

Squamous cell carcinoma of the breast.

Report of two cases



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Squamous cell carcinoma of the breast: report of two cases

Squamous Cell Carcinoma (SCC) of the breast is a rare entity, not well known, nevertheless literature reports several signalings from different authors. Regarding etiopathogenesis, SCC of the breast is still the object of numerous discordances and controversies. We report two cases of SCC of the breast referred to our institution in the last year.

The first case interests a 35 years-old woman with a lesion of the left breast referred to us with a 3 month history of breast mass. The second case regards a 49 year-old women with multicentric lesions of the right breast operated in two different times.

The SCC is a rare breast entity with a controversial histogenesis. The development is characterized by metastasis frequency. The treatment remains not codified. The treatment is currently the same as for infiltrating ductal carcinoma. Indeed, the limited number of this kind of tumor doesn't allow the assessment of different therapeutic protocols.

KEY WORDS: Breast Cancer, Breast Surgery, Cancer, Squamous Cell Carcinoma.

Introduction

Squamous cell carcinoma (SCC) of the breast is rare and comprises less than 0.1% of invasive cancers ¹⁻³. It is a not well known entity ³⁻⁶, nevertheless literature reports several signalings from different authors ^{7,8}. Epidermoid carcinoma or Squamous cell carcinoma (SCC) of the breast is a rare metaplastic tumor with controversial histogenesis. Because of its rapid evolution, and its infrequent presence, today there isn't a codified treatment for SCC of the breast. Careful and accurate classification of these tumours is necessary. A detailed analysis of their biological behaviour and response to therapy is necessary to formulate specific recommendations in managing these patients. We present two cases of SCC of the breast presented at our institution during the last year with a review of the literature with particular attention to the surgical management and pathological and radiological findings.

Case Reports

CASE N. 1

A 35 years old woman with family history negative for cancer of the breast and ovaries, was referred to our institution with a 3 months history of breast mass. The tumor was located in the upper quadrant of left breast presenting premenstrual cyclical mastalgia. On physical examination, the mass was about 3 cm in diameter, painful at palpation, dissociable to the overlying dermis, partly fixed to the deep fascia with normal skin features. Breast ultrasound (fig. 1) demonstrated an oval solid hypoechogenic area and the mammography (fig. 2) confirmed the presence of an area, 3 cm in diameter, on the upper external quadrant of left breast that needed to be studied with biopsy. A tru-cut biopsy was performed and the histopathologic examination confirmed a suspect of a neoplasm.

Simple mastectomy with axillary lymphadenectomy was performed. The pathology report confirmed a squamous cell carcinoma of 3 cm in diameter with an area of comedo-like ductal carcinoma in the 20% of the mass. The eighteen lymphonodes examined were not involved (pT2 N0 Mx). Immunohistochemical examination showed that Ki67 and Cerb-B2 expression were positive.

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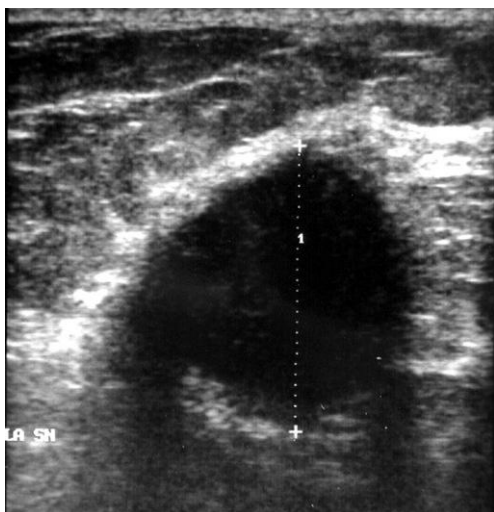


Fig. 1: Case 1 - Breast Ultrasound showing the oval hypoechogenic area.



Fig. 2: Case 1 - Mammographic pattern suggestive for cancer.

After surgery, the patient was treated with radiotherapy cycles and FEC protocol by the oncologists from November 2005 to January 2006. Recently she performed follow up tests resulting unaffected by recurrence of disease.

