

Carcinoma erysipeloides as the first manifestation of breast carcinoma: a case report

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Conflict of interest: None to declare

Received: 24 July 2011
Accepted: 9 August 2011

Carcinoma erysipeloides is a well-demarcated erythematous plaque resembling erysipelas. Malignant cells are predominantly within the dermal lymphatic vessels, with malignant thrombi-induced lymphatic obstructions causing the erysipeloid induration. Carcinoma erysipeloides, as the first manifestation of breast cancer, is very rare and accounts for about 2-5% of all cases.

Keywords: breast cancer, carcinoma erysipeloides, inflammatory breast carcinoma

Iran J Dermatol 2012; 15: 102-104

INTRODUCTION

The most common cause of cutaneous metastasis in adult females is breast carcinoma¹ with diverse manifestations, some with rare frequencies. Inflammatory or erysipeloid carcinoma (CE), as the first manifestation of this malignancy, is a very rare presentation². We report a case with conflicting sonographic/mammographic findings.

CASE REPORT

An 85-year-old female presented with an erythematous pruritic plaque on the right breast since 1 month prior to admission, with a history of no response to topical steroids. The lesion enlarged gradually and eventually spread to involve the entire right breast and right upper quadrant of the abdomen, anterior axillary fold, and medial border of the left breast. Peau d'orange skin change and nipple retraction were evident on inspection. Evaluation of the right axillary nodes was not possible due to infiltrated stiff skin (Figure1).

Histology of the biopsy specimen of the plaque

showed invasion of carcinomatous cells with tubular differentiation around the lymphatics and blood vessel invasion (Figure 2, 3).

With regard to the probable diagnosis of CE, more screening was performed in relation to planning the treatment protocol. Immunohistochemical staining was weakly positive for estrogen receptor markers (Table 1). Initial mammography and ultrasonography failed to reveal a true mass in the right breast. CT-scan showed a 43×36 mm mass with spiculated borders and parenchymal invasion in the right breast with multiple axillary lymphadenopathies (34×25mm) and pleural thickening (Figure 4). No bony metastases were detected in the whole-body scan.

With regard to the stage of the malignancy (discussed later), the patient was advised to undergo sequential treatments with chemotherapy, followed by radical mastectomy and adjuvant chemotherapy.

Table 1. Immunohistochemical (IHC) measures.

| | |
|----------------------------|-----------------|
| Estrogen-receptor (ER) | Weakly positive |
| c-erb | negative |
| p-53 | negative |
| Progesterone-receptor (PR) | negative |



Figure 1. Erythematous indurated plaque with peau d'orange appearance and nipple retraction

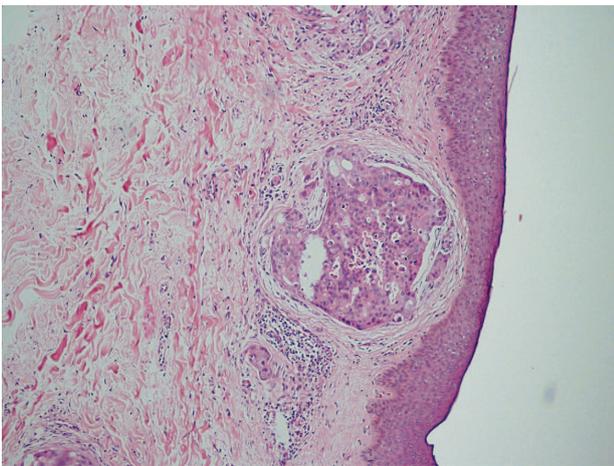


Figure 2. Infiltration of carcinomatous cells with tubular differentiation within dermis (H&E*10).

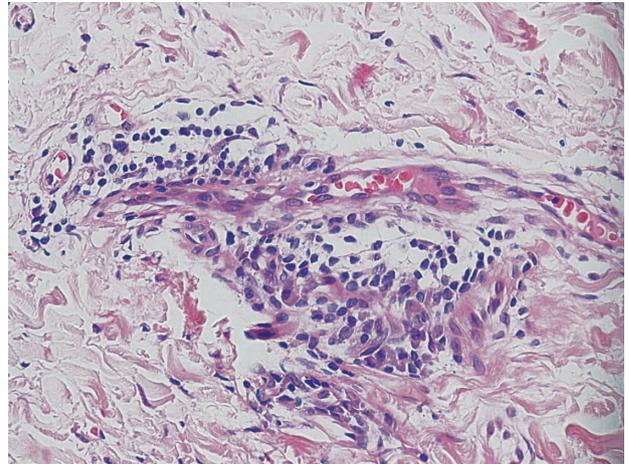


Figure 3. Blood vessel invasion by tumoral cells (H&E*40).

