



Carcinosarcoma of the Breast: Case Report

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ABSTRACT

Carcinosarcoma of the breast represents less than 1% of primary breast malignancies. Both malignant epithelial and malignant mesenchymal elements exist together in the breast. A 59-year-old postmenopausal woman presents with a bloody nipple discharge and mass in breast. In left breast 2x1 cm mass detected and excised. At pathological examination breast carcinosarcoma was detected. Then modified radical mastectomy was performed. Tumor measured 4x4x3.5 cm. Tumor cells were negative for estrogen, progesterone. C-erb-B2 was negative. There was no metastasis in axillary lymph node metastasis. Carcinosarcoma of breast is rare tumor. It may be considered in diagnosis of patients with large breast mass.

Key words: Breast cancer, carcinosarcoma, metaplastic cancer

Introduction

Carcinosarcoma of the breast is an aggressive tumor constituting less than 1% of all breast cancers (1). It contains a combination of malignant epithelial and malignant mesenchymal cells (2). In this case report, findings of a patient who had been operated with a diagnosis of breast carcinosarcoma and the relevant literature data are presented.

Case Presentation

A 59-year-old female patient presented with bloody nipple discharge and a lump in her left breast for the last 2 months. On physical examination, a 4x4 cm mass was observed at the 1-2 o'clock position in the left breast. The ultrasonographic examination showed a regular bordered, hypoechoic solid lesion that contains calcifications, and in 40 mm diameter at the 12 o'clock position in the left breast. Distortion was observed in the breast parenchyma surrounding the lesion. Mammographic examination revealed a nodular opacity of 3.5 cm in size in the outer quadrant of the left breast that contains microcalcifications and distortion of the surrounding tissues.

An excisional biopsy was performed in another center and the histopathological examination was compatible with carcinosarcoma, thus the patient was referred to our clinic. An informed consent was obtained and surgery was recommended. The patient underwent modified radical mastectomy.

The histopathological examination of the mastectomy specimen identified the tumor size as 4x4x3.5 cm. The tumor contained 5-10% of ductal carcinoma in situ foci, with areas of microcalcifications, tumor necrosis was observed in 50% -60 of the tumor, there was no lymphovascular invasion, but perineural invasion was frequently seen. Immunohistochemical examination showed the tumor as epithelial membrane antigen (+), Vimentin (+), high molecular weight cytokeratin (-), CK 7 and smooth muscle actin (+), and non-specific staining with S 100 (Figure 1, 2). The estrogen receptor (ER) and progesterone receptor (PR) were negative. C-erbB 2 was negative. Metastasis was not observed in any of the 20 removed axillary lymph nodes.

Discussion and Conclusions

Carcinosarcoma of the breast is a malignant sarcomatoid metaplasia of epithelial carcinoma. It is included in the group of metaplastic breast tumors. Malignant epithelial and malignant mesenchymal cells are found together. Although its origin is not clear, it has been reported to arise from cystosarcoma phyllodes, fibroadenoma, or cystic disease in some patients (2). They constitute less than 1% of all breast cancers.

Although it is reported that it can be seen in any age between 10 and 95 years, in general it is observed in postmenopausal women older than 50 years (3, 4). Typical clinical finding is a rapidly growing, palpable mass. In addition, as in our patient, bloody nipple discharge can be seen. The resulting masses are larger than other type of breast cancers. In our patient, the mass was 4 cm in size, in the literature patients who presented with masses as large as 20 cm have been reported (5). Due to these large lesions, nipple retraction or skin ulceration may occur.

