

# Primary Squamous Cell Carcinoma of the Breast: A Case Report

Faith Day, OMS4; Olivia Price, OMS2; Melissa Wedeman, OMS4 ; Kevin L. Powell, MD, FACS.

## Introduction

Primary squamous cell carcinoma (SqCC) of the breast is a rare form of invasive breast cancer, representing 0.06% to 0.2% of all breast cancer diagnoses<sup>1</sup>. SqCC invasive breast tumor is diagnosed when over 90% of malignant cells are of squamous metaplasia<sup>2</sup>. SqCC of the breast is hormone receptor triple-negative, making treatment a challenge and prognosis poor<sup>2</sup>. Due to the rarity of the tumor and limited published case reports, diagnostic findings and appropriate treatment are not well established. This case study is intended to report this rare diagnosis and record the treatment plan for this patient.

## Case Description

A 55-year-old Hispanic female presented to the emergency department with a necrotic mass in the left breast.

### Inpatient Course

- Admitted to inpatient service on 2/19/2024 and discharged 3/09/2024
- Seen by Hematology/Oncology, General Surgery, and Gastroenterology
- Plan for breast malignancy: perform mastectomy after neoadjuvant chemotherapy to shrink the mass
- Patient follows up with general surgeon and with Oncology

### Imaging

- A Chest CT showed mild anterior mediastinal lymphadenopathy and a large left breast mass (12.0 x 13.7 x 14.0cm) containing intraluminal gas with marked overlying skin thickening and adjacent subcutaneous stranding.
- Diagnostic mammography imaging revealed multiple morphologically abnormal left axillary lymph nodes, with a focal, necrotic left breast mass.
- US of the left breast reported multiple abnormal left axillary lymph nodes and a left breast mass with marked vascularization.
- The left breast imaging was categorized as BIRADS5.

### Biopsies

- A left-sided US guided vacuum assisted needle biopsy and fine needle aspiration indicated triple negative, poorly differentiated, invasive squamous cell carcinoma of the breast with HER2 (-), ER (-), PR (-) and a KI-67 of 89%. The patients' PET scan showed no evidence of distance metastasis.

