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Case Report

Axillary accessory breast carcinoma: a case report

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Abstract: A 36-year-old, non-lactating Chinese female patient presented with a lesion in the left axillary tissues. B-ultrasound and PET-CT revealed an extensive multifocal inflammatory lesion with a size of 2 cm×2 cm. Axillary lymph node biopsy indicated that two axillary lymph nodes had cancer cells metastasis. Then, we performed an accessory breast excision and found similar cancer cells. Our case showed that sentinel node mapping reveal ectopic axillary breast cancer patients.

Keywords: Axillary breast, breast carcinoma, lymph node

Background

The incidence of accessory breast is seen in 2% to 6% of the general population [1]. Accessory breast is rarely found in the developmental breast abnormality, and is commoner among Asians than Caucasians [2]. Although this accessory breast tissue shares many characteristics as the normal breast tissue and has the same pathological processes, accessory breast carcinoma is infrequently reported. Malignancy happened in the accessory breast tissue can behaves the same as the orthotropic breast cancer. However, it is worse than normal breast cancer, due to early lymph node metastasis or delayed diagnosis [3]. In case of malignant transformation in the accessory breast tissue, the treatment should be taken immediately when it is detected. We reported a case of axillary accessory breast cancer with excisional biopsy of the lesion.

Case report

A 36-year-old female patient presented to our hospital with complaints of a swollen and painful left axillary accessory breast. She had noticed her accessory breast appeared a small painless mass for the last three weeks and it was not hinder her arm, and then was brought to our hospital for further treatment. She has no medical comorbidities such as coronary heart disease, hepatitis, hypertension, ischemic heart disease and diabetes mellitus, and has no fever, cough, cardiopalmus, nausea or chest distress.

B-scan ultrasonography indicated left axillary tissue existed several lesion areas, and bilateral breasts of the patient only existed cystic hyperplasia, but no obvious masses (**Figure 1**). However, PET-CT indicated lymph nodes in the left axillary tissue were swollen. Axillary lymph node biopsy indicated that two axillary lymph nodes (size 1×1×0.8 cm and 0.8×0.8×0.5 cm) had cancer cells metastasis (**Figure 2** and **3B**).

On further, routine immunohistochemical analyses were performed from formalin-fixed, paraffin-embedded specimens. The panel of antibodies mainly included ER, PR, CerBb-2, P53, CK7, Ki-67, E-cadherin and mammglobin. All the antibodies were products of DAKO and staining was performed with the DAKO EnVision Kit. The sections were developed with 3,3'-diaminobenzidine tetrahydrochloride and counterstained with hematoxylin. Immunohistochemical staining showed that most of the tumor cells were strongly positive for CerBb-2, CK7, E-cadherin and mammglobin (**Figure 3C-F**), while these cells were weakly positive for ER, PR and P53 (**Figure 3I**, **3J**, **3L**). The Ki-67 proliferation index was about 5%. The tumor cells in the lymph nodes had no expression of

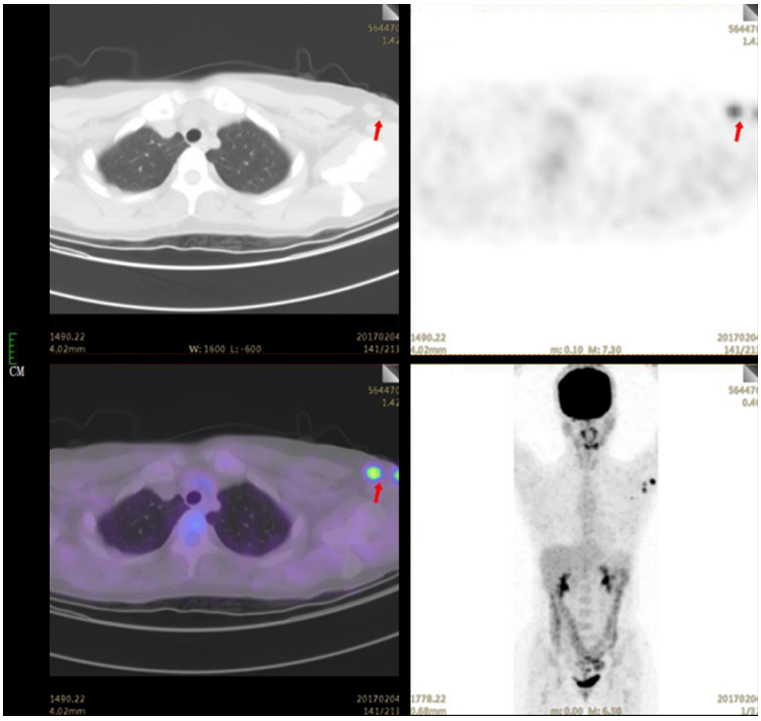

Figure 1. B-ultrasound of the patient. The arrow areas were the sentinel lesion areas in the left axillary tissues.