Carcinosarcoma does not have specific imaging findings. Typical findings clearly indicating malignancy might not be seen on mammography (6). The resulting masses have more regular borders and more benign appearance than other breast cancers. Typical malignant findings are not present

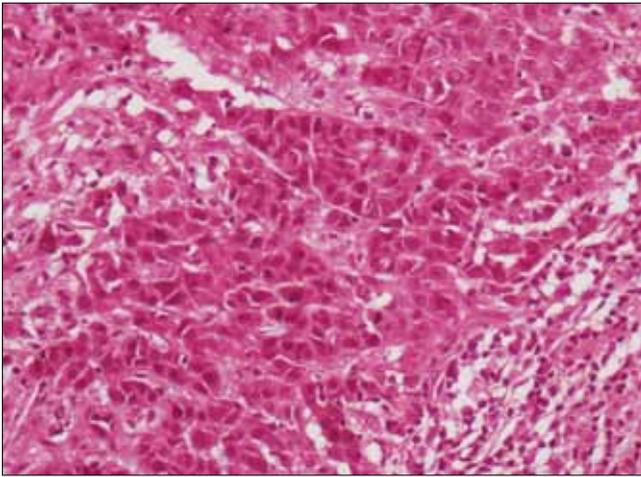


Figure 1. Sarcomatoid areas within the tumor (H&E x400)

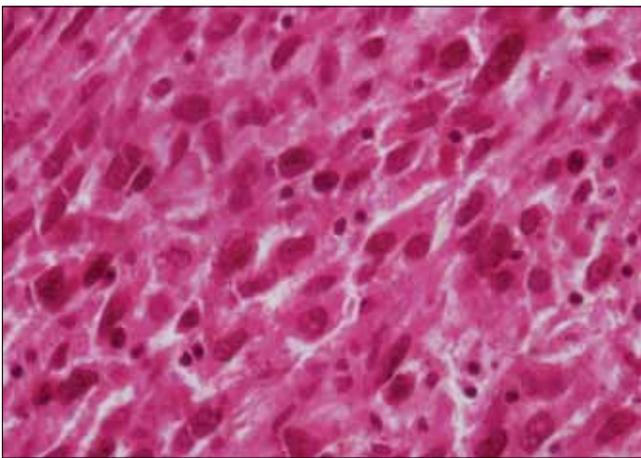


Figure 2. Invasive carcinoma areas (H&E x200)

on ultrasonography, however a combination of solid and cystic structures within the lesion have been reported in some patients (7). In our patient, although the lesion was well-circumscribed on ultrasound and mammography, the presence of microcalcifications, distortions in the surrounding tissue and lesion size were interpreted as suspicious for malignancy. A needle biopsy is not always adequate for histopathologic diagnosis and the principal diagnosis is usually made by examining the entire lesion (8).

The general approach in the treatment of breast carcinosarcoma is modified radical mastectomy. Axillary metastasis rate has been reported as 0-53%, and is not frequent (3). Calley reported that axillary metastasis was not observed in any of 32 patients with carcinosarcoma of the breast (9). While some authors advocate that axillary dissection is unnecessary due to the low rate of axillary metastasis, this is not the standard approach. For this reason, we chose to apply a modified radical mastectomy to our patient, which is the standard method in our clinic. Although there is not enough data in the literature, assessment of these patients's axillary status by sentinel lymph node biopsy seems to be a more appropriate approach. For chemotherapy, the protocols that are being used in breast cancer is applied, however the response rate is low (1). Radiotherapy may be used to prevent local recurrence (10). Regional disease recurrence and distant metastasis rates are high despite radical treatment (4).

The hormone receptors and c-erb B2 are generally found to be negative on pathological examination (11). Similarly in our patient, the hormone receptors and c-erb B2 were negative. Tumor size, differentiation rate, and high histologic grade are associated with prognosis (12). Presence of distant metastases is an important factor determining

survival (1). Although the most frequent distant metastases site is the lung, bone and brain metastasis are common. These tumors have more poor prognostic factors than other type of breast cancers and are more aggressive. Nevertheless, the course of the disease is parallel to breast cancers with similar poor prognostic markers (13).

In conclusion, breast carcinosarcoma is a rare metaplastic tumor of the breast. It should be considered during evaluation of rapidly growing and large masses, and remembered that it may not have typical malignancy signs on imaging, and that needle biopsy may be insufficient for diagnosis.

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Informed Consent: Written informed consent was obtained from patient who participated in this study.

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