CASE N. 2

A 49 years old woman, with two cysties of the upper external quadrant of the right breast presented at our institution in January 2005. In the past personal history she had menarche at 12 y/o, menopause at 47 y/o, without hormone therapy approach, and had three pregnancies. The family history for breast and ovaries neoplasm was negative. A Fine Needle Aspiration Cytology of both cysties showed numerous squamocellular elements suggesting an surgical biopsy. The patient was submitted to a upper external quadrantectomy with a lymphnodal sampling (fig. 3). The histopathologic examination showed: squamous metaplastic carcinoma of 1,5 cm in diameter with multiple areas of intraductal, solid micropapillary, cribriform and comedo-like carcinoma

(High Grade G3) in the 80% of the mass with squamous metaplasia and surgical margin well demarcated from the neoplasia (fig. 4). Skin and lymph nodes removed were negative for metastatic infiltration. One month later she presented an hard mass of 3 cm in diameter in the lower internal quadrant of the right breast. On physical examination the mass was dissociable to the overlying dermis, fixed to the deep fascia and the skin features were normal. The mass was painful at clinical examination. A Fine Needle Aspiration Cytology of the lesion was suggestive for mammary neoplasia. Simple mastectomy with axillary lymphnodes dissection was performed. Histopathologic examination showed squamous cell carcinoma of the breast with numerous areas of cribriform, micropapillary and comedo-like carcinoma. The eleven lymphnodes resected were not involved (pT2 N0 Mx). Immunohistochemical study denoted positivity for Cerb-B2 and Ki67 expression.



Fig. 3: Case 2 - Macroscopic surgical finding.

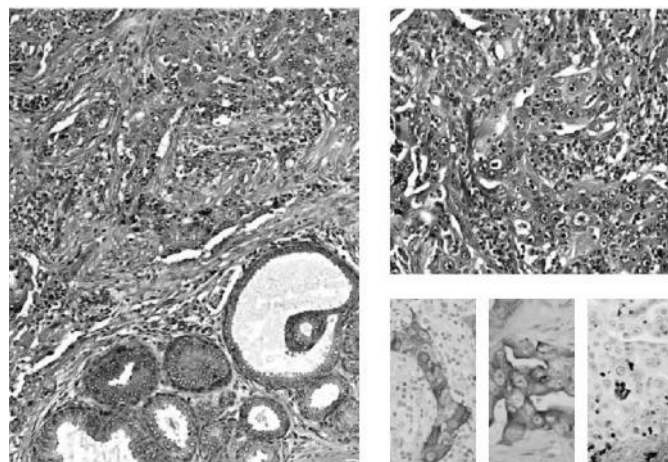


Fig. 4: Case 2 - Microscopic examination (EE staining) and Immunohistochemical analysis that demonstrate diffuse positivity for cytokeratin, vimentin and epithelial membrane antigen (EMA).

After surgery, from March 2005 to August 2005, the patient was treated with the FEC protocol (fluorouracil, epirubicin and cyclophosphamide). After therapy, during the follow up, the exams (TC, US, mammography, total body bone scintigraphy) were negative. At the moment the patient can be considered unaffected by pathology.

Discussion

Squamous cell carcinoma (SCC) of the breast is rare and comprises less than 0.1% of invasive cancers¹⁻³. It is a not well known entity³⁻⁶, nevertheless literature reports several signalings from different authors^{7,8}.

