Case Report

Primary infiltrating ductal carcinoma of the axillary breast with metastasis to the contralateral chest wall

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Abstract

Primary infiltrating ductal carcinoma of the axillary breast is rare and has a high frequency of lymph node (LN) involvement. We report a woman with primary infiltrating ductal carcinoma arising from the right axillary breast with metastasis to the contralateral chest wall. Excisional biopsy of the left chest wall nodule and the right axillary mass was carried out and both showed invasive ductal carcinomas histologically. The lesion of the right axillary mass arose from the breast tissue, rather than the LN. Further surgery proved the right axillary LN metastasis. After further review, a primary infiltrating ductal carcinoma of the right axillary breast with metastasis to axillary LNs and contralateral chest wall was diagnosed. The patient also received chemotherapy and radiation and there was no evidence of tumor recurrence after treatment. The present report demonstrated a rare case with uncommon manifestation. Lesions of uncertain origin around the periphery of the breast should be suspected for breast carcinoma. Copyright © 2013 Elsevier Taiwan LLC and the Chinese Medical Association. All rights reserved.

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1. Introduction

Ectopic breast tissue is reported in 2–6% of the general population, with most cases being located in the axillary region.1–4 The same pathology that can affect normally positioned breasts, including carcinoma, can occur in ectopic breast tissue.5 Primary carcinoma of ectopic breast tissue has been reported only in a small number of cases. High frequency of axillary node involvements was noted for cancer arising from the axillary breast.2

2. Case report

A 50-year-old female patient had a history of left breast phyllodes tumor after subcutaneous mastectomy in April 2007. The pathologic findings showed an overgrowing hypercellular mesenchymal component (Fig. 1A), and mitotic figure revealed 4/10 high power field (HPF) (Fig. 1B), which were consistent with phyllodes tumor. She had chief complaints of several small nodules over the surgical scar area since July 2009. Physical examination found several small (≤1 cm) nodules over the left chest wall just around the prior surgical scar. Breast echogram showed post-mastectomy with some small nodules in the superficial fatty layer and lymphadenopathy was suspected. Confluent soft tissue nodes in the right axillary region were also detected. A mammogram
indicated that a small opacified shadow in the right axillary region may be due to lymph node (LN) involvement, and there was no evidence of mass shadow or malignant calcification in breast parenchyma.

She received excisional biopsy, and pathology revealed a 2.3-cm invasive ductal carcinoma arising from the right axillary breast (Fig. 2A), and the left chest wall nodules also showed this pattern (Fig. 2B). The histology from both specimens showed: (1) estrogen receptor (ER), moderately positive intensity in 90% of tumor cells; (2) progesterone receptor (PR), moderately positive intensity in 90% of tumor cells; (3) HER2/neu, weakly positive intensity in 60% of tumor cells (+/++; (4) immunohistochemical stain, GCDFP-15(+); and (5) histological grade II. A postoperative positron emission tomography–computed tomography (PET–CT) scan displayed residual tumor or post-biopsy inflammatory change over the left chest wall, and mildly elevated fluorodeoxyglucose (FDG) uptake in the right axillary and mediastinal regions (Fig. 3).

The patient received further surgery to her right axillary breast and LNs, and the pathology showed post-excision changes without residual tumor over the right axillary breast, but metastatic invasive ductal carcinoma was noted in the right axillary LNs. Five out of six were positive for level I, and three out of three for level II.

The final diagnosis was invasive ductal carcinoma of the right axillary breast with regional axillary LN metastasis. The left chest wall nodules were probably the metastatic lesions from the right axillary breast cancer; however, it could be synchronous cancer, and this remains undetermined.

The patient received six cycles of chemotherapy with paclitaxel 240 mg and cisplatin 80 mg. The subsequent chest CT scan found the prior enlarged mediastinal LN disappeared, but the left chest wall nodules did not regress. The patient received local radiotherapy (RT) after chemotherapy. The RT fields covered the right axillary area and the ipsilateral supraclavicular area for 50.4 Gy, followed by the electron beam boost to the right axillary surgical scar for an additional 10.8 Gy. The left chest wall scattered nodules were irradiated by the electron beam for 50.4 Gy. The nodules over the left chest wall disappeared after radiation. The treatment course was smooth without any unexpected interruption. Currently, the patient has no evidence of disease 18 months after the diagnosis.

