Primary Denovo Squamous Cell Carcinoma Breast Masquerading as Breast Abscess

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Received: 21 August 2012 / Accepted: 21 November 2012 / Published online: 12 December 2012
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Introduction

Breast abscess is a common benign condition of the breast. Malignant breast disease usually arises from the ductal elements of the breast. Primary squamous cell carcinoma breast is very rare and constitutes <0.1 % of invasive breast cancers [1]. Very rarely can an underlying squamous cell carcinoma present as breast abscess. A thorough review of literature showed nine patients of primary squamous cell carcinoma of the breast with an initial presentation of breast abscess worldwide [2–6].

Case Report

A 74 year old postmenopausal woman, a known case of diabetes mellitus and hypertension, presented to us with

a painful lump in the right breast. She was diagnosed as right breast abscess in a private setup and underwent incision and drainage and axillary node biopsy which was reported as inflammatory lymphadenitis and was treated with antibiotics. She did not have a family history of breast cancer and rest of her systemic examination was normal

She presented to us with a painful lump 2 months after undergoing the incision and drainage with purulent discharge from the previous incision site. The lump was located in the retroareolar region. It was firm in consistency and was freely mobile and was about 6*4 cm in size. The tumor was not attached to the skin and underlying chest wall. Right axillary examination revealed a palpable lymph node in the central group around 1 cm firm in consistency and freely mobile. The left breast and axilla were normal.

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USG right breast showed a large solid hypoechoic nodule in the medial quadrant and retroareolar region

suggestive of malignancy. There was no evidence of cystic changes or calcifications.

Mammogram Right Breast: BIRADS category 5

Mammogram of right breast was done and the impression was BIRADS category 5 with right axillary lymphadenopathy.

The patient underwent a core needle biopsy which showed squamous cell carcinoma breast. A thorough metastatic work up proved to be negative for metastasis.

The clinical staging was T3N1M0. Right modified radical mastectomy with axillary clearance was done. Histopathological examination of the specimen showed a moderately differentiated primary squamous cell carcinoma of the breast, 7*6.5*5.2 cm size. There were sheets of squamoid cells with increased mitotic activity. There were no lymphovascular emboli and

perineural invasion. Surrounding breast parenchyma showed fibrocystic changes. Overlying skin was free of

the tumor and lymph nodes were negative for tumor deposits (0/12).

HPE showing: Sheets of tumor cells showing squamoid differentiation.

Discussion

Squamous cell carcinoma breast is a form of metaplastic carcinoma. In practice, carcinomas in which more than 90 % of the neoplasm are squamous have been classified under this heading. The histogenesis of a pure squamous cell

carcinoma breast is unclear. The most common type of metaplasia is squamous metaplasia [7]. The estimated incidence of the pure squamous cell carcinoma breast is about 0.04 % of all breast carcinomas [8, 9]. In order to be called a pure squamous cell carcinoma breast the following pathological criteria must be met.

1. A tumor origin that is independent of the overlying skin and nipple or of adnexal elements.
2. More than 90 % of the tumor must be squamous.

3. There can be no other invasive neoplastic elements, ductal or mesenchymal on thorough sampling.
4. Other sites of primary squamous cell carcinoma must be excluded [10].

Squamous cell carcinomas are usually known to be ER, PR, Her2neu negative as in this case.

Primary SCC of the breast are thought to be highly aggressive tumors and treatment refractory. The most appropriate therapeutic regime for primary squamous cell carcinoma breast is unclear. A review suggests that primary squamous cell carcinoma breast is not sensitive to chemotherapeutic agents used for ductal carcinoma [11]. Menes et al. mentioned that a combination of 5-FU/doxorubicin/Cisplatin be used as the adjuvant chemotherapy regime [12]. Cisplatin based chemotherapy, commonly used for SCC of primary organs other than the breast should be considered for adjuvant chemotherapy regimen in Primary SCC of the breast [13]. Since these tumors are usually ER, PR negative the need for adjuvant hormone therapy is not necessary. The role of radiation therapy (RT) in SCC of the breast has not been explored fully, but it might have an important role in management. Hennessy et al. recommend that the roles of EGFR inhibitors and other novel agents need to be explored further [14]. Our patient has received 3 cycles of cisplatin based chemotherapy and is scheduled to undergo radiation to the chest wall as advised by the radiation oncologist.

Overall the prognosis of patients with mammary squamous carcinoma does not appear to differ appreciably with adenocarcinoma breast of equal stage. Most patients have had no axillary nodal metastases. The relationship of growth pattern and degree of differentiation in squamous carcinomas to prognosis is uncertain. Some fatal lesions have had a prominent spindle cell component or necrosis and acantholytic features. However, metastases occur in the absence of these patterns [7]. Due to the rarity of the tumor the optimal treatment and prognosis are both unclear.

Conclusion

Primary pure squamous cell carcinoma breast is a very rare disease whereas breast abscess is a common benign

condition. A high index of suspicion is required to rule out malignancy in benign conditions. The presence of breast abscess in an elderly woman should alert the treating surgeon to warrant a biopsy to rule out an underlying malignancy.

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