Regarding etiopathogenesis, SCC of the breast is the object of numerous discordances and controversies. There are doubts regarding the possibility that it might be a separate entity⁹⁻¹¹, as well as an adenocarcinoma with signs of total or partial epidermoid metaplasia¹²⁻¹⁵. SCC belongs to the group of invasive ductal carcinoma and shows some areas with metaplastic adaptation epidermal type¹². The metaplasia can be partial or total and in this case is definable "pure" epidermoid carcinoma from ductal origin^{7,15}. This definition is based on the possible metaplasia of a controversial origin, cell⁹ (epithelial, myoepithelial or totipotent), in another type of epithelial cell or mesenchymatous cell^{14,15}. The origin of this tumor is unclear; it has been stated as arising from dermatoid cyst of the breast, chronic abscesses, complete metaplasia of glandular breast tissue. Despite the rarity of this neoplasia it should be kept in mind that in older patients, a squamous cell carcinoma could arise from a cystic mass of the breast¹⁶. According to other authors^{8,14,16,17}, it is possible that the tumor arises from a dermoid cyst of the breast, a chronic abscess of the breast, a complete epidermoid metaplasia of the glandular breast tissue, or from a cystosarcoma phyllodes. SCC of the breast affects women between 31 and 83 years old, with a prevalence of age of 55 years old^{6,14,18,19}. No specific clinical or mammographic features have been reported. Nonetheless, mammary ultrasounds point out the necrosis and the cystic appearance of the lesions^{10,11,20,21}. This tumor equally affects the right and the left breast, but it is rarely bilateral and in our case presents multicentric characteristics. The dimensions of the tumor vary according to the state of evolution, from 2 to 16 cm, but the average size is 5 cm^{11,14,18}. Larger tumors tend to develop a central cystic degeneration, and to ulcerate the skin^{14,20,22}. This is the reason because sometimes is difficult to distinguish between a primary and a secondary mammal epidermoid carcinoma. Some authors^{16,23} assert that SCC should be taken into consideration in the presence of a cystic mass in an elderly woman. Pre-surgery diagnosis can be made with fine needle aspiration cytology or with a biopsy^{20,24,25}. Nonetheless, histopathologic examination is necessary to identify possible adenoid component^{19,26}. SCC of the breast presents the same architecture and the same

cytonuclear features as other epidermoid carcinoma that develop in different locations. The tumor produces considerable quantity of keratine and granules of keratohyalin^{18,27}. Cell features and absence of ductal differentiation puts this neoplasia among the tumors with the highest level of malignity. As a norm, the tumor is negative to hormone receptors^{11,13,14}. Nevertheless, as in our cases, Sheen et al.²⁸ reported a case of SCC where the search for hormone receptors was positive. Treatment usually consists of a mastectomy with axillary dissection followed by radiotherapy and chemotherapy. Treatment is similar to the one pertaining to infiltrating ductal carcinoma of the breast of the same dimension and state of evolution^{2,3,8}. Regarding neoadjuvant treatments, another author¹⁸ used Fluorouracile and Cisplatin as pre-surgery approach. The result was a reduction of tumor dimensions and inflammation. Prognosis for SCC remains controversial in international literature. However, it is totally similar to the one for infiltrating ductal carcinoma of the same dimensions and at the same state of evolution^{8,10,13,25,27}. Squamous cell carcinoma (SCC) is a rare entity in the pathology of the breast. Hystopathologic presentation of SCC of the breast is not different from SCC located elsewhere. The cases presented are in according with the current literature, nevertheless we report a singular multicentricity and unusual positivity to hormone receptors. However, the treatment is currently the same as for infiltrating ductal carcinoma. Indeed, the limited number of this kind of tumor doesn't allow the assessment of different therapeutic protocols. Careful and accurate classification of these tumours is necessary. A detailed analysis of their biological behaviour and response to therapy is necessary to formulate specific recommendations in managing these patients.

Riassunto

Il tumore squamocellulare della mammella è una entità rara, non ben conosciuta, nonostante la letteratura riporti differenti segnalazioni da vari autori. Riguardo la sua eziopatogenesi il tumore squamocellulare della mammella è ancora oggetto di numerosi dibattiti e controversie. Descriviamo due casi clinici di tumore squamocellulare della mammella osservati nello scorso anno. Il primo è il caso di una donna di 35 anni con una lesione della mammella sinistra scoperta 3 mesi prima. Il secondo caso è quello di una donna di 49 anni con delle lesioni multicentriche della mammella destra operata in due tempi. Il tumore squamocellulare della mammella rimane una patologia rara e dalla istogenesi controversa. La sua storia clinica è caratterizzata dalla presenza di frequenti metastasi ed il suo trattamento non è codificato. Tuttavia il trattamento corrente ripercorre quello adottato per il carcinoma duttale infiltrante. Infatti il limitato numero di questo tipo di lesione non permette una valutazione di differenti protocolli terapeutici.

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