PRIMARY SQUAMOUS CELL CARCINOMA OF BREAST PRESENTING AS ABSCESS

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ABSTRACT

Primary squamous cell carcinoma (SCC) of breast is a very rare neoplasm. SCC of breast presenting as abscess has been reported only occasionally. Treatment guidelines are usually similar to the guidelines for ordinary ductal carcinoma, though firm conclusions have yet to be established. We report a case of primary SCC of breast presenting initially as breast abscess along with review of the literature.

Key Words: *Breast cancer, squamous cell carcinoma, breast abscess.*

INTRODUCTION

Primary squamous cell carcinoma (SCC) of the breast is a very rare neoplasm, with only 75 cases reported in the English literature.¹ Therefore, firm conclusions regarding its management have not been drawn, though it is treated in the line of ordinary ductal carcinoma. We report a case of primary SCC of breast initially presenting as abscess.

CASE REPORT

A 55 years old postmenopausal housewife was referred to our hospital with the diagnosis of breast cancer. She initially attended Primary Health Center six months back for a painless right breast lump, where incision and drainage of the lump was done with evacuation of purulent material. The wound did not heal and patient attended another university hospital. According to the discharge summary from this hospital, the patient had a firm, vague, diffuse mass of 8x9 cm occupying almost whole of the right breast with sero-purulent discharge from the incised wound. The skin over the tumor and in other part of the breast was erythematous, edematous and was fixed with the tumor. There were few tiny movable lymph nodes on the ipsilateral axillary. Her medical, personal and family history was nonsignificant. Fine Needle Aspiration Cytology (FNAC)

of the swelling revealed carcinoma. A diagnosis of inflammatory breast carcinoma (cT₄N₁M₀) was made on clinical grounds and patient was put on neoadjuvant chemotherapy for 3 cycles (cyclophosphamide 1000mg, 5 fluorouracil – 1000mg and methotrexate – 68mg).

After completion of 3 cycles of chemotherapy, patient was referred to our hospital - BP Koirala Memorial Cancer Hospital (BPKMCH). General and systemic examination was unremarkable. Local examination revealed fungating mass over central region of right breast (at the site of previous incision and drainage) with induration of almost whole breast. The mass was not fixed to pectoral fascia or chest wall. There were multiple right axillary lymph nodes measuring 1 to 3 cm in diameter, which were not fixed to each other.

She underwent right modified radical mastectomy. Post operative period was complicated with wound infection and wound gap, which was treated with antibiotics and secondary suturing.

Final histopathological report showed well-differentiated squamous cell carcinoma of breast with minimal tumor necrosis and without perineural or vascular invasion. Surgical margins were free of tumor infiltration. All 12 dissected lymph nodes were positive for metastasis.

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Fig. 1

Fig. 1 : Patients positioned and draped for transfrontal stereotactic biopsy. The CRW frame has been mounted over the base ring.

According to the revised American Joint Committee on Cancer (AJCC) classification for breast cancer, where metastases in 10 or more axillary lymph nodes have been staged as N₃, final restaging was yT₄N₃M₀.²

Patient was discharged on tamoxifen 20 mg /day (currently, we do not have the facility to assess the receptor status, therefore the patient was put on tamoxifen) and requested to visit after 1 week for adjuvant chemo and radiotherapy.

DISCUSSION

Malignant breast tumors are broadly divided into epithelial tumors of cells lining ducts and lobules and non-epithelial malignancies of the surrounding stroma. Invasive ductal carcinomas are the commonest pathological type accounting for over 70% of invasive breast cancers.³ Infiltrating lobular, medullary and colloid carcinomas, Paget's disease and other pure and combined types constitute the remaining 30%.³ Primary squamous cell carcinoma (SCC) of the breast is rare and its incidence is reported to be 0.1–3.6% in Western countries.^{3, 4,5,6}

