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clinical practice

An unexpected metastasis of breast cancer mimicking wheal rush

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SUMMARY: **An unexpected metastasis of breast cancer mimicking wheal rush.**

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Breast cancer is the most common cancer among women and ranks second in cancer deaths worldwide. Breast cancer can metastasize to the skin but rarely, cutaneous metastases may be the first indication of the cancer. Skin metastases of breast cancer are usually found on the chest and close to the point of the mastectomy.

We present the rare clinical entity of a breast cancer which was first diagnosed due to the skin metastasis away from the breast tumor. This is a rare case because the skin lesions usually appear simultaneously or secondary. Also, while the existing metastasis; the only symptom was the wheal rash.

KEY WORDS: Breast - Cancer - Metastasis - Wheal - Rash - Skin.

Introduction

We present the rare clinical entity of a breast cancer which was first diagnosed due to the skin metastasis away from the breast tumor. This is a rare case because the skin lesions usually appear simultaneously or secondary. Also, while the existing metastasis; the only symptom was the wheal rash.

Case report

This case is about a 75-year old woman, who entered our clinic because of wheal rash, on the upper half of the body, due to possible metastasis. Specifically, the disease appeared 3 months before, during of which the patient experienced sudden wheal rash on the upper half of her body. The wheals were red, painless, non- itching, stable in size, with a diameter of 0.5 cm which stood firm against the pressure (Figs 1, 2). The patient did not report any associated symptoms. The woman first approached a dermatologist - pathologist, who made the histological control of these, which showed a metastatic rash, probably due to breast cancer. Particularly, the histological examination reported an infiltration of the dermis by tumor cells, with a characteristic arrangement of breast cancer. In addition, all cells contained estrogen receptors and a few progesterone ones. The patient addressed to us for further testing.

From her personal history, the patient at the age of 49 underwent a total hysterectomy, due to uterine fibroids. She did not take any hormone or corticosteroid therapy (menopause: 49 years old). Menstruation appeared at age of 14. She has two healthy children - two normal births at the ages of 24 and 29 years old. Her family history also is free of malignancies and she does not smoke.

The woman in our clinic was fully clinically examined, but the examination showed nothing abnormal. Her breast and axillary lymph nodes were palpated without any malignancies.

In the meanwhile she underwent to a mammography, which revealed no abnormalities in breast imaging. In second time, she made an ultrasound scan (U/S) of her breast, which revealed a compact construct, with low va-

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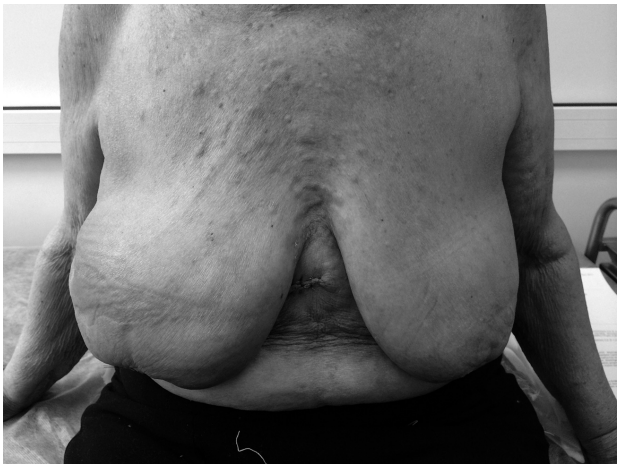

Figs. 1, 2 - Breast cancer metastasis in the skin.

