

CARCINOMA ERYSIPELOIDES OF THE BREAST IN A PATIENT WITH ADVANCED INVASIVE LOBULAR BREAST CANCER

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ABSTRACT

Carcinoma erysipeloides (CE) is an uncommon cutaneous metastasis of advanced breast carcinoma, showing distinctive features and presenting as a well-demarcated erythematous macule or plaque varying in size. It also may show a raised border and oedema. The differential diagnoses include erysipelas or cellulitis of the breast, or rarely—radiodermatitis. Most of the time CE is associated with advanced breast cancer and rarely with neoplastic tumours of the colon, pancreas, oesophagus, uterus, etc. We report a 58-year-old woman who presented at the Medical Institute of the Ministry of Internal Affairs with a 1-month history of not well-demarcated, erythematous, oedematous patches and plaques on the left and right breast, abdomen and both shins, associated with advanced invasive lobular carcinoma of the breast.

Keywords: *carcinoma erysipeloides, metastasis, breast carcinoma*

INTRODUCTION

Carcinoma erysipeloides (CE) is an uncommon cutaneous metastasis of advanced breast carcinoma. Most of the time it is associated with advanced breast cancer and rarely with neoplastic tumours of the colon, pancreas, oesophagus, uterus, etc (1).

Carcinoma erysipeloides usually presents with well-circumscribed, red to red-violasceous, oede-

matous skin resembling cellulitis. Usually the skin is tender, but also can be asymptomatic. Carcinoma erysipeloides is most commonly found on the pre-sternal area of the body (2,3). It may appear suddenly in normal skin and also within a scar from a previous surgery. In case of advanced breast cancer, it can be found on the other breast. Due to blocking of the draining lymphatics and the release of cytokines in the process, the patch or plaque can show a raised and oedematous border. Very recent review of the literature shows that cutaneous metastases of all kinds of tumours range between 0.7–10.0% (3,4). Cutaneous metastases are frequently found in women with breast cancer, rather than any other neoplasms. Rarely, CE can be the first sign of advancing breast cancer (3,5).

Breast cancer is the second most common cancer among women, after basal cell carcinoma (6,7).

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Received: February 23, 2021

Accepted: March 15, 2021

As mentioned above, CE is an uncommon type of cutaneous metastasis (4,6). Inflammatory breast carcinoma was first described by C. Rasch in 1931 as carcinoma erysipeloides due to its similarity with erysipelas (4,8). It constitutes a total of 1% of breast cancer metastases (2,9). The differential diagnosis consists of erysipelas, cellulitis, candidiasis, radiodermatitis-like changes, etc. (2,3,4). Clinically, carcinoma erysipeloides manifests with a well-demarcated, erythematous, tender area with raised, oedematous borders. In general, classic clinical features, lack of response to topical and systemic therapy should alert the physician to the possibility of cutaneous metastases (15). Tumour cells are within the dermal lymphatic vessels, with malignant thrombi-induced lymphatic obstructions causing the typical induration. The pathology of inflammatory carcinoma is specific, with the deposition of tightly packed neoplastic cells within the superficial and deep lymphatics without the pathologic evidence of acute inflammation. Dermal lymphatic invasion is considered to be the main hallmark of CE (11). Gross cystic disease fluid protein-15 (GCDFFP-15) and estrogen receptor protein (ERP) are very specific and valuable markers for cutaneous metastatic invasive breast carcinoma, which can be used in combination for better and more accurate diagnosis (12). As mentioned above, CE is an uncommon type of cutaneous metastasis. It is very rare compared to the more common papules, nodules, teleangiectatic, alopecic and zosteriform lesions (14).

