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Primary squamous cell carcinoma of the breast: A case report in a review of current literature

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ABSTRACT

Primary squamous cell carcinoma of the breast is a rare malignancy considered a subtype of metaplastic breast carcinomas. Here we presented a case of 56-year-old female patient with a history of modified radical mastectomy, chemotherapy and radiotherapy for invasive ductal carcinoma of the right breast in 2005. After eleven years primary squamous cell carcinoma of the breast has been detected in the left breast. Any other localization were screened for squamous cell carcinoma but there was no localization beyond the breast. The case was discussed and complied in a review of current literature.

1. Introduction

Primary squamous cell carcinoma of the breast is a rare form of neoplasia that consists 0.06–0.2% of all invasive breast cancers.[1,2] The prognosis of this type of breast cancer has been controversial: some authors have believed that a relatively good prognosis with indolent progress, on the otherwise some authors considered that it may take an aggressive prognosis similar to poorly differentiated breast adenocarcinoma.[3,4]

In a study which was carried out in patients who admitted to the Cancer Research Institute of Tianjin University between 1985 and 2013, 33650 patients with breast cancer were evaluated according to their histologies and 29 (0.086% of all breast cancers) patients were diagnosed with primary squamous cell breast carcinoma. Median tumor size was reported as 4.5 cm and axillary lymph node metastasis was determined in 41% of cases. Median overall survival of patients with squamous cell histology was 39 months.[5] This type of breast cancer has poor prognosis because of big tumor mass, rapid progression of the disease and the lack of specific imaging features. In this paper we discussed a case of primary squamous cell breast cancer in view of the literature.

2. Case

Fifty-six-year-old nulliparous woman admitted to the hospital with a palpable mass in left breast. She was also diagnosed breast carcinoma found in her right breast eleven years ago. She underwent modified radical mastectomy then received adjuvan chemotherapy and radiotherapy for early stage invasive ductal carcinoma. And also endocrine therapy was given for five years due to hormone receptor positivity. She was followed-up for 10 years without recurrence of cancer.

In December 2015, while she was periodically controlled with mammographic screenings annually, a high-density, deep-localized mass opacity was determined in left breast upper-inner quadrant which was no earlier viewable in previous mammographies. (Fig. 1-B). Fine needle aspiration biopsy of the mass was performed and then lumpectomy with sentinel lymph node biopsy was performed due to malignant cytology of breast biopsy. A mass with 0.5 × 0.3 cm in diameters was removed. Pathology revealed squamous cell carcinoma with negative margins. Estrogen and progesterone receptors and cerbB2 were found negative immunohistologically (triple negative). Ki67 proliferation index was 7%. Sentinel lymph node biopsies were negative. PET-CT (Positron emission tomography –computed tomography) was used for staging, no distant metastasis was found. According to the tumor size, absence of regional lymph node and distant metastasis (T1a N0 M0), disease was staged as Stage 1A (see Fig. 2).

Adjuvant chemotherapy was not considered but adjuvant

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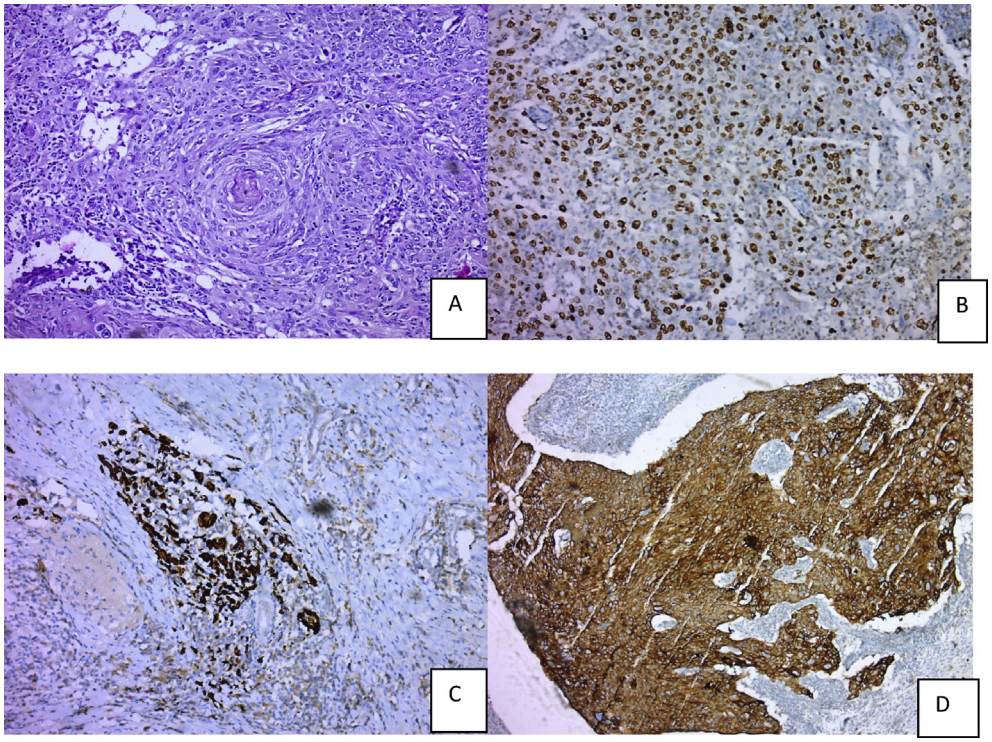