scularization at the peripapillary region of her right breast. To a further investigation, the woman underwent to a magnetic mammogram, which showed a diffuse mammary infiltrates with a possible biopsy position on the outer surface of the right breast (9th hour). Magnetic Resonance Imaging (MRI) of the upper abdomen revealed metastasis to the liver and the bones, which confirmed the bones- scintigraphy with 99m Tc-MDP while a computed tomography (CT) of the thorax, upper - lower abdomen and brain, showed metastasis to the liver, to the axillary lymph nodes (both sites) and to the bones. Finally, blood test showed positive (+) tumor markers of breast cancer: CEA=12,1 ng/mL, CA-15.3>250 U/mL, CA-125>480 U/mL. A fragment of tumor and a segment of skin away from the breast tumor which included malignancy were received for biopsy. The result of breast tumor biopsy revealed a Grade II, estrogen receptor (ER) – positive (95%, 3+), progesterone receptor (PR) – positive (30%, 3+), Ki67 – positive (25%) and human epidermal growth factor receptor 2 (HER2) – positive (1+) invasive lobular carcinoma of the right breast that was clinically staged as T2. In the segment of skin was observed an extensive infiltration of dermis and subcutaneous tissue from invasive lobular carcinoma.

As therapy the patient received chemotherapy with doxorubicin (60 mg/m2 IV) and cyclophosphamide (600 mg/m2 IV) over 30 minutes on the first day. This treatment had been repeating every 21 days for 4 courses. Approximately 3 weeks after the last course, the patient received paclitaxel (175 mg/m2 IV) over 3 hours. After 21 days the patient took the same medicine for 4 courses. Also the patient received hormonal therapy with aromatase inhibitors for at least 5 years, beginning within 3-12 weeks after the last dose of chemotherapy.

Discussion and conclusions

Breast cancer is the most common cancer among women and ranks second in cancer deaths worldwide. In 2014, 1.323.600 deaths from cancer are predicted (742.500 men and 581.100 women) in Europe, compared with the 1.281.773 cancer deaths recorded in 2009 (718.355 men and 563.418 women). In women, breast cancer was responsible for the largest number of deaths with 89.300 predicted deaths (15%, 14.5/100.000) (1). In 2012 there were 1.67 million cases of breast cancer worldwide. In Europe, including non-European Union countries, the latest estimates indicate that in 2012 there were 464.000 new cases of breast cancer, accounting for 28.8% of all cancer cases diagnosed in women and 13.5% of all cancer cases diagnosed overall. Globally, the latest estimates indicate that 7.5% of all cancer deaths in Europe in 2012 were attributable to breast cancer (2). Certainly screening has played an important role in decreasing the average size of tumors at detection. However, trends in the incidence of advanced breast cancer have remained stable, suggesting that screening does not succeed in detecting potentially life-threatening cancers at an earlier stage, and the number of breast cancers that have already metastasized in distant organs when first diagnosed has not decreased (2). All types of cancers can metastasize to the skin, at a rate of 0.2 to 9%. The main types are the lung's cancer in men and breast cancer in women. Other types may be the colorectal cancer, melanoma, brain cancer, kidney cancer, stomach cancer, and ovary cancer (3). In a recent study, that included 12.146 patients with internal malignancies, the rate of skin metastasis associated with breast carcinoma was 2.42% (4). Often the skin lesions appear simultaneously or secondary and are usually multiple, hard, darker, painless nodules, that appear suddenly and have fixed size

(2cm) – the lesions can differ depending on the histological type of the cancer (erysipelas, papules, diffuse sclerosis, eczema). In a review of 164 patients (5) the most frequent manifestation were papules and/or nodules in 80%, followed by telangiectasic carcinoma in 11.2%, erysipeloid carcinoma in 3%, "en cuirasse" carcinoma in 3%, alopecia neoplastica in 2% and a zosteriform pattern in 0.8%. Rarely, cutaneous metastases may be the first indication of the cancer (6).

However, skin metastases of breast cancer are usually found on the chest and close to the point of the mastectomy (7). In the study of Mordenti et al. (5) the commonest sites involved in breast CM were the sites of previous mastectomy and the anterior part of the chest in over 75 percent of the patients. Additional common areas were head, neck and extremities. The mechanism of metastasis to the skin from a breast cancer is either through direct extension, hematologic or lymphatic dissemination, or surgical implantation (8). Many cases in the literature were pigmented metastases (melanoma) or damage -like "orange peel" (7). Skin metastases are a source of pain for the patient (intensity 8/10) and a cause of emotional depression (9). It is always required a skin biopsy for the diagnosis. The treatment includes cryotherapy, radiotherapy and chemotherapy, but the prognosis is usually poor (9, 10).

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