A pure primary squamous cell breast carcinoma presenting as a breast abscess: case report and review of literature

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Riassunto

VERO CARCINOMA SQUAMOSO PRIMITIVO DELLA MAMMELLA CON ASPETTO CLINICO DI ASCESSO MAMMARIO. CASO CLINICO E REVISIONE DELLA LETTERATURA

Un caso di carcinoma squamoso puro primitivo della mammella che si manifesta come ascesso è un evento eccezionale. Quello presentato dagli Autori è il quarto della letteratura mondiale.
Un ascesso mammario in post-menopausa deve indurre il sospetto di una lesione maligna e imporre, dopo il drenaggio, una accurata escissione della lesione. Il riscontro di un carcinoma squamoso puro comporta una valutazione istopatologica estremamente critica nonché l'esecuzione di tutte le indagini diagnostiche volte ad individuare una lesione primitiva cutanea o a partenza da altri distretti. Ancora più difficile è stabilire l'approccio terapeutico più corretto, a causa della rarità della malattia e della grande differenza osservata nella prognosi.
Parole chiave: Neoplasie della mammella, carcinoma squamoso, ascesso mammario.

Abstract

We report the fourth worldwide case of pure primary squamous cell carcinoma of the breast presenting as an abscess. An inflammatory breast lesion in postmenopausal woman must be suspected as a malignant one and drainage of the abscess has to be followed by an accurate excision. The finding of a pure squamous cell carcinoma bears the necessity of an accurate diagnostic work up, to exclude a skin lesion or a metastasis from other district. Also histological criteria are discussed.
More difficult to outline therapeutic options, due to the rarity of disease and great difference in outcome observed.
Key words: Breast neoplasms, squamous cell carcinoma, breast abscess.

Introduction

A primary squamous cell carcinoma of breast (PSCCB) is rare. A "pure" PSCCB especially presenting with the inflammatory features of a breast abscess is an exceptional observation in any age group of patients.
We present a patient recently referred to us with a PSCCB and perform a literature review. By reviewing the international literature we found only 7 cases of PSCCB presenting as abscess and of those only 3 were "pure" ones (1, 2, 3).

Case Report

C.S. is a 65 year old, mildly obese, female with past medical history of hypertension. Her family history was negative for breast carcinoma or any other tumor whatsoever. Her menarche was at age of 12 whereas her menopause when she was 45. She had 2 pregnancies, 2 children the first at age of 27.
The patient presented to us complaining of a 8 months history of a palpable, mildly painful, right breast lump. According to her at the onset its size was 0.5 cm but gradually it became larger. Eventually the breast lump started draining a pus-like exudate mimicking an abscess with fistula formation.
The physical exam showed a 2 cm, painful, lump of the right axillary breast tail. The skin covering and surrounding this lesion was red and a fistula opening was present. There was a palpable right axilla lymph node. The remainder physical was unremarkable. There was no

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additional palpable breast mass or supraclavicular lymph nodes, bilaterally. She was not on regular mammogram screening schedule.
We took the patient to the operating room and performed an incision and drainage of the "abscess". Specimens were sent for pathology and cultures.
There was no growth and the path report was consistent with inflammatory changes of an epidermal cyst abscess.
A mammogram done when the patient could tolerate it was negative for breast carcinoma and two weeks later the patient was taken to the operating room with the intent of performing an additional debridement and a wide excision. At this time the intraoperative findings were those of necrotic tissue extending toward the pectoralis major medially and the axillary vein superiorly. Intraoperative gross exam also showed a nearly 2 cm lymph node within the specimen. Final pathology report was consistent with a well differentiated, pure, squamous cell carcinoma. Skin and deep tissue margins were tumor free.
Additional and extensive work-up subsequently done ruled out a primary squamous cell carcinoma of the upper airways or the upper gastrointestinal tract. Chest radiograph and gynecology work-up were negative as well.
A PET-scan did not show any other tumor.
The patient eventually underwent a quadrantectomy with axillary dissection. There was no tumor left in the specimen and the 17 axillary lymph nodes seen were tumor free.
A 2 year follow-up on this patient has not shown any local recurrence or systemic disease.

Discussion

While the predominant forms of SCCB are more frequently observed the pure SCCB is a rare entity. Although it was first described in 1917 no more than 100 cases have been reported (4).
The estimated incidence of the "pure" SCCB is about 0.04% of all breast carcinomas (5, 6). Postmenopausal women are the most affected. Nevertheless some cases in premenopausal women have been described (4, 7, 8, 9).
In order to be called "pure" a SCCB has to meet the following well defined criteria:

1. abscence of ductal tumor cells or stromal tumor cells in the specimen;
2. uninvolvement of skin adnexa as the origin of the tumor;
3. no evidence of other primary SCC. (10).

