

Zosteriform Skin Metastases from Breast Cancer

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Abstract

Metastatic skin cancer is a rare complication of internal malignancies. Patients who develop cutaneous metastases rarely present with a zosteriform distribution. Herein, we describe a 65-year-old woman with a prior history of breast cancer in whom zosteriform metastases developed along her left T₈₋₉ abdominal dermatomes.

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Keywords • Breast cancer • zosteriform • metastasis

Introduction

Metastatic skin cancers vary in type. Most of these metastases present as nonspecific painless dermal or subcutaneous nodules leaving the overlying epidermis intact. The most common clinical finding is clusters of discrete firm painless nodules emerging rapidly without any explanations on a given anatomic site, proliferating rapidly to a stationary phase. Occasionally, cutaneous metastases are as large as a hen's egg or so tiny as to be of miliary size or even hardly detectable.¹ Only a few cases of metastatic skin cancer presenting with a zosteriform distribution have been reported in the medical literature.^{2,3} Zosteriform appearance of the metastasis has two aspects; one is its morphology with lesions resembling herpetic vesicles, and the other is its zosteriform distribution.⁴

Herein, we describe a patient with a previous history of breast cancer presenting with zosteriform cutaneous metastases.

Case Presentation

A 65-year-old woman presented in June 2003 with firm papules on the left side of her abdomen which had been existed for 9 months. She had had a ductal carcinoma of the left breast 10 years before treated by mastectomy and chemotherapy. Four years later, she had a recurrence and treated again with surgery and chemotherapy. And now since 9 months before, some skin lesions appeared.

The lesions were not painful, did not itch and were diagnosed as multiple cysts. One of the lesions was manipulated by a physician with a sterile needle. Miliary-sized skin color solid papules were scattered and confluent on the left side of the abdomen with typical zosteriform distribution consistent with the left T₈₋₉ dermatomes (Fig 1). The rest of the physical examinations was negative. A skin biopsy was performed. The histopathologic study revealed metastatic adenocarcinoma arising from the primary breast carcinoma

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Fig 1: Miliary-sized skin color papules were scattered and confluent on the left side of the abdomen.

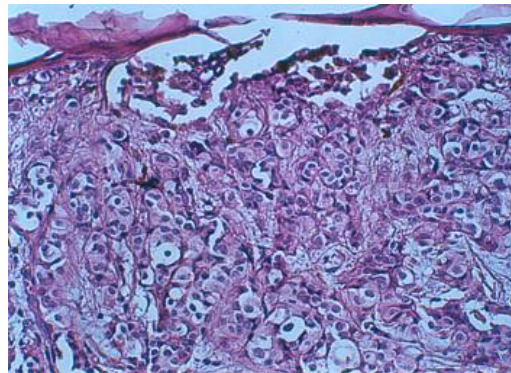


Fig 2: Photomicrograph showing metastatic adenocarcinoma of the skin with irregular cords and groups of tumor cells in the dermis and overlying epidermis. (H&E x200).

(Fig 2). Laboratory studies were unremarkable. Further investigations failed to disclose internal metastases. The patient was referred to an oncologist and underwent chemotherapy.

Discussion

Cutaneous metastases are relatively rare and have been reported in 0.7% to 9.0% of all patients with cancer.¹ It may be an important clue for tumor progression or even the first manifestation of malignancy.⁵ The relative frequencies of metastatic skin disease tend to correlate with those of the types of primary cancer in each sex.¹ It has been reported that the lung is the most common primary site of carcinoma in men and the breast is the most frequent primary site of carcinoma in women that metastasize to the skin. In addition, there may be a long-time lag between the diagnosis of the primary neoplasm and recognition of the skin metastases. Lookingbill *et al*, reported a lag period of 4 to 5 years for breast cancer.⁶ In our case, around 9 years later, cutaneous metastases appeared in the abdominal wall.

The distribution of skin metastases, although unpredictable, is related to both the anatomic site of the primary tumor and the mode of spread. The areas of greatest predilection in men are the head, neck, anterior chest and the abdomen, whereas in women, the anterior chest and abdomen appear to be the most common sites for skin metastases.⁴

Breast carcinoma shows eight distinct clinicopathologic types of metastatic skin involvement.^{1,7} A zosteriform arrangement of metastatic breast carcinoma has been rarely reported.^{1,2,7,8} Kikuchi *et al*, reviewed 18 cases of zosteriform skin metastases. They analyzed the clinicopathological characteris-

tics of the lesions.² They concluded that in approximately half of patients, the metastatic skin cancer developed on the nearest skin covering and on the same side of the primary tumor. Nonetheless, some zosteriform skin metastases developed on the opposite side of the body, or an area distant from the primary carcinoma.²

The mechanism of zosteriform distribution often remains unknown, however, proposed theories include lymphatic spread, koebnerization at the site of previous zoster infection, surgical implantation of tumor cells and neural spread via the dorsal ganglia.⁸ Clinically, metastases localized in proximity of the underlying internal carcinoma suggest spread to the skin through lymphatic channels.⁹ S-100 staining of the biopsy reveals perineural invasion, and endothelial markers—particularly factor VIII. It was also showed dilated vessels in the dermis, some of which contained malignant cells, suggesting that the distribution was related to intravascular or lymphatic spread.⁴ In current case, we could not do immunohistochemical staining studies. Nevertheless, based on our clinical observations we believe that the zosteriform distribution was due to lymphatic spread.

In summary, the diagnosis of metastatic carcinoma should be considered in any patient with a previous history of internal malignancy and zosteriform skin eruption. The clinical appearance frequently makes the correct diagnosis difficult and a skin biopsy is necessary to confirm the diagnosis.

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Zosteriform skin metastases from breast cancer

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