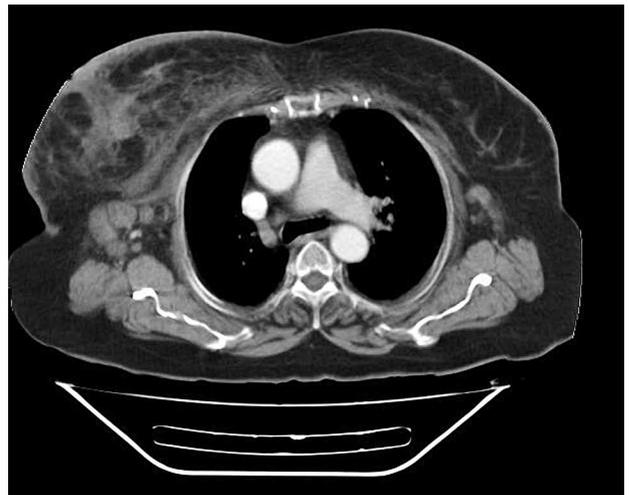


Figure 4. Mass in right breast with speculated borders

DISCUSSION

Worldwide, breast carcinoma (BC) comprises 22.9 % of all non-melanoma skin cancers ¹, 16% of all female cancers, causing 458503 deaths (13.7% of all cancer-related deaths in females) worldwide in 2008 ³. Primary BC is the most common cause of cutaneous metastases in adult females ¹.

Cutaneous metastases of BC present in protean manifestations, mostly as non-specific nodules on the chest wall with tumoral cells lining up singularly between the collagen bundles (Indian filling) ². CE is a well-demarcated erythematous plaque resembling erysipelas. Malignant cells are predominantly within the dermal lymphatic vessels, with malignant thrombi-induced lymphatic obstructions causing the erysipeloid induration ². CE, as the first manifestation of BC, is very rare and accounts for about 2-5% of all cases ⁴. It has a shorter survival according to the revision of the American joint committee on cancer staging guidelines that has classifies this type of breast cancer as T4d, including all patients in the stages of IIIb, c or IV, according to the nodal status and presence or absence of distant metastases ⁵.

Radiologic differentiation of the CE from

mastitis and locally advanced BC (LABC) remains a challenge. Despite recent advances in X-ray mammography and ultrasonography, they do not seem to be able to detect CE precisely, which was the case in our patient. The most common sonographic/X-ray finding in CE is a diffuse increase in soft tissue density or echogenicity ⁶.

Based on the IHC studies in CE, cells disseminate predominantly via lymphatic vessels ⁷. The size, stage (TNM), rate of growth, pathology (ductal vs. lobular), receptor status, genes position and other characteristics of the tumor determine the treatment strategy.

Recommended combined regimens for CE include 3 cycles of FEC (5-FU/ cyclophosphamide/ Epirubicin), accompanied by radical mastectomy and 6 cycles of adjuvant chemotherapy. Eventually, patients receive external beam radiotherapy ^{8,9}.

Prognosis/survival varies greatly depending on the tumor type and staging. The most important prognostic factors are the number of the involved axillary nodes and the residual post-surgical tumoral tissue. Overall, 5- and 10-year survivals rates are 44% and 37%, respectively, with a mean survival rate of 4 years. Disease-free survival rates following the afore-mentioned regimen after 5 and 10 years are 29% and 20%, respectively ¹⁰.

It is of note that our case had certain interesting characteristics. First, CE was the initial presenting feature of BC with no history of a previous mass or nipple discharge. Second, despite the early suspicion of BC, normal sonographic and mammographic reports shed no light on the diagnosis. Third, on histopathology, blood vessel involvement was

significant, although not as severe as the lymphatic invasion.

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