

# Primary Squamous Cell Carcinoma of the Breast. A Case Report with Review of the Literature

## Memenin Primer Skuamöz Hücreli Karsinomu. Olgu Sunumu Eşliğinde Literatürün Gözden Geçirilmesi

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### Öz

Memenin primer skuamöz hücreli karsinomu nadir görülüp memenin metaplastik karsinomları içerisinde yer alır. Prognoz kötü olmasına bağlı olarak cerrahi, radyoterapi ve kemoterapiyi içeren çoklu tedavi yaklaşımları mevcut olup tedavi protokolü üzerine anlaşılmiş bir konsensus mevcut değildir. Olgumuzda skuamöz hücreli karsinomun gelişebileceği organlar tarandı ve bu odaklarda tümör saptanmadı. Sunulan olguda hispatolojik inceleme ile memenin primer skuamöz hücreli karsinomunun verrüköz varyantı ile uyumlu olarak geldi. Klinik olarak nadir gözlenmesi nedeniyle 30 yaşında kadın hastada sol memede primer skuamöz hücreli karsinom tespit edilen hasta literatür bilgileri eşliğinde tartışıldı.

**Anahtar Kelimeler:** Meme Kanseri, Memenin Metaplastik Karsinomları, Primer Skuamöz Hücreli Karsinomu

### Abstract

Primary squamous-cell carcinoma of the breast is a rare entity classified under the metaplastic carcinomas of the breast. The prognosis is poor, and there is no consensus for clinical treatment that is multi-modal treatment options of surgery, chemotherapy, and radiation therapy. In our case, all the locations that can develop squamous-cell carcinoma were scanned, and no tumors were found in these foci. Histopathological examination of our case matched the verrucous carcinoma variant of primary squamous-cell carcinoma of the breast. We presented 30-year-old female primary squamous-cell carcinoma of the left breast due to a rare clinical entity, and the recent literature is reviewed and presented.

**Keywords:** Breast Cancer, Metaplastic Carcinomas Of Breast, Squamous Cell Carcinoma

### Introduction

Primary squamous cell carcinoma of the breast is rare and is observed in less than 0.1% of invasive breast cancers (1). It develops when ductal carcinoma cells show squamous metaplasia (2). In order to mention that this tumor develops primarily from the breast, the breast skin, areola, or a metastatic squamous cell carcinoma that develops from anywhere in the body must be excluded (3). In addition, more than 90% of the tumor cells must be composed of squamous cells (4). The first recorded case was in 1908, and clinical management has yet to be standardized due to low incidence (5). There are no specific clinical and mammographic features of squamous cell carcinoma in the breast (4). Studies have shown that squamous cell carcinoma is more common in the left breast and can be seen in all adult age groups (6).

### Case

A 30-year-old female patient approached our clinic with complaints of deformity and palpable mass in her left breast. On physical examination, a

3x2 cm mobile solid mass was palpated in the upper inner quadrant of the left breast, 5 cm away from the areola, causing an ulcerated lesion on the skin. There is no lymph node detected on physical examination. There were no features other than the regular shaped 25x20 mm sized mass reported as BIRADS 5 on mammography. Ultrasound-guided biopsy was reported to be consistent with well-differentiated squamous cell carcinoma. The patient underwent gynecology, otolaryngology consultations, and PET/CT imaging for primary metastatic differentiation of the lesion. It was decided that the tumor was the primary squamous cell carcinoma of the breast since no mass was detected except the left breast mass, and the tumor originated from breast tissue at pathology specimen.

The patient underwent left mastectomy with left axillary sentinel lymph node biopsy. The sentinel lymph node was negative, and the pathological mass was 21x18x10 mm. The tumor's nearest surgical margin was 1.1 cm at superior and was consistent with the verrucous carcinoma variant of squamous cell carcinoma. Lymphovascular and perineural invasion were not observed. After the surgery patient refused further oncological treatment; therefore, no chemotherapy or radiotherapy was not used, only clinical follow-up was used. There was no local recurrence or metastasis in the postoperative 24-month follow-up.

