Primary stromal sarcoma of the breast

Aleksandra Radovanović, Jasmina Gligorijević, Nikola Živković, Marija Andjelković-Matić

SUMMARY
Primary sarcomas of the breast are rare and there are only a few hundred cases reported in the literature; hence, their significance is primarily educational. We report a case of a 57-year-old patient who developed breast sarcoma without previous history on any breast diseases.

Key words: Breast Neoplasms; Sarcoma; Diagnosis; Immunohistochemistry; Antigens, CD

INTRODUCTION
Breast cancer is the most common cancer of female population worldwide. In Cancer Statistics 2010, breast cancer remains the leading type of cancer with an estimate of 23% in American women (1). The vast majority of breast cancers are carcinomas, while breast sarcomas are few (2-5). SARCOMAS represent less than 1% of all primary breast malignancies and less than 5% of all sarcomas (6-8) and because of their rarity, they are not commonly encountered by the members of medical profession.

Primary breast sarcoma arise from breast mesenchymal tissue. The annual incidence rate is 4.4 new cases per 10 million women (9). There is still no consensus about the exact definition of breast sarcoma. Some authors exclude cystosarcoma phylloides from their studies due to its epithelial components (10, 11), but others do not distinguish between other subtypes of breast sarcoma and cystosarcoma because of the similar survival and clinical course (7, 12, 13, 14).

Almost every previous reference on this entity in the literature is in form of small case report series. In almost all cases, patients had been diagnosed clinically as having a breast carcinoma and the correct tissue diagnosis was established by the histology (11-16).

CASE PRESENTATION
A 57-year-old female patient presented to the surgical department with a complaint of progressive swelling of the left mammary gland without pain. There was no history of previous breast trauma, bleeding, or familial history of breast cancer. On examination there was a single 4x5.5x3.5cm mass, firm and nontender in the upper right quadrant. There was slight retraction of breast cancer. On mammography there are no palpable areas and calcifications were not visible.

Microscopically, hematoxylin and eosin (HE) stained section revealed whorls and areas, areas of atypical mitoses in the sections of the tumor. The tumor was found to be infiltrative and CDS8 positive. Very strong expression for CDS8 was demonstrated (Figure 1).

Figure 1. A – Tumor is composed of whorls and nests of spindle cells. Trichrome stain; B – Vimentin x40 was strongly positive; C – Strong immunoreactivity to CD68 x 40; D – Cytokeratin staining was negative x 100; E – Actin x 20 was negative.

DISCUSSION
Primary sarcomas of the breast are rare and there are only a few hundred cases reported in the literature. Cystosarcoma phylloides are much more common and their behavior, management and treatment are different from those of pure sarcoma. The reported case was the first stromal sarcoma diagnosed in our laboratory during the period of 32 years. The defect in experience was prevalently covered by using appropriate antibodies for immunohistochemical medical review of 25 cases. In 1991 92.1-18.4.

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SUMMARY

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INTRODUCTION

Breast cancer is the most common cancer of female population worldwide. In Cancer Statistics 2010 breast cancer remains the leading type of cancer with an estimate of 23% in women (1). The vast majority of breast cancers are carcinomas, while breast sarcomas are few (2-5). Sarcomas represent less than 1% of all primary breast malignancies and less than 5% of all sarcomas (6-15), and because of their rarity, they are not commonly encountered by the members of medical profession.

Primary breast sarcomas derive from breast mesenchymal tissue. The annual incidence rate is 4.4 new cases per 10 million women (6). It is still not in consensus according to the exact definition of breast sarcoma. Some authors excluded cystosarcoma phylloides from their studies due to its epithelial components (6, 10, 11), but others do not distinguish between other subtypes of breast sarcoma and cystosarcoma because of the similar survival and clinical course (7, 8, 12, 13).

Almost every reference on this entity in the literature is in form of small case report series. In almost all cases, patients had been diagnosed clinically as having a breast carcinoma and the correct diagnosis was established by the histology (14-16). We report a case of primary stromal sarcoma of the breast.

CASE PRESENTATION

A 57-year-old female patient presented to the surgical department with a complaint of progressive swelling of the left mammary gland without pain. There was no history of previous breast trauma, bleeding, or family history of breast cancer. On examination there was a single 4x5.5x3.5cm mass, which was prevailed over by using appropriate antibodies for immunohistochemistry as recommended (15). The controversy still exists on the term “stromal sarcoma” in breast lesions. It is now recommended to use histological description by cell of origin of the neoplasm (18). The most common sub-types of breast sarcoma are: malignant fibrous histiocytoma, fibrous sarcoma, angiosarcoma and spindle cell sarcoma. Several other sub-types (kynocystosarcoma, liposarcoma, rhabdomyosarcoma, osteosarcoma, chondrosarcoma, synovial sarcoma and neurosarcoma) have been described as smaller percentages of case series or as case reports (5, 8, 11). The presenting case is stromal-fibrous sarcoma, according to the cell of origin. Although rare, one must have in mind the possibility of such neoplasm in the breast any time there are spindle cells in the sections of the tumor. The tumor is the place of metastatic sarcomas (19, 20) as well as those sarcomas secondary to radiotherapy (21).

The risks of developing breast sarcoma are largely unknown, but those often proposed are: external beam radiation of the breast or chest wall, chronic lymphedema of the breast and arm (especially for angiosarcomas); pre-existing fibroadenoma or hereditary diseases, like neurofibromatosis or Li-Fraumeni syndrome (22).

It appears that breast sarcoma behaves like extremely sarcomas and hence, it is rational for using the same treatment protocol (15, 22). The first therapeutical line is surgical resection with postoperative radiotherapy with or without chemotherapy. In the present case, the conservation of the breast was done with radiotherapy and without chemotherapy. The patient was followed for 22 months and was in good condition.

Conflict of interest

We declare no conflict of interest.

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