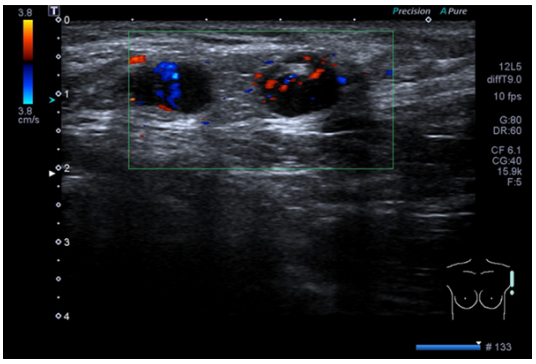

Figure 2. PET-CT result of the patient. The box showed the sentinel lesion areas in the left axillary tissues.

TTF-1, Napsin A (**Figure 3F**, **3G**). According to above examination data, we strongly suspected these tumor cells were possibly come from breast tissue of the patient. While left axillary tissues were examined by excisional biopsy of the lesion, axillary accessory breast tissues was found cancer cells (**Figure 3A**).

Discussion

Mammary glands derive from the surface of the ectodermal layer in the embryonic development. A solid epithelial bud forms from mammary ridges and grows into the underlying mesenchyme at the first month, and then it forms secondary buds which develop into lactiferous ducts and their branches of the mammary gland at the third month. The mammary ridges are thickened strips of ectoderm, known as the "milk ridge" or "milk line", extending from the axilla to the groin symmetrically on both sides. The incidence of accessory breast is found in 2% to 6% of general population [1], due to the consequence of partial regression of the primitive milk streak which forms in the human embryo [4, 5]. The accessory breast tissue is adjusted by hormone and may become clinically apparent during puberty or pregnancy. Likewise, it is also behave the same pathological changes as the normal anatomical site of the breasts. These reports of masses arising in accessory breast tissue mainly are fibroadenomas and breast cancers [1, 4, 6, 7], but reports of accessory axillary carcinoma are rare.

In this case report, the patient presents an invasive accessory axillary carcinoma discovered by lymph node examination. This patient was initially not found cancer cells in bilateral breast tissues, but there was lymph node invasion. To further examination, these cancer cells were found in patient's left accessory mammary gland tissues. The overall prognosis of accessory axillary carcinoma is similar to normal breast carcinoma in the same tumor, node, and metastasis stage. Therefore, it is imperative that MRI of the breasts in suspected or diagnosed mammographically occult invasive lobular cancer, and this imaging modality should be used if there is a high index of suspicion of carcinoma in accessory breast tissue [8].

This case diagnosed precisely was not finished in an action, due to there is no other clinical characterization or examinational results which could define this diseases except the patholog-

