Ductal breast carcinoma metastatic to the vulva: a case report

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Introduction

Axillary nodes, lungs, bone, liver and brain are the most common sites of metastatic diffusion of breast cancer.

The lower genital tract is rarely involved and, to date, only eight cases of vulvar metastasis from breast carcinoma have been published [1-8].

We report a case of vulvar metastasis of breast carcinoma occurring 14 years after the primary treatment.

Case Report

A 67-year-old woman, para 2-0-0-2, was admitted in February 2000 to the Department of Gynaecology and Obstetrics.

She was affected, 14 years before, by a ductal carcinoma (pT1cPN0, G2, ER + 100%) treated with quadrantectomy, axillary dissection, radiotherapy and adjuvant Tamoxifen (20 mg daily for five years).

She reported that two months earlier a rapidly enlarging asymptomatic vulvar nodule appeared.

Vulvar examination revealed a 1 cm, indurative nodule in the clitoris region, involving the skin and subcutaneous fat.

The vulva, vagina and other genital organs were normal. A pelvic NMR did not show enlarged pelvic and/or inguinal nodes. Under general anaesthesia a simple vulvectomy was performed. The vulvar specimen measured 4x3.5x1 cm. On section, a whitish-grey, 1.2x0.8x0.6 cm node was detected.

Microscopic findings were consistent with metastasis of a breast ductal carcinoma (G2, ER + 50%, PR + 25%, HMFG positive, S-100 negative). The margins of resection were free of disease.

No in situ carcinoma or normal breast tissue was found in the nodule or in the vulvar tissue.

A metastatic work-up including mammography, computed tomography of the chest and abdomen, bone scan and tumor markers (CEA, Ca 15.3) were negative.

Six courses of chemotherapy with ciclophosphamide, methotrexate and 5-fluorouracil (CMF) were administered.

At the end of chemotherapy the patient started second-line hormonotherapy with an irreversible steroidal aromatase inhibitor.

Discussion

The female reproductive tract is rarely involved by breast cancer diffusion. In two autopsy studies the ovaries and uterus were the genital organs most frequently involved; in both series involvement of the vulva was not reported and lobular carcinoma was more frequently associated with genital organ diffusion than ductal [9, 10].

To date, only eight cases of vulvar metastasis from breast cancer are available in the literature.

A differential diagnosis between a primary breast cancer arising from vulvar ectopic mammary tissue and a metastatic breast carcinoma is a key point in the clinical approach.

Ectopic breast tissue can be found along the whole embryonic "milk-line", extending from the axilla to the groin. All common benign and/or malignant breast disease can affect the ectopic mammary tissue. Nevertheless, the finding of primary carcinoma arising from vulvar breast tissue is extremely rare and only 11 cases have been described [11].

The diagnosis of vulvar metastasis rather than a primary breast carcinoma of the vulva is based on the absence of "in situ" and/or normal breast cells in the vulvar specimen.

The diagnosis of metastatic disease must be supported by an identical histologic and immunohistochemical pattern shown by breast cancer and vulvar lesions.

Our case exhibits some differences in receptor status between primary and metastatic cancer; in fact, the primary breast cancer showed 100% positive staining for estrogen receptors while, in the vulvar metastatic lesion, only 50% of cells were positive.

These differences could be explained by the spontaneous mutations which occur during the long natural history of the disease.

We believe that an identical histologic pattern of a breast cancer and a vulvar lesion is mandatory to support the diagnosis of metastatic disease, while immunohistochemistry can be different in case of a long disease-free interval.

Two particularities characterise our case: (i) ductal histology, while data available in the literature demonstrate that metastases to the genital tract are more frequent with lobular primary cancer (ii) disease-free longer with respect to all cases already published.

Vulvar metastases are so rare that a standard treatment is not clearly defined. We believe that complete excision of the lesion rather than a simple biopsy is mandatory to differentiate primary from secondary disease. Inguinal node dissection is just as mandatory in primary disease in

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order to establish adjuvant treatment. On the contrary in metastatic disease inguinal node dissection is questionable. With respect to medical treatment, we have treated our patient as we do all presenting with breast cancer metastases to the soft tissues.

Longer follow-up is needed to evaluate patient outcome.

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