

## Pure squamous cell carcinoma of the breast in a male

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**Abstract:** Primary squamous cell carcinoma of the breast is an extremely rare malignancy. It represents less than 0.1% of all primary invasive breast cancer. We present a case of pure squamous cell carcinoma of the breast in a male of 65 years. To the best of our knowledge, our case is the first breast SCC to be reported in men. Diagnosis was first confirmed on core needle biopsy. Left-side modified radical mastectomy with axillary lymphadenectomy was performed. There was no lymph node involvement. After two years, the patient developed a local recurrence that was excised. Radiotherapy was indicated. Breast SCC is aggressive and refractory to chemotherapy and radiation. Novel therapies including EGFR inhibitors may change SCC outcomes.

**Keywords:** Primary Squamous cell carcinoma, breast cancer, recurrence, male

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### I. Introduction

Less than 1% of all breast cancers occur in men. The most frequent histological type is ductal carcinoma (1). Primary squamous cell carcinoma of the breast is an extremely rare malignancy. It represents less than 0.1% of all primary invasive breast cancer (2). We present this case because of the histological scarcity and its originality to be reported in a male.

### II. Case Report

We report the case of a 65-year-old man, without history of skin or breast cancer and no family history for breast cancer. He presented to our Institute for a mass of the left breast which had been growing rapidly. On physical examination, the left breast presented an ulcerated mass, measuring 5×5 cm in size and associated with ipsilateral axillary lymph nodes. Mammogram showed an oval opacity with well-defined margins (Figure 1). A core needle biopsy was performed and histology was suggestive of squamous cell carcinoma. Left-side modified radical mastectomy with axillary lymphadenectomy was performed. The histopathological diagnosis was consistent with squamous cell carcinoma of the breast (Figure 2). There was no axillary nodes involvement. Both estrogen receptor (ER) and progesterone receptor (PR) status were negative. Although it was indicated, the patient did not receive adjuvant radiotherapy. Two years later, he consulted for a nodule of the mastectomy scar that was excised. Histology examination confirmed carcinoma recurrence. The extension assessment based on body CT was negative. The patient is addressed for radiotherapy of the chest wall.

### III. Discussion

Primary SCC of the breast is reserved to SCC arising in the mammary gland with no relation with the skin and with no extra-mammary site of SCC like oral cavity or esophagus (2). Primary SCC of the breast may be pure or metaplastic. Metaplastic breast carcinomas are a group of mixed tumors, where adenocarcinoma coexists with squamous, chondroid or bone-forming neoplastic cells (3). However, pure SCC of the breast does not associate other neoplastic components such as ductal or mesenchymal cells (4). This histological classification has shown no implication on clinical practice (5).

Pure SCC of the breast occurs usually in the elderly. Seddik et al, in their review of the literature published in 2015, do not found any pure SCC of the breast case in men (6). Same finding was reported in the retrospective study of Chen et al about 23 cases of breast SCC published in 2016 (5). In the retrospective MD Anderson study over 13 years, all the 33 cases of breast SCC were women (2).

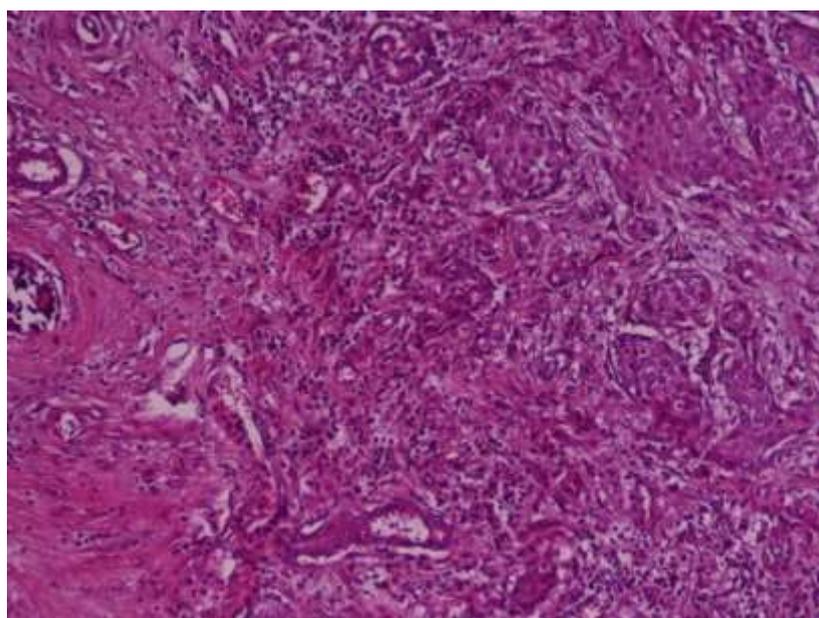
The clinical presentation is similar to other breast malignancies (5). It is generally a large breast lump (4). In mammography, SCC does not present specificity excepting the lack of microcalcifications. SCC presents commonly in ultrasound as a low-echo mass or as a cystic lesion that can be taken for benign lesion (5, 6). Biopsy is not always conclusive. In immunohistochemical examination, pure SCC of the breast has a profile of basal-like phenotype in more than 90% of cases (4). Lymph node involvement is reported to be rare (10-30%) (2). Therapeutic management of these tumors is still unclear due to their rarity (7). Usually the tumor is larger

than 4 cm, thus conservative surgery is not usually performed (4). Neoadjuvant chemotherapy has not shown response (2). Despite the radio-sensitivity of SCC, radiotherapy did not prove to be effective on local control for breast SCC (2,5). According to the literature, breast SCC showed resistance to chemotherapeutic agents commonly used for ductal carcinoma. Endocrine therapy is recommended to use in the rare cases where tumor cells express estrogen or progesterone receptors (2). Breast SCC has poor prognosis. The most important risk factors are tumor size and tumor stage (4). The 5-year survival is 40-67% and the median survival is 37-50 months (2, 4, 5). Future treatment, based on the frequency of tumor cells positivity for epidermoid growth factor receptor, may change SCC outcomes (4).

#### IV. Figures



**Figure 1: Cranio-caudal mammography view showing an oval opacity of the left breast**



**Figure 2: Breast squamous cell carcinoma (H and E × 200)**

#### V. Conclusion

Refractory to adjuvant treatment, pure primary SCC of the breast, had a poor outcome. We need more scientific research including large series to better manage this disease. To the best of our knowledge, based on a review of the literature, our case is the first breast SCC in men.

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