The rarity of primary SCC of the breast is brought out by the fact that there was not even a single case of pure SCC in a classical review of 1000 cases by Fisher et al.³ However, squamous metaplasia is the commonest metaplastic variant in human breast cancer and was seen in 36 of the 1000 cases reviewed by Fisher. All five cases of 'pure' SCC of the breast reported by Woodard et al revealed glandular differentiation on ultrastructural examination.⁶ Toikkanen could find only three primary SCC upon re-examination of about 4000-breast cancer biopsies.⁵

Samuels et al. reviewed the cases of breast cancer over a 37-year period at Princess Margaret Hospital and University of Toronto and the authors identified 19 patients with SCC.⁷

Primary SCC of breast presenting initially as abscess is even rarer and only occasional cases have been reported. In a retrospective review by Wrightson et al of all cases of SCC of the breast at their institution from 1990 to 1998, four patients with breast SCC were identified and two of them were initially treated for breast abscess.¹ Tan et al. reported 2 cases of SCC in postmenopausal women presenting as acute breast abscess, and they strongly recommend to send pus for both culture and cytology, and during drainage, to take biopsy from the abscess cavity in such uncommon situations.⁸

Mammographic findings usually suggest malignancy and include an irregular, lobulated mass with poorly defined borders. Microcalcification is not a prominent finding.⁹ Certain criteria need to be fulfilled before the tumor can be classified as a primary SCC of the breast. These are a) no other neoplastic elements are present in the tumor, b) the tumor is independent of adjacent cutaneous structures and c) no other primary epidermoid carcinoma exists in the patient.¹⁰ The cytological features of these tumors are malignant squamous cells with keratinising cytoplasm, hyperchromatic dense nuclei, coarse chromatin, thickened nuclear membranes, keratin debris and background necrosis. They have to be distinguished from other types of metaplastic mammary carcinoma. Some authors claim that this differentiation may be of mere academic importance and not of much clinical significance.⁴ However, others emphasize that this differentiation carries great prognostic significance as they behave more aggressively compared to other metaplastic carcinomas.⁵

The usual presentation of these tumors is as a firm to hard painless breast lump clinically indistinguishable from other malignant breast lumps. A family history or genetic linkage, though suggested has not been substantiated. Some authors opine that most patients present with advanced disease and that aggressive management is indicated.^{4,5} Furthermore, lymph node involvement is reported to be less frequent than might be expected given the larger tumor size.^{11,12}

The rarity of the condition makes it difficult to draw firm conclusions on the course of the disease and the overall prognosis. Mastectomy may be required due to large tumor size. The role of breast conservation in these patients has not been studied. These tumors are usually estrogen and progesterone receptor negative, thereby negating the feasibility of hormonal adjuvant therapy.¹³ However, if they are receptor positive, tamoxifen should be the adjuvant therapy of choice. Postoperative adjuvant therapy for SCC of the breast has generally been carried out in the same way as therapy for more common types of breast cancer.^{5, 14} However, SCC of the breast is reported to be resistant to both radiotherapy and standard chemotherapy, performed for invasive ductal carcinoma, i.e.

cyclophosphamide, methotrexate, 5-FU and adriamycin.¹² DeJager et al reported that a cisplatin-based chemotherapeutic regimen commonly used for SCC of primary organs other than the breast was also effective for SCC of the breast and the author strongly recommends this regimen for primary SCC of breast.¹⁵

In our case, we had to rely on the reports from other health centers. Before preoperative chemotherapy, an incisional or core biopsy is needed to exactly verify the histological type of the disease. Though the patient was treated with preoperative chemotherapy, the patient had progressive disease (fungation of mass, increase in size and number of axillary lymph nodes). It may be because of the CMF regimen instead of CAF, which was given to the patient or there could be an equal possibility that SCC of breast responds poor to these regimens. But as shown by DeJager et al, cisplatin based chemotherapy might be more effective.¹⁵ This aspect remains to be explored in the future. Secondly, as shown in our case, SCC may give axillary metastases, and axillary dissection cannot be omitted. The thing, which needs to be remembered, is that if a postmenopausal woman presents with breast abscess, the possibility of cancer should be kept in the list of differential diagnoses.

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