of malignancy. Right breast core-needle biopsy revealed cellular neoplasm with biphasic pattern composed of epithelial and stromal components. Tumour composed of atypical oval to spindle cells with markedly pleomorphic and vesicular nucleoli suggestive of phyllodes tumour. In left breast infiltrating ductal carcinoma arising in the back ground of extensive high grade ductal carcinoma in situ was reported. There was no evidence of distant metastasis. She underwent right side simple mastectomy and left side modified radical mastectomy . The histological study of the left breast showed infiltrating ductal carcinoma (microinvasive) arising in background of extensive high grade ductal carcinoma in situ with focal cribriform pattern. No lymphovascular invasion. There was no malignant deposits in 16 axillary lymphnodes. The estrogen and progesterone receptor , her2neu receptor all were negative , staged pT2N0M0 . On the right breast , the biopsy revealed tumour composed of atypical oval to spindle cells with markedly pleomorphic and vesicular nucleoli. Mitosis was more than 20/50 hpf. Margins were free. No lymphovascular invasion seen. Areas of multifocal necrosis and hemorrhage were seen. Dignosed as high grade sarcoma of breast , stage IIC . she was given eight cycles of chemotherapy, to reduce recurrence and distant dissemination, with 5-fluorouracil (5-FU),

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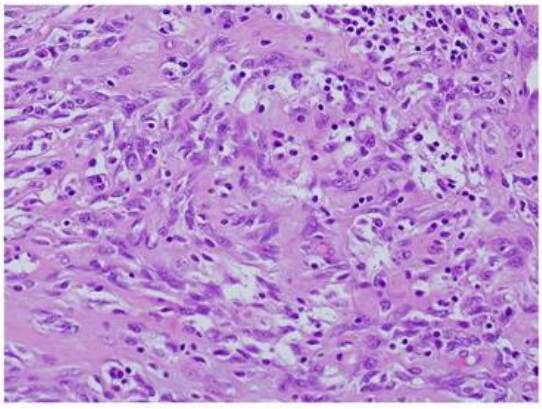
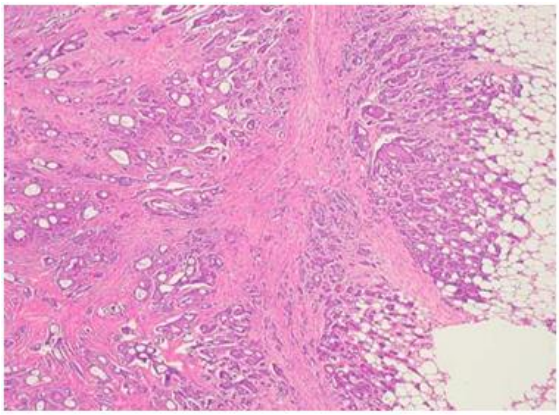
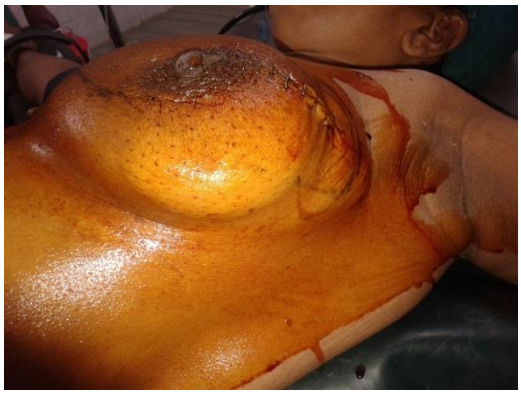
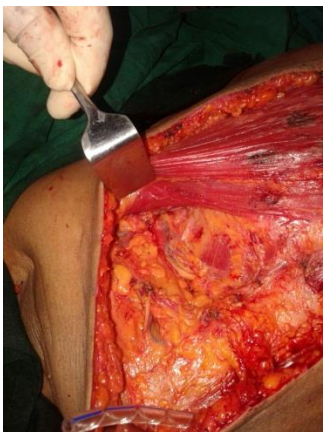
epirubicin, and cyclophosphamide (FEC 75). The last clinical examination was in december2014 and showed no signs of disease evolution.









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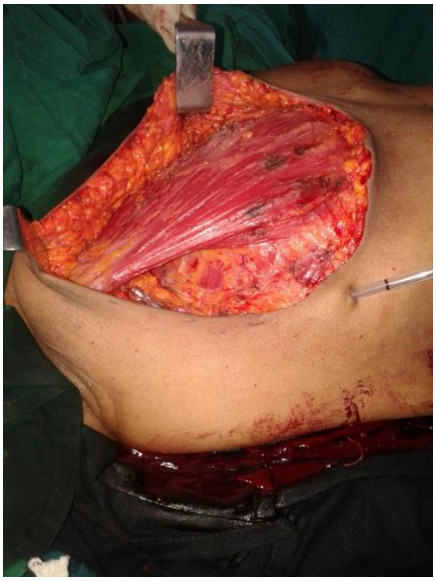

