



Male triple negative axillary accessory breast cancer – a case report

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Background: Breast cancer is the most common malignancy among women worldwide. In men, cases of breast cancer are few and account for less than 1% of all cases of breast cancer. Majority of male breast cancer is hormone receptor-positive. The incidence of male breast cancer derived from axillary accessory breast is very low. Here we report a case of male triple negative axillary accessory breast cancer.

Case Description: We present a case of male triple negative axillary accessory breast cancer in a 67-year-old man, which progressively increased in size through a period of 1 year. Ultrasound examination showed a 31 mm × 17 mm mass in the right axillary tail region with some accessory breast tissue around. We performed right accessory breast resection and right axillary lymph nodes dissection. Postoperative pathological analysis revealed right accessory breast invasive ductal carcinoma with apocrine metaplasia. The tumor size was 3.5 cm × 3.3 cm. In addition, 5 metastatic lymph nodes were seen in 27 axillary lymph nodes. Immunohistochemistry showed estrogen-receptor (ER) (-), progesterone-receptor (PR) (-), human epidermal growth factor receptor 2 (HER2) (2+). Fluorescence in situ hybridization (FISH) test obtained a negative result. The patient was treated with adjuvant chemotherapy and radiotherapy. Until now, no obvious signs of recurrence or metastasis have been observed during regular follow-ups.

Conclusions: Male triple negative axillary accessory breast cancer is rare. Treatment of male triple negative axillary accessory breast cancer is similar to that of women. Most patients undergo surgery and adjuvant chemotherapy.

Keywords: Male breast cancer; triple negative breast cancer; accessory breast cancer; case report

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Introduction

Breast cancer is the most common malignancy among women worldwide (1). Compare to female breast cancer, the incidence of male breast cancer is low, accounting for less than 1% of all cases of breast cancer (2). Majority of male breast cancer cases are hormone-receptor positive (3,4). It

has been reported that only 0.2–1.2% of men have axillary accessory breast (5). Cases of male breast cancer occurring in axillary accessory breast are rare. Here, we report a case of male triple negative axillary accessory breast cancer. We present the following case in accordance with the CARE reporting checklist (available at <https://tcr.amegroups.com/article/view/10.21037/tcr-22-33/rc>).

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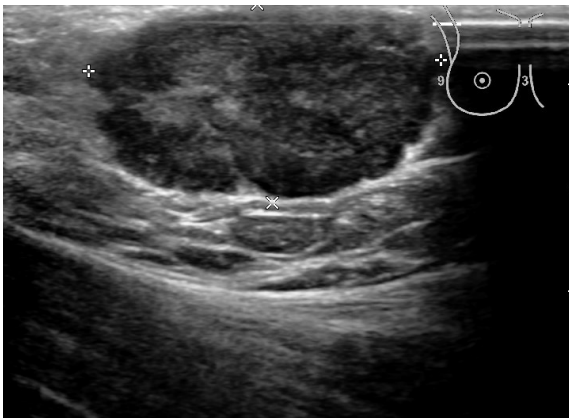


Figure 1 Ultrasound examination showed a 31 mm × 17 mm mass in the right axillary accessory breast.

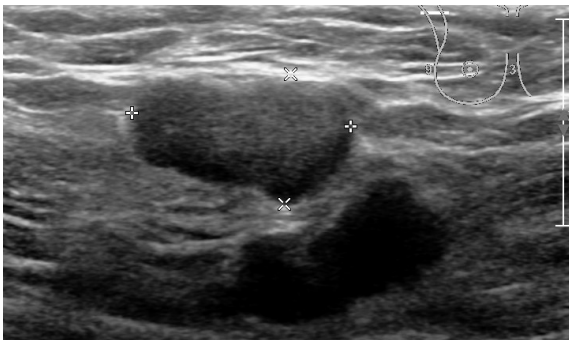


Figure 2 Ultrasound examination showed an enlarged axillary lymph node.