3. Discussion

We presented a rare case of primary axillary breast cancer with an unusual presentation. The patient’s past history of phyllodes...
tumor of the contralateral breast confused our diagnosis at the beginning. Phyllodes tumor is a fibro-epithelial tumor composed of an epithelial and a cellular stromal component. They account for less than 1% of all breast neoplasms. They may be considered benign, borderline, or malignant depending on histologic features. Malignant phyllodes tumor should be classified as sarcoma, and its origin is different from the infiltrating ductal carcinoma. After reviewing the patient’s previous slides, we found that the histopathologic findings of her left breast tumor were consistent with phyllodes tumor, and were different from the current malignancy, which showed infiltrating ductal carcinoma.

In general, the prognosis for cancer arising from the axillary breast is worse than from the main breast. Due to its unusual location and normally absent overlying accessory areola or nipple, there is a general lack of awareness among physicians and patients, and clinical diagnosis is frequently delayed. In addition, the location of the axillary breast causes a high frequency of LN involvement. To avoid delays in diagnosis, it is suggested that subcutaneous lesions of uncertain origin around the periphery of the breast should be suspected to be breast cancer.

The optimal treatment consensus is not established yet due to its rarity. Based on its clinical manifestation and the limited available data, we suggested the general treatment principle should follow the current recommendations for treatment of anatomic breast cancer with emphasis on the coverage of regional LNs and to spare more breast tissue if possible. Surgical intervention to the axillary breast and axillary LNs

Fig. 3. PET–CT displayed mildly elevated FDG uptake over the right axillary (A) and mediastinal (B) regions. FDG = fluorodeoxyglucose; PET–CT = positron emission tomography–computed tomography.
followed by adjuvant RT and possible chemotherapy is the treatment plan of choice for most cases. An ipsilateral prophylactic mastectomy performed in the presence of a well-documented ectopic tumor is usually not recommended because it has not been shown to offer a significant survival advantage over resection of the ectopic breast mass and involved LNs. The role of adjuvant therapy is not well defined due to the paucity of information in the literature, but we suggest giving more aggressive adjuvant therapy based on the tendency of delayed diagnosis and high incidence of LN metastases. Chemotherapy should be considered for most cases. Target therapy and/or hormone therapy could be reserved for patients with positive receptor(s). Radiation should be given to all cases of breast conservative surgery. The irradiated site should cover the ectopic axillary tumors and LNs for all of these patients. The role of RT to the ipsilateral normal breast is still not clear. Marshall et al reported that none of the ectopic breast cancers spread to the ipsilateral breast; however, there were three later recurrences of breast cancer in the ipsilateral breast. Our patient’s PET scan examination showed the possible lesions in the right axillary area, left chest wall, and mediastinum. The mediastinal lesion regressed after chemotherapy, but the nodules over the left chest wall persisted. Our policy for RT was to cover the right axillary area, the right supraclavicular area, and the left chest wall. Her right breast and mediastinum will be closely followed up.

The presented case had the same pathological feature of left chest wall nodules. We believe it is most likely the metastatic lesion from the right axillary breast cancer. However, the possibility of synchronous cancer cannot be totally ruled out. Metastatic spread to the ipsilateral breast has not been reported previously. Our case might be the first case reported with metastasis to the contralateral chest wall. However, the incidence of concurrent cancers of an ectopic breast and an ipsilateral anatomically correct breast is highly unusual. To the best of our knowledge, a synchronous cancer on the contralateral chest wall has not been reported to date, therefore our case might be the first.

In conclusion, axillary breast cancer is relatively rare and awareness of the potential diagnosis is warranted to avoid delayed diagnosis. The optimal treatment method is still undetermined. Currently, the recommendations for treatment are based on the guidelines of tumor staging of normal anatomic breast cancer.

References