Carcinoma en cuirasse associated to zosteriform metastasis from breast adenocarcinoma

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Abstract:
We report an original case of carcinoma en cuirasse associated with zosteriform metastasis. A 40-year-old woman presented to our department with painful erythematos lesions. She had a history of invasive ductal carcinoma of the left breast. Numerous erythematos, papules and whitish vesicles were present over the right side of the chest in a dermatomal distribution with indurated coalescent plaques. Biopsy revealed metastatic carcinoma of breast origin. Breast mammography showed suspicious right nodule. Controlateral breast carcinoma with CM was diagnosed. CM show a wide range of clinical manifestations. Carcinoma en cuirasse, is a very rare form of metastatic cutaneous breast cancer. It is characterized by diffuse sclerodermatous induration of the skin. Zosteriform metastasis is also rarely seen. It may be distributed along dermatomeres in a variety of clinical patterns, including nodular, papulovesicular, or vesiculobullous. In our case, the zosteriform metastasis occurred in the contralateral site. It announced the developing of controlateral breast cancer.

Keywords: breast adenocarcinoma; carcinoma en cuirasse; zosteriform metastasis; controlateral carcinoma

Case report:
A 40-year-old woman was referred to our department with painful erythematous papules grouped on the right side of the trunk of two-month duration. She had a history of left infiltrating ductal carcinoma 3 years back, treated with chemotherapy, mastectomy and radiotherapy. On examination, numerous firm erythematous and whitish clustered papules were present over the right side of the chest in a dermatomal distribution (T4–T6) with peau d'orange appearance (Figure1). The underlying skin was indurated. Many diffuse sclerodermiform and erythematous plaques were also present. There was a palpable mass in the right mammary gland. Two biopsies were performed from a papule and an indurated plaque revealing same histologic features: a dense dermal infiltration of malignant epithelial cells delimiting cribriform clusters with lymphangitic carcinomatosis. Collagen densification was also seen (Figure2). Microbiopsy of the breast nodule confirmed the malignant origin. Computed tomography scan showed significant bilateral pleural effusion. No distant metastasis was detected. Controlateral BC with CM was finally diagnosed. The patient was started on palliative chemotherapy after a multidisciplinary team meeting.
Discussion:

Cutaneous metastasis (CM) are rare malignancies appearing as tumor cells spreading over skin directly, hematogenous or lymphatically from primary tissue [1, 2]. Breast cancer (BC) is the first internal malignancy associated with CMs of different clinical presentations [2]. CMs in patients with BC occur in 23.9%. Erythematous papules and nodules are the most common presentation (80% of cases) [4]. Less commonly, atypical variants of skin involvement in BC can mimic common processes: erysipelas (carcinoma erysipeloides), alopecia areata (alopecia neoplastica), lymphangioma circumscripturn and cutaneous vasculitis (carcinoma teleangiectaticum) [4]. CC and ZM, presented here, resembling morphea and herpes zoster respectively are extremely rare. In those exceptional cases, only histology can make the diagnosis which often resembles the primary cancer.

CC is seen in only 3% of patients with CMs from BC [4]. It is characterized by erythematous indurated plaques with diffuse sclerodermatous induration of the chest wall skin [3]. It is most commonly linked with local recurrence of BC following mastectomy, chemotherapy, or radiotherapy, as in our case, but it can also be a clinical presentation of a primitive tumor [4]. CC is characterized histologically by dense fibrosis with few neoplastic cells and decreased vascularity, making it highly resistant to chemotherapy [3]. This form of CM was rarely associated with other visceral malignancies [5].

ZM is a rarely seen subtype with only a few hundred cases in the literature, among them 12 cases due to BC [6]. It may be distributed along dermatomes in various clinical patterns, including nodular, papulovesicular, or vesiculobullous [3]. Several theories have been proposed to clarify the pathogenetic mechanism of zosteriform dissemination. It has been postulated to occur as a Koebner response to recent herpes zoster [6]. Our patient did not report any skin lesion over the area previously. ZM may also be generated by the diffusion of tumor cells from the perineural lymphatic vessels [3]. This is likely to be the cause in our patient having lymphangitic carcinomatosis in histology. Diagnosis of ZM can be challenging, resulting in initial misdiagnosis. Occurring in oncologic immunosuppressive patients, it can be confused with herpes zoster infection. Definite diagnosis is made on microscopic
examination. In our case, ZM occurred in the contralateral site, revealing a contralateral BC. Association of CC and ZM has not been reported yet.

To conclude, CM should be included in the differential of potentially benign lesions in patients with neoplastic disease history.

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The authors declare having followed the protocols in use at their working center regarding patients’ data publication.

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