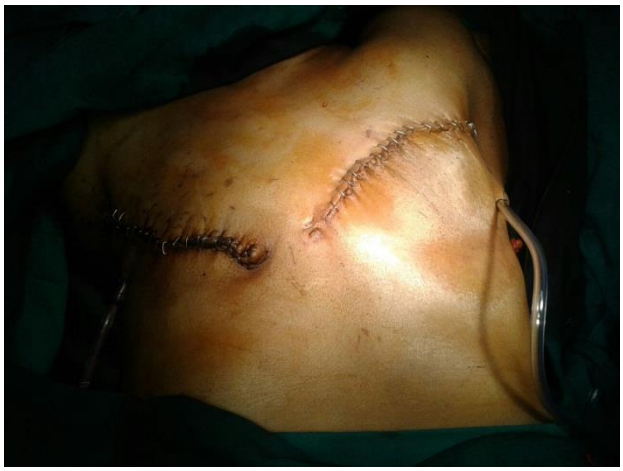

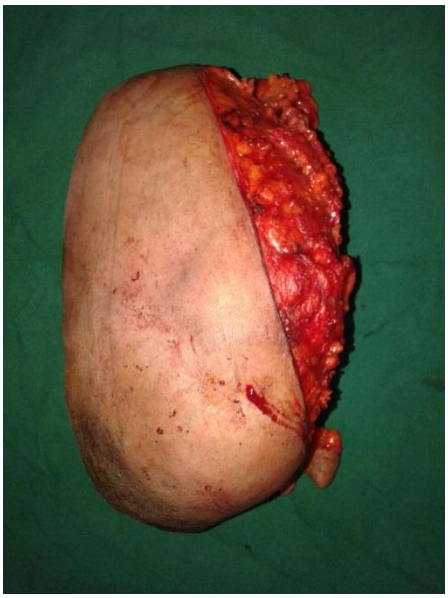

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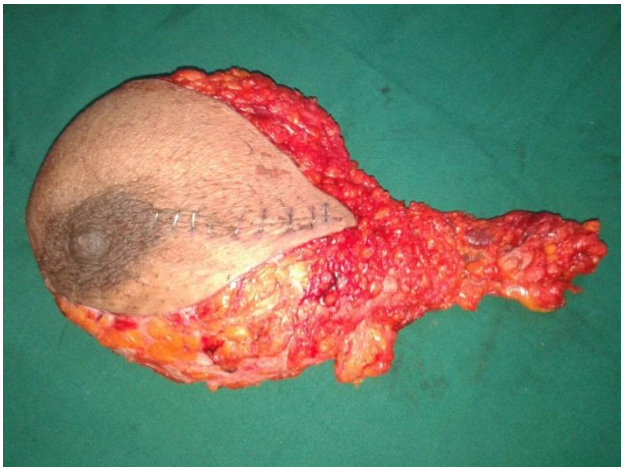

**DISCUSSION AND CONCLUSION**

Bilateral breast cancer represents a small number of all breast cancer cases. This case alerts us to diagnostic possibility for two rare situations of malignant mammary pathology: one of them is the presence of synchronous bilateral breast cancer [5], and the other is the presence of a breast stroma sarcoma, accounting for fewer than 1% of cases of breast cancers [10]. Even so, in these situations, we expect tumors with the same histological type, which was not so in this case [1-3,9,11]. The lobular neoplasia histology has more multifocal and contralateral disease than does ductal histology.but this patient had infiltrating ductal carcinoma. The interaction of many specialities is important for the fast diagnosis and therapeutic approach for patients with breast cancer. Lately, the widespread use of mammography breast screening and the introduction of even more sensitive radiological techniques have become more important. This has helped pathologists to achieve a more accurate diagnosis and better histological categorization of screening-detected lesions and optimize the clinical approach and therapeutics in these patients. Women with breast cancer have, per year, approximately a 0.5% to 2% risk of developing bilateral synchronous neoplasia, 5% to 10% risk of developing metachronous breast cancer; in these cases, we expect another tumor of the same histological type[1,5,12,13]. Bilateral breast cancer is uncommon and difficult to define because it may manifest as synchronous(both cancers diagnosed within six months) or metachronous tumors (multiple separated occurrences) [5,14,15].The true clonal origin and biologic behavior of this entity is still controversial [9,11]. Our patient was stratified as high risk and was subjected to surgical treatment followed by chemotherapy with FEC 75. The risk factors for breast carcinoma are age, early menarche, late menopause, nulliparity, later first pregnancy ,medical history, family history with first-degree relatives with breast cancer, presence of the mutation BRCA1 and BRCA2, previous thoracic external radiotherapy ,high breast density in mammography, use of hormones (high doses of estrogens and progesterone), alcoholism, and the Caucasian race [5,13,16]. Our patient did not have many of these risk factors, except for age and race positive family . On the right side, sarcoma of the breast, stage IIc was detected and treated with surgery, the main therapeutic modality in soft-tissue sarcoma [3,5,13,17].Soft-tissue sarcomas are a heterogeneous group of solid tumors of mesenchymal origin and with low global incidence, being more common in the extremities (in approximately 50% of the cases). Risk factors for sarcomas are radiation exposure, Von Recklinghausen's disease (neurofibromatosis), Gardner syndrome, Werner syndrome, basocellular nevus syndrome, or Li-Fraumeni syndrome (mutation of p53). They are less-common tumors and represent about 0.5% of all the mammary tumors. They have high probability of local recurrence and distant metastasis, most frequently to the lungs. However, in our patient, we did not find distant disease at this time.

After 10 years of evolution, the recurrence index is low [5,12,13,16,18-20]. The incidence of primary sarcomas seems to be high in developed countries [3,5,7]. Pure sarcomas with an epithelial component are very limited [3,7]. The literature on whether benefit occurs from the addition of radiotherapy for small (smaller than 5 cm) high-grade lesions is controversial [3],although adjuvant radiation has been shown to improve local control in soft-tissue sarcoma just in the extremities. The patient was diagnosed on time , and all the lines of management as deemed necessary were done. The frozensection was very important to define the best surgical approach for this patient. The adjuvant chemotherapy, radiotherapy, and hormone therapy helped to improve the outcome for us.

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