Fig. 1. A: Tumor scc: prominen tnucleolus, vesicular nucleus, atypical cells(H-E, x40). B: Anti- Ki- 67 Ab (DAB kromojen, x10), Tumors, CA: positive for Ki-67 (proliferation index% 20). C:Anti- Pankeratin Ab (DAB kromojen), x10, Tumor, SCC: reacts with the keratin in individua ltumor cells invaded the stroma.D: Anti- Pankeratin Ab (DAB kromojen Thermo Fisher Scientific), x5, Tumor, SCC: diffuse, strong positive reaction in tumor cells with pankeratin.

radiotherapy was performed in 30 days at 60 Gy dose. She was followed up with no additional treatment.

3. Discussion

Primary squamous cell carcinoma of the breast is a rare malignancy. The histological origin of the disease is not clear. Although some authors suggest that it has originated from the breast ductal epithelium, the others suggest that primary squamous cell carcinoma of the breast may occur within squamous metaplasia of breast gland tissue.[6] Radiological findings are not specific, it is often misdiagnosed because the image of tumor can be confused with benign breast disease. Sometimes it may be presented in mammography as a mass containing microcalcifications and irregular lobular borders which is difficulty selected.[7] In our case, it was seen as a high-density mass opacity, deep-localized and partially displayed in the mammogram. Even though primary squamous cell carcinoma of the breast often has been reported in post-menopausal women, it has also been described during pregnancy and lactation in the literature.[8] Our patient was post-menopausal at the time of diagnosis of breast squamous cell carcinoma, differently, she previously suffered from infiltrative ductal carcinoma at premenopausal age.

Hormone receptors are usually negative in squamous cell

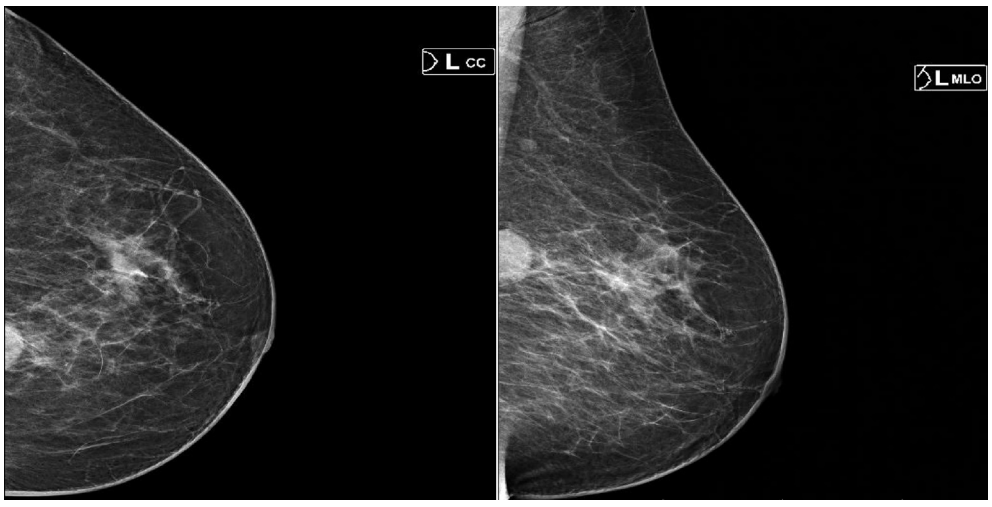

Fig. 2. Left breast mammography image: deep-seated upper-inner quadrant of the left breast, high-density mass opacity.

carcinoma of the breast.[9] Our patient was also triple negative similar to literature. According to a study conducted at the Tianjin university, all patients with primary squamous cell carcinoma breast has been reported as non-smoker.[5] Our patient was also never-smoker. Because of the disease infrequency, randomized trials are limited and there is no consensus about the treatment of breast squamous cell carcinoma in the literature. Although the consensus regarding adjuvant chemotherapy has not been provided, trials that demonstrated the efficacy of cisplatin-based chemotherapy regimens are available.[5]

The most important prognostic factors in are the time between the emerge of symptoms and applying to a health care unit, whether adjuvant chemotherapy applied, tumor T stage at the diagnosis.[5] Tumor size in our patient was very small (T1) so adjuvant chemotherapy was not be considered. Although some reports claimed that this primary squamous cell carcinoma of the breast has a poor prognosis, others have demonstrated that it may have a good prognosis in early stage.[10–12]

In our case the disease was diagnosed at a very early stage by performing regular mammographic follow-up. The small size of the tumor at the diagnosis is and the absence of axillary lymph node metastasis were good prognostic factors in our patient.

As a result, primary squamous cell carcinoma of the breast is a rare malignancy. The early diagnosis and treatment constitute the cornerstone in the prognosis of this rare disease as well in all types of cancers.

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