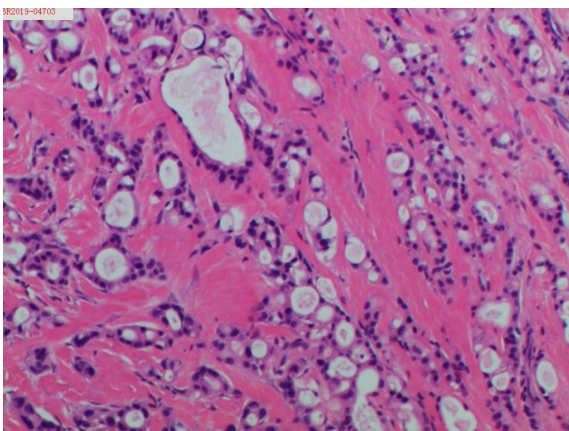


Figure 3 Postoperative pathological analysis revealed right axillary accessory breast invasive ductal carcinoma with apocrine metaplasia in Hematoxylin Eosin staining (HE ×400), HE, Hematoxylin Eosin staining.

Case presentation

In November 2019, a 67-year-old man presented to our Department of Breast Surgery, Hwa Mei Hospital, University of Chinese Academy of Sciences with one-year history of a right axillary mass, which progressively increased in size. The patient did not report a history of benign breast disease or a history of cancer. He also denied his family history of breast cancer or ovarian cancer. He did not turn to the hospital before and no interventions were taken. Physical examination revealed a 3 cm × 2 cm mass in the right axilla. Ultrasound examination showed a 31 mm × 17 mm mass in the right axillary tail region with some accessory breast tissue around and multiple enlarged lymph nodes (Figures 1,2). No masses were found in both breasts in mammography and ultrasound tests. No obvious abnormality was found in liver ultrasound, Chest computed tomography and tests for tumor makers. On the basis of the aforementioned findings, the patient was diagnosed with axillary accessory breast tumor. Consequently, we performed right axillary accessory tumor resection on November 19, 2019. Intraoperative pathological examination showed invasive cancer, originating from accessory breast firstly considered. We suspected axillary lymph node metastasis and performed right accessory breast resection and right axillary lymph nodes dissection. Postoperative pathological analysis revealed right accessory breast invasive ductal carcinoma with apocrine metaplasia. The tumor size was 3.5 cm × 3.3 cm. In addition, 5 metastatic lymph nodes were seen in 27 axillary lymph nodes. Immunohistochemistry showed ER (-), PR (-), Ki-67 30%, HER2 (2+), GATA-3 (+), GCDFP-15 (+), and AR (+) (Figure 3). FISH test obtained a negative result. The patient was diagnosed with T2N2M0, IIIA stage male triple negative axillary accessory breast cancer. Thus, he was treated with epirubicin and cyclophosphamide (EC) (E: 90 mg/m², C: 600 mg/m²) every three weeks for 4 cycles, followed by 4 cycles of docetaxel (100 mg/m²) every three weeks. He was subsequently treated with adjuvant radiotherapy after chemotherapy. Irradiation was given to the whole breast, chest, supraclavicular lymph nodes and infraclavicular lymph nodes. The patient received 50 Gy intensity-modulated radiotherapy (IMRT) to the breast and chest 5 days per week for 5 weeks, 16 Gy three-dimensional conformal radiotherapy to the supraclavicular lymph nodes and infraclavicular lymph nodes for 8 days and 34 Gy electron beams as boost for 17 days. The patient adhered to all the adjuvant therapy and adverse events such

as alopecia, neutropenia and rash were well tolerated. Until now, no obvious signs of recurrence or metastasis have been observed during regular follow-ups.

All procedures performed in this study were in accordance with the ethical standards of the Hwa Mei Hospital, University of Chinese Academy of Sciences research committee(s) and with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

Discussion

A United States study showed male triple-negative breast cancer accounted for 5.5% of the male breast cancer (6), while Pang reported the incidence rate of accessory breast cancer is 0.3–0.6% of all the breast cancer (7). Given that majority of male axillary accessory breast degenerate, there are few cases of male axillary accessory breast (8). The incidence of male axillary accessory breast cancer is very low. For this reason, no large-scale prospective randomized clinical trials have been conducted to determine effective therapy for this condition (9). Currently, male axillary accessory breast cancer is treated similar to female breast cancer (10).

