



Lobular Carcinoma of Breast Presenting with Skin and Stomach Metastases

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ARTICLE INFO

Received:
16 December 2013
Revised:
2 February 2014
Accepted:
15 April 2014

Keywords:
breast cancer,
skin metastasis,
Lobular carcinoma,
stomach metastasis,
Immunohistochemistry

ABSTRACT

Background: Skin metastases occur in 1-5% of solid tumors and are rarely the presenting sign of internal malignancies. Certain features in skin lesions raise suspicion of metastasis from solid tumors.

Case Presentation: In this article a 61-year-old woman is presented with erythematous skin nodules in upper abdomen and chest. Histopathological evaluation of lesions suggested metastatic carcinoma and a thorough search found stomach signet cell adenocarcinoma and breast lobular carcinoma. Immunohistochemical staining confirmed diagnosis of lobular carcinoma with metastasis developed in skin and stomach.

Conclusion: Clinicians must be aware that malignancies can present by skin metastases. Since breast and stomach cancer can both metastasize to skin, immunohistochemistry evaluation is of great importance to diagnose the primary tumor.

Introduction

Skin metastases occur in 1-5% of solid tumors and are rarely the presenting sign of internal malignancies.^{1,2} Certain features in skin lesions raise suspicion of metastasis from solid tumors. In this paper, a case of lobular breast carcinoma is studied that presented initially as skin nodules of upper abdomen and chest. A mass lesion was also found in stomach and definite diagnosis was made by immunohistochemical staining.

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Case Report

A 61-year-old woman presented to a dermatology clinic complaining of a skin lesions. She had noticed a lesion in the left upper quadrant of abdomen 6 months ago. Gradually, the lesion enlarged and additional indurated erythematous plaques and nodules appeared in her chest and upper abdomen. Her lesions were firm, painless, and without itching or scaling (Figures 1 and 2). In addition, the patient's medical history was thoroughly studied and it revealed a vague back pain and dyspepsia. Biopsy was taken and the histological examination reported small round cells which were compatible with metastatic carcinoma.

In addition to the aforementioned skin lesions, physical examination revealed induration in upper outer portion of right breast and tenderness over lumbar spinous processes. Furthermore, bilateral nipple retraction was found.



Figure 1. Multiple erythematous nodules in chest and abdomen



Figure 2. Close view of skin lesions

Upper GI endoscopy was performed and showed multiple polypoid masses in body and fundus. The histologic examination reported diffuse growth of malignant cells with glandular formation and signet ring appearance, suggesting diagnosis of gastric adenocarcinoma.

Mammography showed asymmetrically increased density in upper outer quadrant and retroareolar portion of the right breast, and a focal speculated density in lower inner quadrant of the left breast.

Biopsy was taken and histological examination depicted infiltration of breast by malignant neoplasm

composed of small sized, round, atypical epithelial cells growing concentrically around ducts compatible with invasive lobular carcinoma (Figure 3).

Immunohistochemical staining of specimens was positive for ER, PR, Cytokeratin7, CKAE1/3, and negative for CK20, Her2, and Cd45.

Whole body PET scan showed increased activity in thoracic, lumbar, and sacral vertebrae in favor of metastasis. Finally, the patient was referred for chemotherapy with diagnosis of stage IV lobular carcinoma of breast.