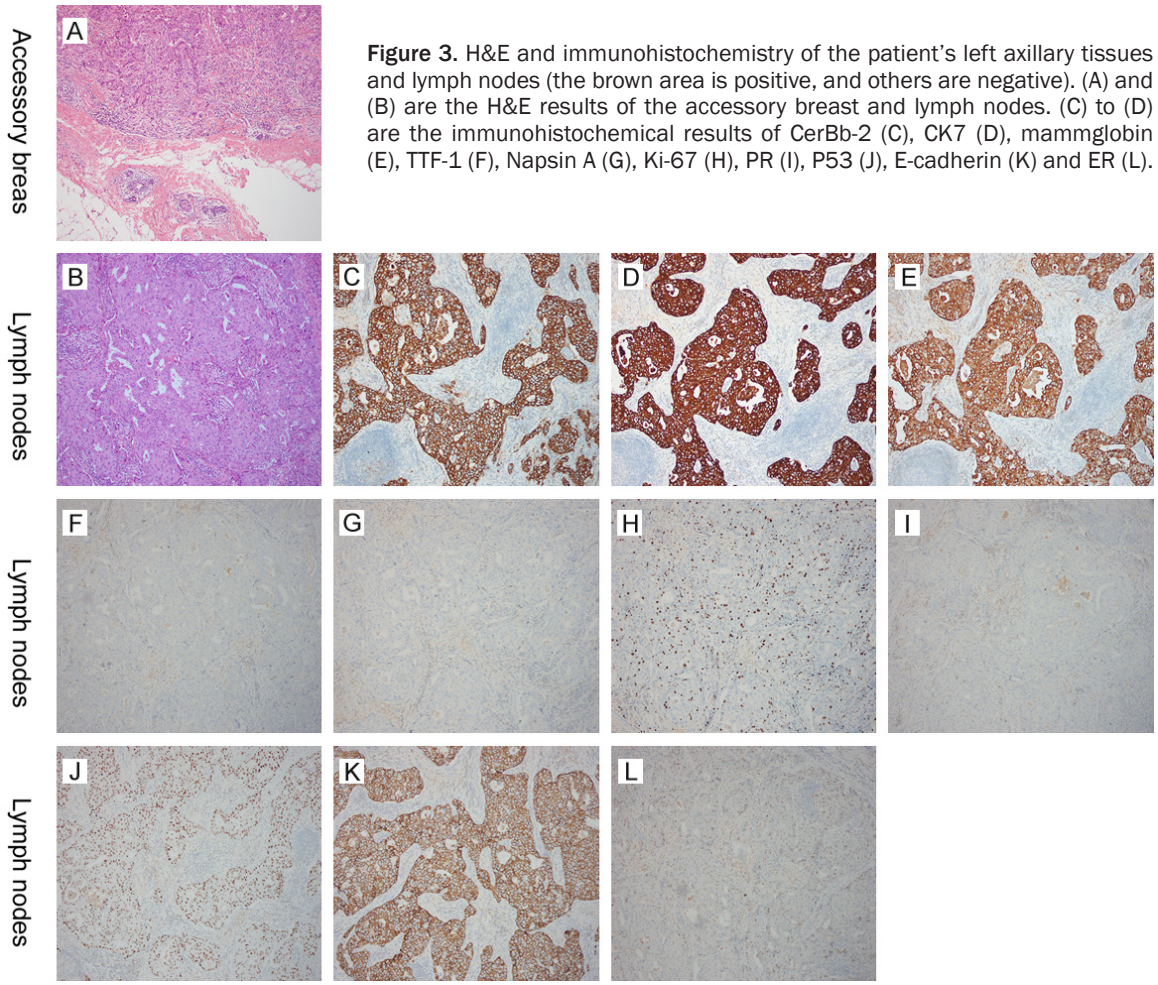

Figure 3. H&E and immunohistochemistry of the patient's left axillary tissues and lymph nodes (the brown area is positive, and others are negative). (A) and (B) are the H&E results of the accessory breast and lymph nodes. (C) to (D) are the immunohistochemical results of CerBb-2 (C), CK7 (D), mammglobin (E), TTF-1 (F), Napsin A (G), Ki-67 (H), PR (I), P53 (J), E-cadherin (K) and ER (L).

ic results of axillary excisional biopsy of the lesion. Pathologic results also indicated that the expression of ER, PR and CerBb-2 is positive. So the patients were not only treated by radiation therapy and chemotherapy, but she could be treated by adjuvant systemic therapy through guided by the standard guidelines and practice (such as according to estrogen receptor (ER), human epidermal growth factor receptor-2 (HER2) status, tumor grade, stage, prognostic indices) [8-10]. Also it is necessary to evaluate for accessory tissue on the necessary contra-lateral side due to 13% of the cases are bilateral in normal breast [5].

The patients which have high risk of breast cancer should be given adequate examination and adapted treatment, although the accessory breast cancers are rare. Especially, when there is no obvious abnormity of the normal breast, the accessory breast should be examined and treated equally.

Disclosure of conflict of interest

None.

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References

[1] Gutermuth J, Audring H, Voit C, Haas N. Primary carcinoma of ectopic axillary breast tissue. J Eur Acad Dermatol Venereol 2006; 20: 217-21.

[2] Lim SY, Jee SL, Gee T, Nor Aina E. Axillary accessory breast carcinoma masquerading as axillary abscess: a case report. Med J Malaysia 2016; 71: 370-371.

[3] Francone E, Nathan MJ, Murelli F, Bruno MS, Traverso E, Friedman D. Ectopic breast cancer: case report and review of the literature. Aesthetic Plast Surg 2013; 37: 746-9.

[4] Evans DM and Guyton DP. Carcinoma of the axillary breast. J Surg Oncol 1995; 59: 190-5.
[5] Kahraman-Cetintas S, Turan-Ozdemir S, Topal U, Kurt M, Gokgoz S, Saraydaroglu O, Ozkan L. Carcinoma originating from aberrant breast tissue. A case report and review of the literature. Tumori 2008; 94: 440-3.
[6] Alghamdi H and Abdelhadi M. Accessory breasts: when to excise? Breast J 2005; 11: 155-7.
[7] Marshall MB, Moynihan JJ, Frost A, Evans SR. Ectopic breast cancer: case report and literature review. Surg Oncol 1994; 3: 295-304.
[8] Kriege M, Brekelmans CT, Boetes C, Besnard PE, Zonderland HM, Obdeijn IM, Manoliu RA, Kok T, Peterse H, Tilanus-Linthorst MM, Muller SH, Meijer S, Oosterwijk JC, Beex LV, Tollenaar RA, de Koning HJ, Rutgers EJ, Klijn JG; Magnetic Resonance Imaging Screening Study Group. Efficacy of MRI and mammography for breast-cancer screening in women with a familial or genetic predisposition. N Engl J Med 2004; 351: 427-37.
[9] Giron GL, Friedman I, Feldman S. Lobular carcinoma in ectopic axillary breast tissue. Am Surg 2004; 70: 312-5.
[10] du Toit RS, Locker AP, Ellis IO, Elston CW, Nicholson RI, Blamey RW. Invasive lobular carcinomas of the breast-the prognosis of histopathological subtypes. Br J Cancer 1989; 60: 605-9.