## Imaging

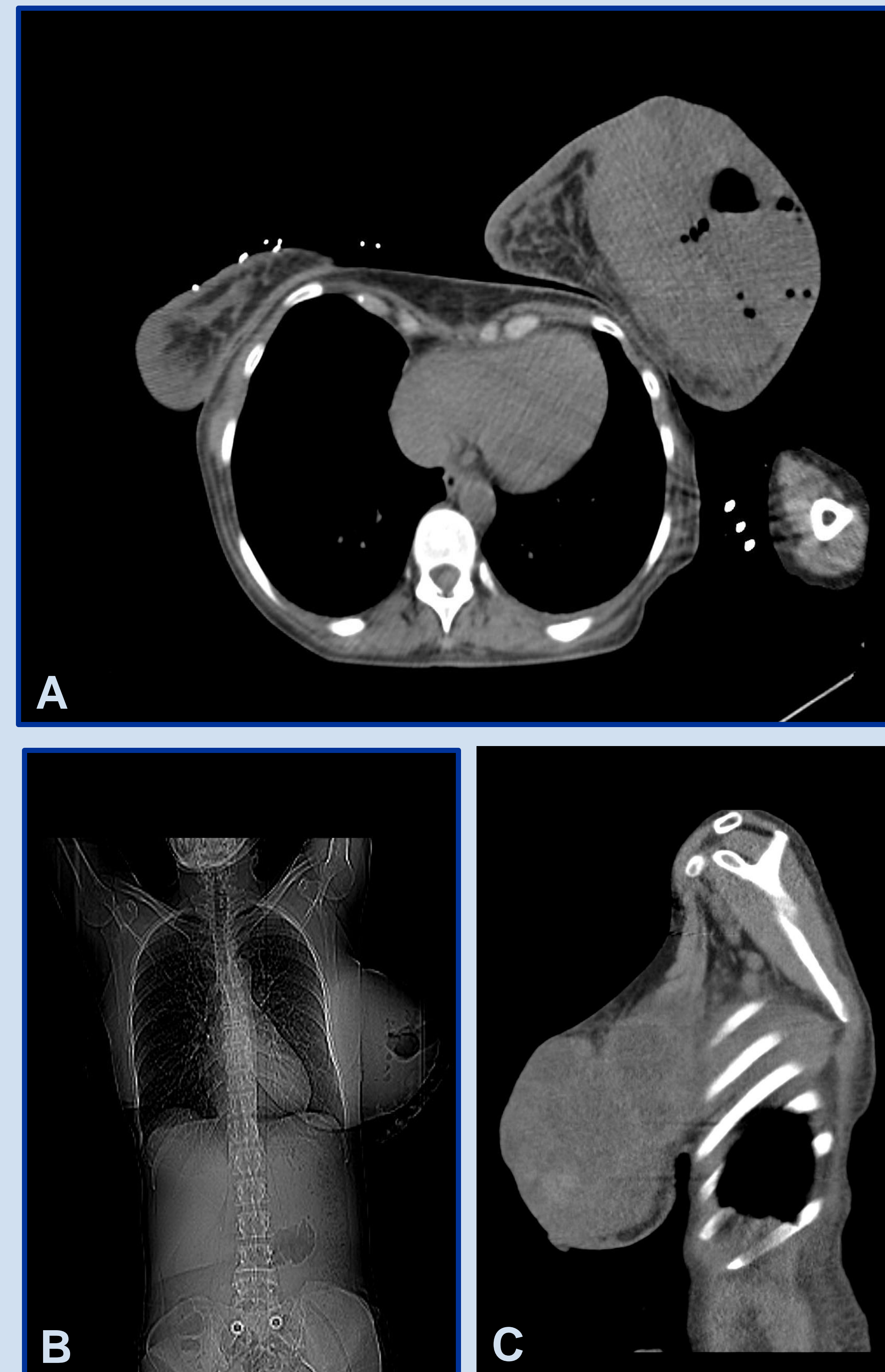


Figure 1. CT Scans (A) Chest (B) thoracic/abdominal (C) sagittal view

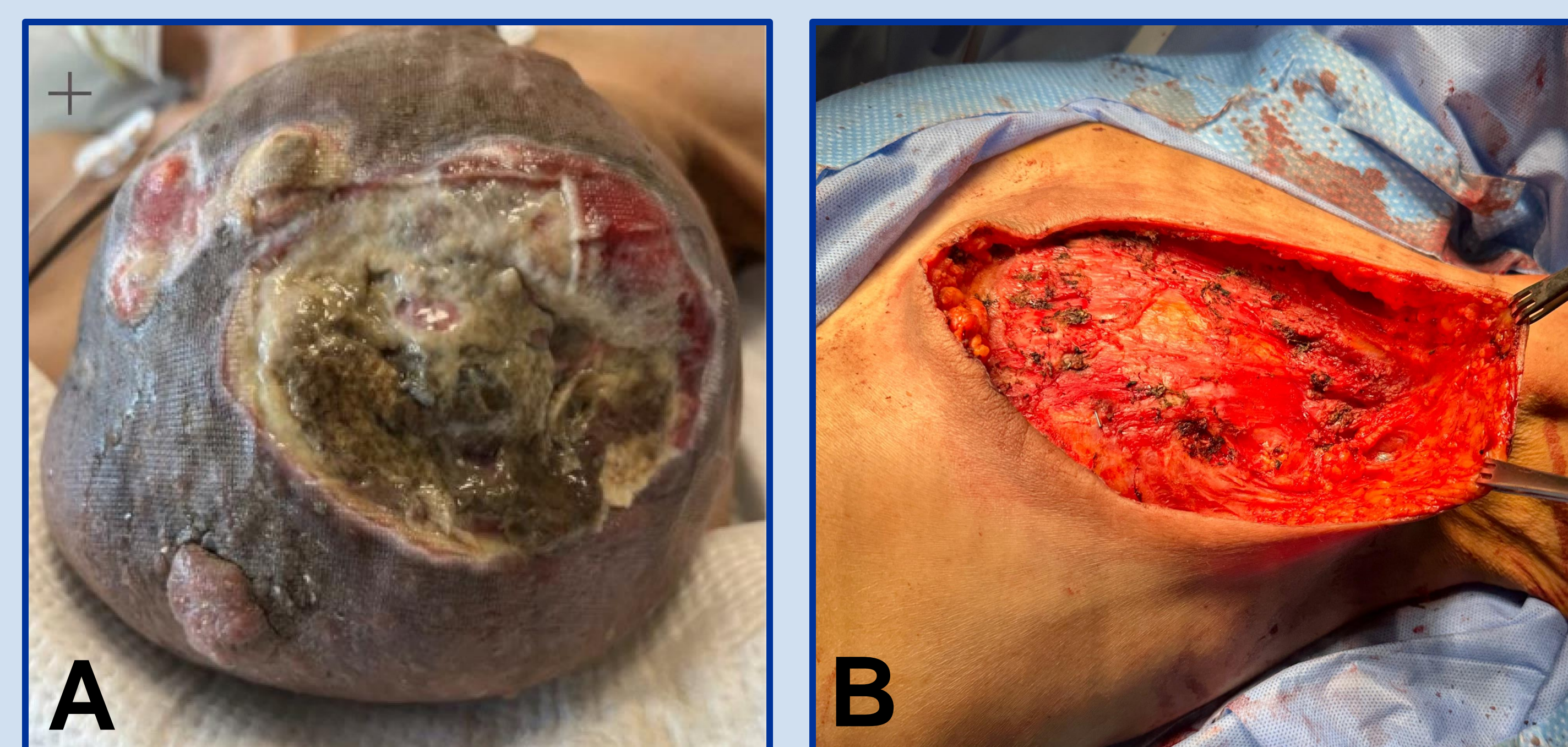


Figure 2. (A) preoperative and (B) postoperative photographs

## Clinical Course

### Neoadjuvant Chemotherapy Regimen

- Patient received one dose of CarboTaxol, Keytruda, doxorubicin, and cyclophosphamide before presenting to the hospital in sepsis with complicated cellulitis of the left breast
- Patient experienced breast pain which she describes as “tugging/gnawing pain that feels like her breast is eating itself.”
- Patient reported a fever of 101.1°F (reduced to 98°F after taking Naproxen)

### Cultures

- Cultures of the left breast were positive for Pseudomonas aeruginosa and Methicillin-resistant Staph aureus and the patient was placed on the appropriate antibiotic therapy.

### Surgical Course

- The patient underwent a left breast radical mastectomy with axillary lymph node level I and II dissection and wound vacuum placement.
- 1 of 19 lymph nodes was positive for metastasis
- Overlying skin and areola were involved by the tumor

### Final Staging

- PN1a and PT4b with final pathology revealing a KI-67 index of 97%.

## Conclusion

SqCC of the breast is a rare form of invasive breast cancer, typically seen in postmenopausal women, and is often treatment-refractory due to its triple negative status<sup>3</sup>. SqCC of the breast is