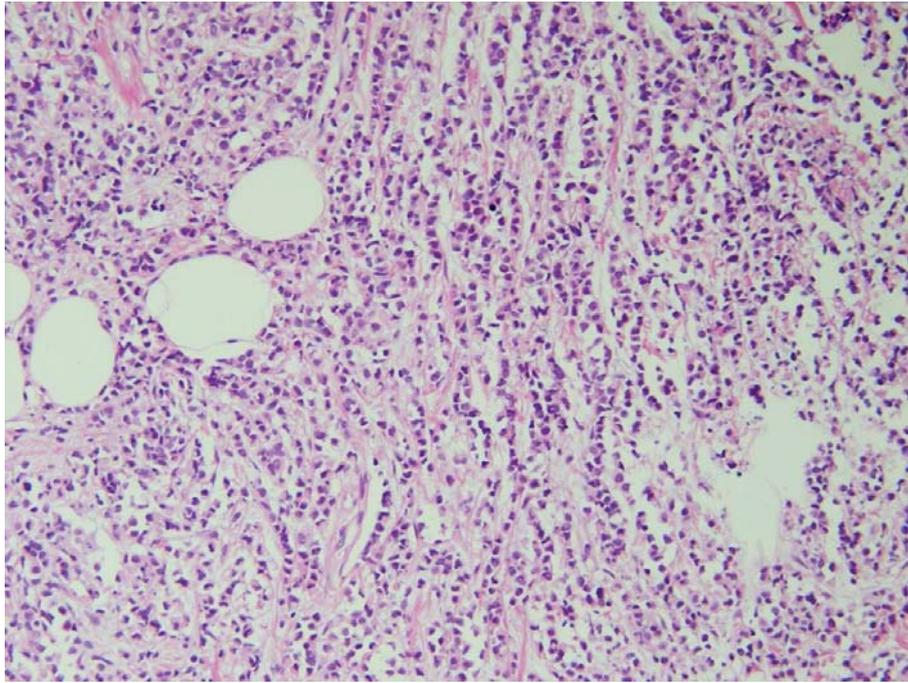


Figure 3. Histopathological examination of breast biopsy shows small sized round atypical epithelial cells compatible with invasive lobular carcinoma

Discussion

Skin metastases from solid tumors are rare. Reported rate of skin metastases in different studies varies from 1 to 5%.^{1,2} Breast cancer has the highest rates of skin metastases and studies have shown skin metastases in 23% of patients with breast cancer.³ However, skin metastases usually occur late in the course of the disease when the tumor has already been diagnosed, or is the sign of recurrence of a previously treated cancer rather than being the initial presenting sign.

Most skin metastases appear as multiple firm and painless nodules with intact overlying epidermis such as in the patient presented; however, there are a number of less common presentations that can mimic primary skin disorders such as Morphea, Erysipelas, and Keratoacanthoma.⁴

Biopsy must be taken when metastasis from visceral cancer is suspected based on clinical findings such as non-healing ulcers, persistent indurated erythematous lesions, or unexplained skin nodules.⁵

As in our patient, the origin of many skin metastases cannot be defined by histological examination. A complete medical history and physical examination followed by directed diagnostic tests should be conducted to identify the primary source of the malignancy. Because the most common source of skin metastases are breast and GI tract, the upper GI endoscopy, colonoscopy, and mammography must be performed.¹ Tumors in both breast and stomach can be considered as a diagnostic dilemma since metastases from each organ to another may occur.^{5,6} Similarly, when a patient with

known and treated breast cancer presents with stomach cancer, this poses a diagnostic challenge. This raises the question of whether the stomach lesion is a primary tumor or metastatic foci of breast cancer. In less than 1% of breast cancer cases, symptomatic gastric metastases are found that are mostly detected after diagnosis of breast cancer. Yet, in 2-18% of patients with disseminated breast cancer, autopsies confirm metastases to stomach.^{7,8} Lobular carcinoma of breast is the most common histologic type that involves GI tract.⁹ Its histopathological characteristics may be misleading and, as in our case, signet ring appearance that is a feature of adenocarcinoma can also be seen in lobular carcinoma.¹⁰ Hence, immunohistochemical staining may be needed for a definite diagnosis. For instance, CK20 is generally positive in primary and metastatic GI signet ring cell carcinomas and negative in most cases of lobular carcinoma. In contrast, the majority of breast cancer patients are ER positive and GI tract adenocarcinomas are ER negative. As a result, combination of ER and Ck20 staining is very helpful in distinguishing between lobular carcinoma and GI tract adenocarcinoma.¹¹

A multi-disciplinary approach to the care of patients with these unusual metastases leads to prompt diagnosis and appropriate medical care.

Conflict of interests

The authors have declared no conflicts of interest.

Acknowledgements

Authors wish to thank Mrs Sajedeh Momen for her kind help in editing the manuscript.



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