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Primary squamous cell carcinoma of the breast: A case report and review of the literature

BİLGE GÜRSEL[1], İLKAY KORAY BAYRAK[2], ŞABAN ÇAKIR[1], LEVENT YILDIZ[3], MAHMUT GÜRSEL[4], İDRİS YÜCEL[5]

Ondokuz Mayıs University Medical School, Departments of [1]Radiation Oncology, [2]Radiology and [3]Pathology, [4]Samsun SSK Hospital, Department of General Surgery, [5]Ondokuz Mayıs University Medical School, Department of Medical Oncology, Samsun-Turkey

ABSTRACT

Primary squamous cell carcinoma is a very rare malignancy of the breast and it is the tumor of elderly age group. Pure squamous cell carcinoma of the breast can derivate from epidermis, the nipple or epithelium of a deep-seated dermoid cyst or squamous metaplasia on chronic inflammation background. Prognosis and treatment of this disease is controversial. We report mammographic, histopathologic findings and 24 months follow-up of a case with primary squamous cell carcinoma of the breast and discussed our approach for treatment with review of the literature. [Turk J Cancer 2007;37(3):114-116]

KEY WORDS:

Squamous cell carcinoma, breast, treatment, prognosis

INTRODUCTION

Primary squamous cell carcinomas of the breast are rare, since they occur in less than 0.074% of all primary invasive breast carcinomas (1). In order to classify a breast tumor as a primary squamous cell carcinoma one must exclude an epidermal origin, especially from the nipple region and the possibility of metastatic infiltration of the breast by a squamous cell carcinoma from a different location. Also differential diagnosis must include other primary carcinomas in which squamous metaplasia are found (2,3). Prognosis and treatment of this disease is controversial. We report mammographic, histopathologic findings and two years survival of a case with primary squamous cell carcinoma of breast and discussed our approach for treatment with the review of the literature.

CASE REPORT

A 60-year-old woman presented with a mass in her right breast. Physical examination revealed firm, rubbery, non tender and mobile lesion in her right breast. No axillary findings were noted. Mediolateral and craniocaudal mammograms of the right breast demonstrated a spherical mass lesion with ill defined speculated margins (Figure 1). The skin and the nipple-areola complex were not involved and no microcalcifications were seen. The mass was excised. Specimen demonstrated a tumoral structure composed of atypical keratinocytes in different sizes with narrow eosinophilic cytoplasm and moderate mithotic activity on a background of fibrolipomatous breast stroma

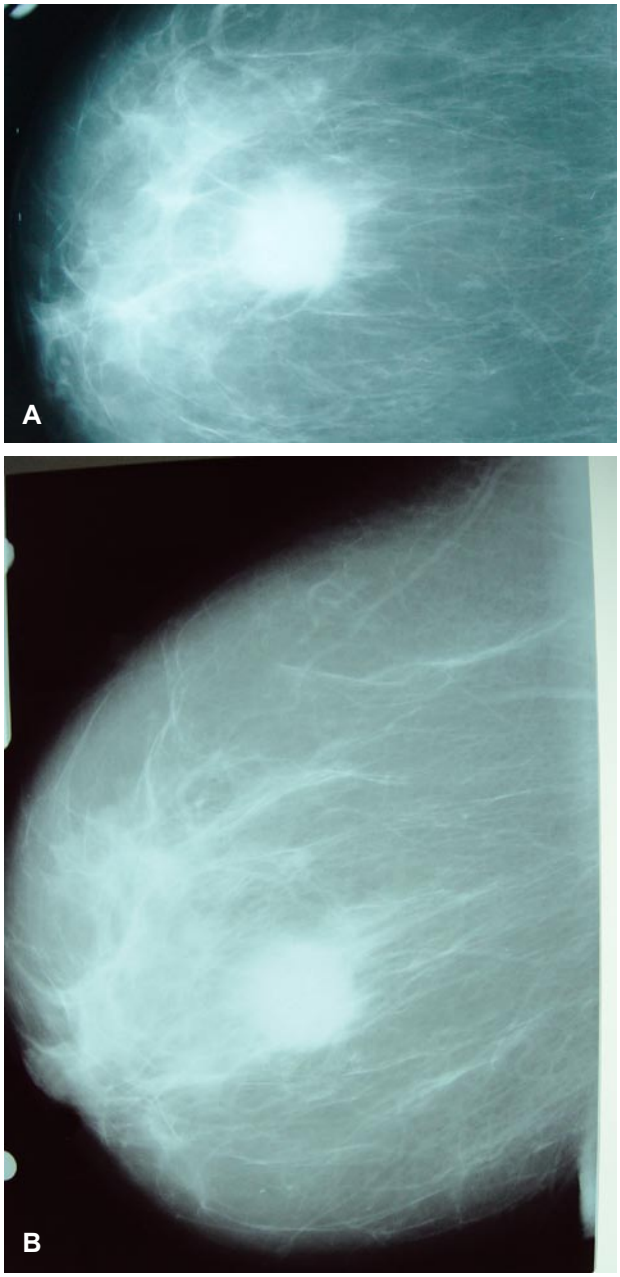

Fig 1 (A,B). (A): Mediolateral oblique, (B): craniocaudal mammograms of the right breast demonstrate a spherical mass lesion with ill defined speculated margins. No skin involvement and no microcalcifications were seen

(Figure 2). No connections with surface epithelium or different tumoral components were seen. Also there were many globe corns and cysts lined with stratified squamous epithelium (Figure 3). With these entire findings the lesion was accepted as keratinising (large cell) squamous cell carcinoma. Immunohistochemical studies showed that it was estrogen and progesterone receptor negative. To exclude metastasis contrast enhanced CT scan of the abdomen and thorax was performed. Also bone scintigraphy was performed but no positive finding was noted.