a subtype of metaplastic carcinoma that lacks specific diagnostic mammography and ultrasound findings<sup>4</sup>. This case demonstrates the aggressive and rapid nature of this tumor, of which its etiology and pathogenesis are still unclear. In the limited reported cases of primary SqCC of the breast, many patients presented initially with advanced staging, necessitating mastectomy prior to chemoradiation. Due to its rare occurrence, treatment of SqCC of the breast has yet to be standardized. In presenting this rare case, we hope to provide clinicians with up-to-date diagnostic methodology, staging and neoadjuvant chemotherapy regimens along with surgical treatments.

### References:

- I. Aparicio, A. Martínez, G. Hernandez, Squamous cell carcinoma of the breast, Eur J Obstet Gynecol Reprod Biol. 137 (2008) 222–226.
- Qasseh REL, Sami Z, Moutahir M, et al. Squamous cell carcinoma of the breast: about a case. Int J Surg Case Rep. 2022;99. <https://doi.org/10.1016/j.ijscr.2022.107589>.
- S. Carbone, R.L. Alvarez, A. Lamacchia, A.A. Gil, R.M. Hernandez, J.L.L. Guerra, et al., Primary squamous cell carcinoma of the breast: a rare case report, Rep. Pract. Oncol. Radiother. 17 (6) (2012) 363–366.
- K. Tayeb, I. Saadi, M. Kharmash, K. Hadadi, E. El Ghazi, A. Mansouri, et al., Primary squamous cell carcinoma of the breast. Report of three cases, Cancer Radiother J Soc Francaise Radiother Oncol. 6 (6) (2002) 366–368.