Sometimes it is difficult to distinguish axillary accessory breast cancer from adnexal and skin appendage neoplasm, especially for triple negative tumors. For this patient, there was a clinical suspicious accessory breast tissue with enlargement of the right axilla by physical examination and ultrasound showing some accessory breast tissue. Immunohistochemistry showed ER (-), PR (-), Ki-67 30%, HER2 (2+), GATA-3 (+), GCDFP-15 (+) with FISH negative. At the same time, we found normal accessory breast tissue next to the accessory breast tumor in Hematoxylin Eosin staining. So, the mass was finally diagnosed axillary accessory breast cancer. Pathological examination confirmed invasive ductal carcinoma with apocrine metaplasia. Less than 90% of the cancer cells showed morphological and immunohistochemical characteristics of apocrine gland cells. Hence, the patient was diagnosed with invasive ductal carcinoma with apocrine metaplasia instead of apocrine carcinoma (11). The cancer was estrogen receptor negative and progesterone receptor negative, possibly due to the apocrine metaplasia, which is rare in male breast cancer.

Operable male axillary accessory breast cancer is

comprehensively treated with surgery (10). In general, mastectomy with sentinel lymph nodes biopsy is performed (10,12). For patients suspected with axillary lymph node metastasis, axillary lymph nodes dissection can be performed directly instead of sentinel lymph node biopsy. Compelling evidence indicates that breast conserving surgery is safe and feasible for male breast cancer (13,14). However, in clinical practice, male breast cancer occurs near the nipple in most cases and majority of patients with male breast cancer do not have a strong need undergo a breast-conserving surgery. Most patients with male breast cancer receiving treatment in our department agreed to undergo breast resection. In the present case, with the clinical suspicion of axillary lymph nodes metastasis, the patient underwent accessory breast resection and axillary lymph node dissection.

The application of chemotherapy and radiotherapy in male patients with axillary accessory breast cancer is similar to that of female patients with breast cancer (10,15). The prognosis of patients with male breast cancer is worse compared to female patients with breast cancer (16). In our clinical practice, most male patients with breast cancer are given chemotherapy containing anthracycline or paclitaxel. We often assess the prognosis of patients using oncoTYPE DX and other gene prognostic models to decide the appropriate chemotherapy (17,18). The adjuvant radiotherapy applied to male breast cancer is similar to that used for female patients with breast cancer. Adjuvant radiotherapy is recommended for patients with axillary lymph nodes metastasis or undergoing breast conserving surgery. Postoperative radiotherapy is also recommended for patients with tumors larger than 5 cm. In our case, the patient was diagnosed with T2N2M0, IIIA stage male triple negative axillary accessory breast cancer. Ki-67 was 30%. He received 8 cycles of chemotherapy comprising anthracycline and paclitaxel. We recommended dose-dense chemotherapy for every 2 weeks but the patient refused due to poor tolerance. We adjusted the cycle of chemotherapy to every 3 weeks. With 5 out of 27 lymph nodes metastasis, the patient received adjuvant radiotherapy after chemotherapy. The axilla was not radiated to avoid edema of upper limbs.

Though refusing dose-dense chemotherapy, the patient behaved well with adjuvant chemotherapy and radiotherapy. Adverse events such as alopecia, neutropenia and rash were well tolerated. He recovered well after surgery and adjuvant therapy. With no signs of recurrence or metastasis observed during regular follow-ups, he is satisfied with the therapy he received.

This is a rare case of male triple negative axillary accessory breast cancer. Currently, Male axillary accessory breast cancer is treated similar to female breast cancer with combined therapy including surgery and chemotherapy.

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Footnote

Reporting Checklist: The authors have completed the CARE reporting checklist. Available at <https://tcr.amegroups.com/article/view/10.21037/tcr-22-33/rc>

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Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at <https://tcr.amegroups.com/article/view/10.21037/tcr-22-33/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in this study were in accordance with the ethical standards of the Hwa Mei Hospital, University of Chinese Academy of Sciences research committee(s) and with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

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