CASE REPORT

A 58-year-old woman was presented to the Department of Internal Medicine, Pulmonology, Phtysiatry and Allergology with advancing bronchiectatic disease, decompensated chronic respiratory disease, pulmonary fibrosis, bilateral pleural effusions and oedema of the left hip, followed by the left shin, right axillary and left submandibular lymphadenomegaly. The laboratory evaluation showed: leucocytes— $7.5 \times 10^9/L$; erythrocytes— $4.79 \times 10^{12}/L$; haemoglobin—136.0 g/L; haematocrit—0.434 L/L; granulocytes—68.0%; glucose—6.5 mmol/L; creatinine—100.0 mmol/L; urea—5.6 mmol/L; AST—88.0 IU/L; ALT—43.0 IU/L; LDH—264.0 IU/L; creatine phosphokinase—114.0 U/L; CK-MB fraction—29.0 IU/L; total protein—70.0 g/L; albumin—31.0 g/L;

GGT—135.0 IU/L; alkaline phosphatase—204.0 IU/L; amylase—94.0 IU/L.

A magnetic resonance tomography (MRT) of the head, neck, chest and abdomen regions was performed. It showed enlarged left submandibular, submental and axillary lymphadenomegaly, bilateral pleural effusion, pericardial effusion, and ascites. Finding in the uterus was indicative of carcinoma. There were generalized osteosclerotic findings.

A mammologic examination was performed. A formation in the upper left region of the right breast, 1 cm in diameter, suspected for breast carcinoma was found. A punch biopsy of the breast was initiated and histopathologic evaluation confirmed the diagnosis of invasive lobular breast carcinoma with perivascular infiltration (ER (3+), PR (3+), HER2(-)).

Two pleural punctures were performed in order to evacuate 1400 mL of pleural punctate that showed groups of large tumour cells.

An abdominal puncture was performed and 1500 mL of ascitic fluid was evacuated and no tumour cells were found.

The patient was referred to an oncology committee, so the newly diagnosed breast cancer can be evaluated and exact therapy can be initiated.

After TNM staging, a polychemotherapy, target therapy with Letrozole Nucleus 2.5 mg, and substitution therapy were initiated.

Due to deterioration of the general condition of the patient, she was admitted to the hospital two times (at the Department of Internal Medicine, Pulmonology, Phtysiatry and Allergology). During her



Fig. 1. Clinical presentation of the chest region

second hospitalization two more pleural punctures were performed in order to evacuate 1100 mL of transudate.

During her last hospitalization in September 18 2020, a referral from a dermatologist was made. The patient complained of macules that appeared in the previous 2 weeks. The dermatological evaluation showed not-well-demarcated, erythematous, oedematous, tender patches with infiltration, very suspicious for carcinoma erysipeloides (Fig. 1, 2).



Fig. 2. Clinical presentation of the lower abdomen and hip region

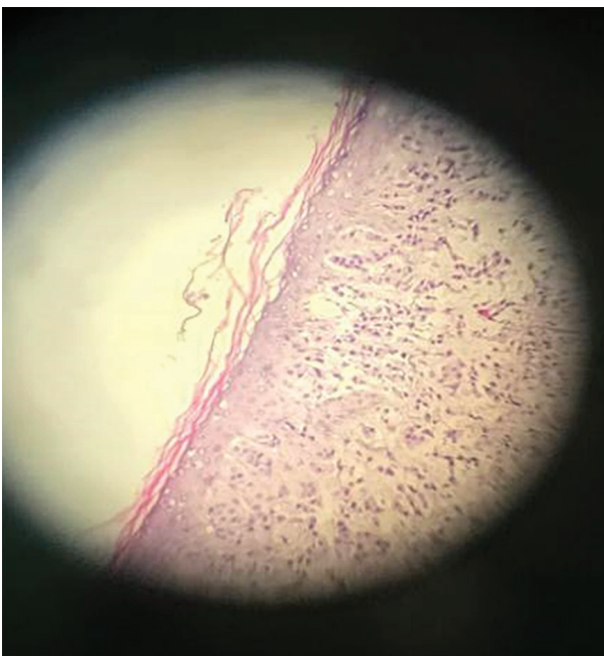


Fig. 3. Histological findings (x 100)

A 4-mm punch biopsy was performed. The histopathology of the skin showed massive infiltration of carcinomatous lymphangitis, probably from a breast carcinoma.