### Discussion

Squamous cell carcinoma of the breast is rare and aggressive. Squamous cell metastasis to the breast from lung, stomach, and skin is more common than

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primary squamous carcinoma of the breast (2). Although it is primarily seen in post-menopausal women, it can be observed in other age groups as in our case (7,8). Squamous cell carcinomas of the breast have bigger than adenocarcinomas of the breast that can reach up to 10 cm in size (7,9). Central cystic degeneration is common in tumors larger than 2 cm, and this cavity is filled with necrotic squamous debris (4). Tumors with diffuse keratinization are macroscopically softer and granular in appearance (10).

There is no specific pattern in mammographic and ultrasonic imaging of squamous cell carcinoma of the breast. The diagnosis can only be made with a biopsy, which shows the presence of malignant squamous cells showing intercellular bridging in tissue samples (7). Depending on the squamous origin of the tumor, cytokeratin staining is often positive, while estrogen, progesterone receptors, and Her2 / neu are reported as unfavorable. Although it is typical of being high grade, lymph node involvement is less common in squamous cell carcinoma of the breast than adenocarcinomas. Axillary lymph node involvement is not observed in 70% of patients (2).

To confirm a diagnosis of primary squamous-cell carcinoma of the breast, the tumor must meet the following criteria (9):

- No other neoplastic changes were seen other than squamous cell carcinoma
- No other primary location of squamous-cell carcinoma
- No involvement of skin or nipple.

While the first two criteria were observed in our case, it was accepted that primary squamous cell carcinoma of the breast. Because it was reported in our patient who had an ulcerated skin lesion, the pathological examination revealed that the tumor had no cutaneous origin and developed primarily from the breast. When establishing a definitive diagnosis of primary squamous cell carcinoma of the breast, it may be possible after exclusion of metastasis from an extramammary primary squamous cell carcinoma, such as carcinomas of the lung, uterine cervix, bladder, and head and neck region (10). It is important to distinguish between Primary or Metastatic Squamous Cell Carcinoma because treatment protocols are very different.

No standard treatment protocol is available because of the low incidence of primary squamous cell carcinoma of the breast. Current treatment approaches are based on invasive ductal and lobular breast cancer treatment modalities. In our case, the patient refused adjuvant chemo-radiotherapy following surgery. Cases using systemic chemotherapy, radiotherapy, and anti-estrogen blockade with surgery are available, but treatment efficacy cannot be evaluated adequately due to a lack of data. Case reports are showing primary squamous cell carcinoma sensitive to radiotherapy and case

reports reporting resistance to radiotherapy (12,13). Squamous cell carcinoma is not sensitive to chemotherapeutic agents typically used in invasive ductal carcinoma (13).

Aparicio et al. reported that patients receiving neoadjuvant or adjuvant chemotherapy did not see a difference in survival benefit compared to patients who did not receive chemotherapy (9). In addition, neoadjuvant chemotherapy has been reported to be used as a tumor shrinker in some cases (14). It is thought that most of the primary squamous cell carcinomas will not benefit from hormonal treatment due to hormone receptor negativity. Axillary lymph node involvement, diagnosis under 40 years of age, and large tumor size can be considered poor prognostic factors (9, 14). The five-year survival of primary squamous cell carcinoma of the breast has been reported to be 63% (11).

In our case, only surgical treatment was applied depending on the patient's consent, and no local recurrence or metastasis was detected in the 24-month follow-up. This can suggest that only surgical intervention may be sufficient in early-stage and well-differentiated tumors. In conclusion, due to the low incidence of the disease, more information is needed to make management guidelines and further define if there is any role for systemic chemotherapy, radiation therapy, or hormonal blockade.

**Written consent:** Written consents of the patients were obtained on 30.07.2020.

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