In the cases reported in the literature by different authors the pure SCCB has been associated with phyllodes tumor, cysts or nipple discharge (11-15).
In some reports a link has been found between chronic inflammatory changes induced by breast silicon injections and pure SCCB presenting decades later (5, 16). It has been thought that chronic inflammation induces and precedes squamous metaplastic changes (17). The SCCB would develop after all these changes occur.
It is also believed that a squamous metaplasia may develop within an adenocarcinoma causing a complete substitution of the adenocarcinoma by the SCCB (17, 18).
The differential diagnosis of a SCCB is with benign diseases of the breast such a fibroadenoma, a cyst and rarely with a breast abscess (11, 13, 19). There are not solid clinical criteria to pursue a diagnosis of SCCB (19-21). A young patient probably presents with a benign lesion whereas a postmenopausal woman is at higher risk for a breast malignant neoplasm. FNAC is a very useful tool in the work-up of a breast lesion but it can be difficult to make differentiate an epidermal cyst from a SCCB based on citology (22-25). In addition FNAC is very limited in making diagnosis when a SCCB presents as an abscess (26).
In this instance even an open biopsy might result inconclusive due to the presence of inflammatory cells. A wide excision, after draining the "abscess", provides a better chance to make a diagnosis.
It is paramount to rule out a distant primary SCC. The breast can be targeted by gastrointestinal, respiratory and urogenital SCC (27).
Therefore a very accurate work-up has to be undertaken searching for laryngeal, tracheal, bronchial, gastrointestinal and uterine SCC (6, 28).
After ruling out SCC of all these locations a diagnosis of PSCCB can be made.
Due to the limited number of cases of SCCB observed worldwide there is not specific experience on the treatment of these tumors. Thus the therapeutic options offered to a patient with a PSCCB are controversial (11, 14, 29). Some Authors consider the prognostic bearing value of these tumors the same as the invasive ductal carcinoma. Therefore Stage I and IIa patients are offered breast conservation therapy (30).
Other experts consider the SCCB closer to the epidermal tumor of different location rather than to the most common types of breast carcinomas. In these cases a mastectomy is instead recommended.
As far as performing an axillary dissection in patients with SCCB we did not find any helpful data in the surgical literature concerning the level of dissection to be performed and the possible role of a sentinel lymph node biopsy.
In our case we found a metastatic lymph node in the specimen of our patient at the time of the diagnosis and, eventually, preferred to pursue a formal axillary dissection at the final operation.
The prognostic assessment of these patients is difficult. (5, 20, 31). Some experts believe that the presence of strong metaplastic changes associated to the SCCB are associated with a dismal prognosis (32).
Furthermore, since the radiosensitivity of these tumors

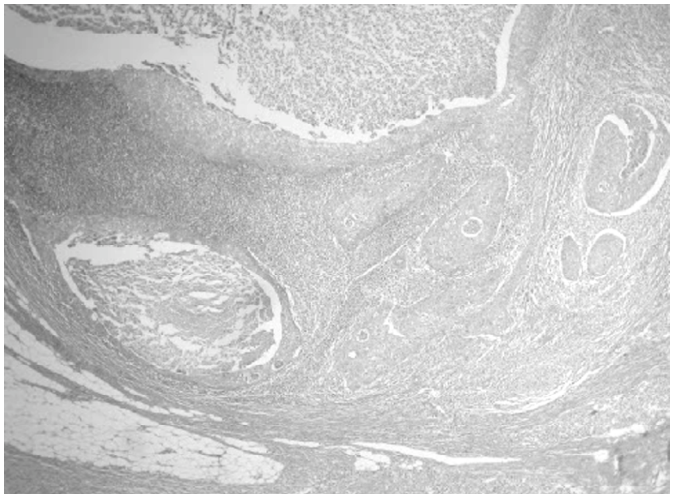

Fig. 1: Well-differentiated squamous cell carcinoma showing cystic structures filled with amorphous debris and severe lymphoid infiltrates (EE x 100).

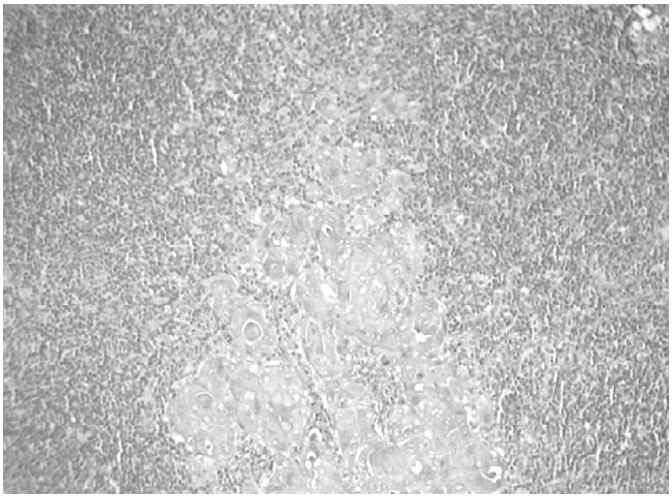

Fig. 2: Section of lymph node with small foci of metastatic squamous cell carcinoma (EE x 300).

is not well defined there is not general agreement regarding the use of radiation therapy (33)

Conclusion

Small benign lesions of the breast may represent a precursor of SCCB or even a developmental stage of it. Especially an inflammatory breast lesion in a postmenopausal woman carries high suspicion for a non benign disease. In this case FNAC can be of very little help or even misleading. Wide excision and a careful pathology examination remain the key to success in curing a patient with a SCCB.

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Commento Commentary

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Multiformi e subdoli nelle loro manifestazioni cliniche, i tumori della mammella non mancano mai di fornire spunti di riflessione (1). Il caso presentato dagli Autori, oltre alla rarità della variante istologica ed alla eccezionalità della presentazione clinica, si presta bene a numerose considerazioni. In primo luogo la necessità di non trascurare un' accurata exeresi e campionatura istologica anche in presenza di lesioni apparentemente benigne , soprattutto nelle donne in età postmenopausale. In secondo luogo la necessità,di fronte ad un carcinoma squamoso , di una attenta ricerca delle possibili sedi di tumore primitivo (2).
In ultima analisi, considerati i controversi esiti osservati in letteratura , ogni segnalazione risulta un mattone prezioso nella costruzione di quell'edificio di osservazioni da cui possano scaturire una valutazione prognostica e delle linee guida terapeutiche (3-5).

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