The histological evaluation of the biopsy specimen showed dysplastic cells predominantly growing within the superficial and deep dermal lymphatic vessels, with morphological features resembling inflammatory invasive breast carcinoma (Fig. 3, 4).

The laboratory tests showed: leucocytes— $14.66 \times 10^9/L$, erythrocytes— $3.17 \times 10^{12}/L$, haemoglobin—112.0 g/L, haematocrit—0.313 L/L, granulocytes—68.3%, glucose—4.92 mmol/L, creatinin—92.1 mmol/L, urea—8.5 mmol/L, AST—167.0 IU/L, ALT—265 IU/L, LDH—264.0 IU/L, creatine phosphokinase—114.0 U/L, CK-MB fraction—29.0 IU/L, total protein—54.0 g/L; albumin—20.0 g/L, GGT—648.0 IU/L, alkaline phosphatase—667.0 IU/L, amylase—242.0 IU/L.

A MRT of the head, neck, chest and abdomen revealed three not-well-defined formations in the temporo-occipital region and medulla oblongata, suspected for metastases. Bilateral pleural effusion, right axillary lymphadenomegaly, tumour formation in left upper quadrant of the right breast, ascites and multifocal secondary osteosclerotic lesions were established.

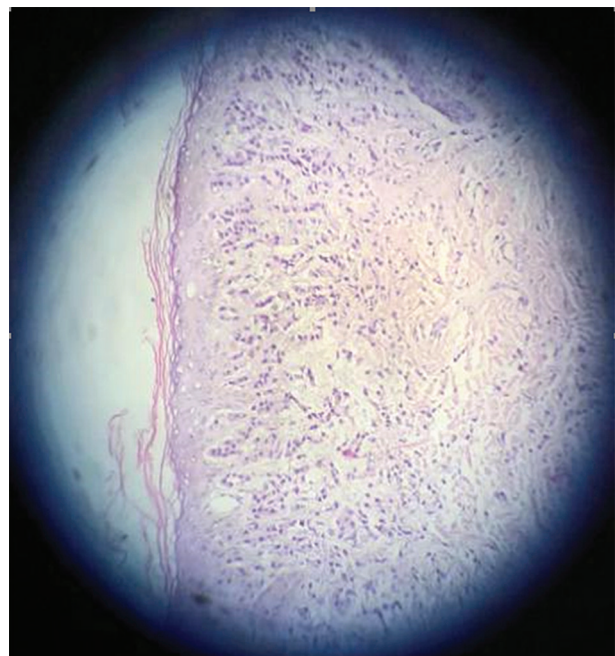


Fig. 4. Histological findings (x 200)

In seven days, the patient's general condition deteriorated with psychomotoric agitation and multiorgan insufficiency leading to her death.

DISCUSSION

We presented a clinical case of a 58-year-old woman with 1-month history for a rapidly evolving erythematous, oedematous and tender lesion on her left breast, abdomen and hips that appeared to be carcinoma erysipeloïdes. Our clinical case proves the need to maintain great suspicion for dermatitis- or erysipelas-like lesions over the breast, which are resistant to classical treatment. Awareness of the distinctive inflammatory manifestations of CE is essential for the physicians to establish an early diagnosis and accurate treatment in order to increase the overall survival rate.

CONCLUSION

Breast cancer is the second most common cancer among women. Rarely, this type of cancer can metastasize with atypical erythematous—oedematous plaques similar to infectious diseases of the skin (erysipelas or cellulitis). The right diagnosis is of a great importance for the treatment and survival of the patient. Our clinical case presents a female patient with erysipelas-like lesions on the skin, later diagnosed as advanced breast cancer. Through this clinical case we would like to underline the importance of rare differential diagnoses in clinical cases where the biological behaviour of the disease cannot be explained.

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