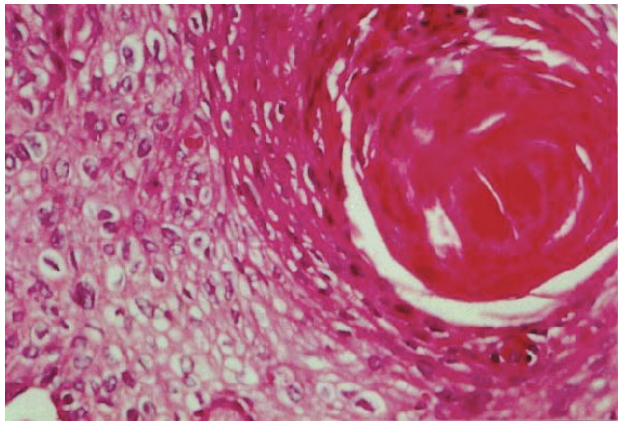

Fig 2. Photomicrograph of the specimen demonstrates malignant squamous cells with keratinising cytoplasm, hyperchromatic dense nuclei, coarse chromatin and keratin debris (H&E, x400)

According to all these findings the patient was diagnosed with primary squamous cell carcinoma of the breast and modified radical mastectomy was performed. Lymph nodes were free of cancer. So according to TNM staging she was accepted as Stage IIA (T2N0M0). No radiotherapy was done. But she received chemotherapy with epirubicin 120 mg/m^2/day (first day), cyclophosphamide 1000 mg/m^2/day (first day) every 3 weekly for 4 cycles. She had no local recurrence or far metastasis on 24 months follow up.

DISCUSSION

Pure squamous cell carcinoma of the breast is a very rare cancer. The first case was reported in 1908 and till 2002, 85 cases were reported in the literature (4). Breast metastasis of squamous cell carcinoma could originate from skin, cervix, pharynx, stomach and lung. Pure squamous cell carcinoma of the breast can derivate from epidermis, the nipple or epithelium of a deep-seated dermoid cyst or squamous metaplasia on chronic inflammation background (1, 5-7). Histopathologic examination of

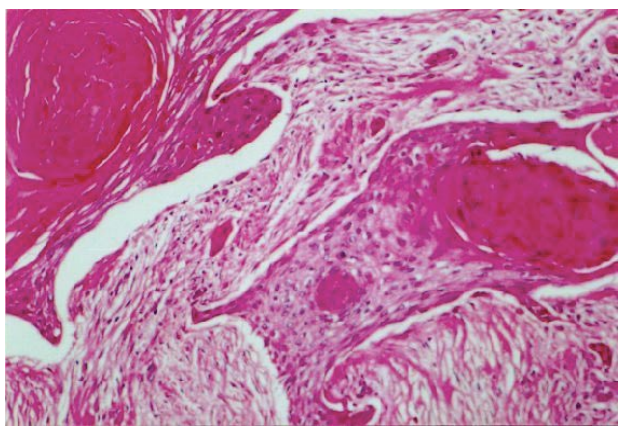

Fig 3. Photomicrograph demonstrates many globe corns (H&E, x200)

squamous cell carcinoma shows sheets of large squamoid cells with intercellular bridges and keratin formation (7,8).

Squamous cell carcinoma of the breast is the tumor of elderly age group (9). Tumors frequently reach large volumes and can be as large as 5 cm (5). Our patient was 60 years old and she had a mass of 3 cm. As it was seen in our patient, these tumors are usually estrogen and progesterone receptor negative, thereby hormonal adjuvant therapy could not be performed. In a report of Menes et al. (10) squamous cell carcinoma was found to be associated with a lower rate of lymph node metastasis at presentation (22% vs. 40-60% for infiltrating ductal carcinoma) and a significant rate of distant metastasis without lymph node involvement.

The prognosis of this type of breast cancer is still the subject of controversy. Some series suggest an indolent clinical course and a relatively good prognosis (11,12). But some investigators thought squamous cell carcinoma of the breast had an aggressive course with outcome comparable to poorly differentiated breast adenocarcinoma (9). Upon reexamination of about 4000 breast cancer biopsies, Toikkanen et al. (13) found three pure primary squamous cell carcinomas and reported that prognosis of these patients were extremely bad. Also Eusebi et al. (5) reported aggressive clinical course in their series of three patients.

Today management of patients with pure squamous cell carcinoma is still not clear. Dejager et al. (14) thought that cisplatinum-based chemotherapy should be considered in the treatment regimen of this disease. In this type of cancer Weigel et al. (1) recommended the same multi-modality management as adenocarcinoma at the same stage. Most of the squamous cell carcinomas are radiosensitive. Smaller primary squamous cell carcinomas of the breast could be treated with lumpectomy with axillary dissection followed by radiotherapy (6). Menes et al. (10) proposed a more selective approach like sentinel node biopsy, because lymph node involvement plays a lesser prognostic and therapeutic role in this disease. Mass of our patient was as large as 3 cm and no radiotherapy were given because breast conserving surgery was not preferred. Patient has taken chemotherapy like an adenocarcinoma in the same stage. She is still in our routine follow up and has no recurrence or metastasis in her 24 months follow up.

Pure squamous cell carcinoma of the breast is an extremely rare malignancy. Its prognosis and appropriate approach for treatment is still debated. New case reports would help to determine the right approach to this disease.

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