Bilateral occult breast carcinoma presenting as bilateral axillary mass: An unusual presentation

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Abstract

Occult breast cancer presenting as an axillary mass is a rare clinical finding. Less than 5% of breast carcinoma presents as an axillary mass without an obvious primary tumor. Axillary lymph node showing metastatic adenocarcinoma poses diagnostic and therapeutic problems, when it is the only clinical presentation. In a significant proportion of breast cancer cases, mammographic detection of micro-calcifications is indicative of the presence of a breast lesion. We present a rare case of a bilateral occult breast carcinoma in a 40 year female with bilateral axillary mass without any palpable breast mass.

Keywords: Breast; Bilateral axillary mass; Occult carcinoma

1. Introduction

Occult primary breast cancer, first described in 1907 by Halsted can be defined as histologically proven breast cancer discovered outside the breast in the absence of a primary breast tumor. The incidence of occult primary breast cancer is 0.3–1.0% of all diagnosed breast cancers [1]. Occult breast cancer presenting as an axillary mass is a rare clinical finding. Axillary lymph node showing metastatic adenocarcinoma poses diagnostic and therapeutic problems, when it is the only clinical presentation.

In breast carcinomas, 30–50% show mammary calcifications and mammographic detection of micro-calcifications constitutes one of the most important diagnostic tool [2]. The value of mammography in detecting an occult breast carcinoma is low, with a sensitivity of 29% and specificity of 73% but magnetic resonance imaging (MRI) and positron emission tomography (PET) are potentially more sensitive [3].

Here, we report a rare case of bilateral occult primary breast cancer with a unique initial presentation with review of literature on diagnosis, treatment and prognosis of this rare presentation.

2. Case summary

A 40-year-old female presented in the surgical clinic with bilateral axillary mass for the last 4 months without any other significant complaints. She did not have any contributory past or family history and she never used any form of hormonal contraceptives in the past. Each of the axillary mass was 3×4 cm in size and firm to hard in consistency. Both breast were normal on examination. General physical and systemic examinations were within normal parameters. Fine needle aspiration cytology of the bilateral axillary mass showed atypical cells, highly suggestive of metastatic adenocarcinoma (Fig. 1). Excision biopsy of the mass revealed invasive ductal carcinoma. Subsequently mammography and immunomarkers ER, PR, and HER2/neu were advised. Bilateral mammogram

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showed diffuse micro-calcifications in the breast tissue, suspicious for malignancy (Fig. 2). Immunohistochemistry was positive for HER2/neu, estrogen and progesterone receptors (Fig. 3). The patient underwent bilateral modified radical mastectomy with bilateral axillary lymph node (ALN) dissection. The final pathological report revealed a 0.4 × 0.4 cm primary tumor in the upper inner quadrant of the right breast and 0.7 × 0.6 cm lesion in the lower outer quadrant of the left breast with cords and sheets of pleomorphic ductal cells infiltrating the stroma (Fig. 4). 5/6 of the lymph nodes sampled from both the axilla showed presence of ductal tumor cells. A final diagnosis of bilateral invasive ductal carcinoma with metastasis to bilateral axillary lymph nodes with TNM Stage T1N2M0 was made. Subsequently patient was subjected to 6 cycles of paclitaxel and adriamycin based chemotherapy at an interval of 3 weeks, radiation therapy in the form of 50 Gy of Co-60 × 25 fractions, tamoxifen hormonal therapy, 20 mg daily × 5years and trastuzumab 400 mg/m² × 4 weekly × 12 cycles. Our patient is doing well on 1 year of follow up with no signs of recurrence.

3. Discussion

Rarely, a breast cancer patient has histologically proven breast cancer found outside the breast without a detectable primary breast tumor. Almost always the site of detected disease is an axillary lymph node. The incidence of axillary breast cancer with occult primary is relative low, with a peak incidence at the age of 55 years [1,2]. Malignant tumors from other sites like lung, thyroid, gastrointestinal tract, ovary etc. also can spread to axilla, however, the most common source of primary tumor is the ipsilateral breast, unless proven otherwise [2,3]. Diagnosis and treatment remain challenging in these
patients. Relevant anamnesis to rule out other sites of malignancy and mastectomy with axillary clearance are usually recommended [2,3]. Historically, 20–30% with occult primary breast cancer have reported a family history of breast cancer, although this was not the case in our patient [4].

Diagnostic workup for an axillary metastasis must first rule out other primary sites of disease. Emi et al. [5] have reported that in a female patient in such situation, investigations other than related to breast cancer are unnecessary. A thorough history taking, physical examination, fine needle aspiration cytology of the palpable axillary lymph node, chest X-ray, ultrasound of the abdomen, screening blood work, mammogram and/or MRI of the breast are sufficient as the recommended diagnostic tools for locating potential sites of primary carcinoma [6]. Imaging of the breast for occult primary breast cancer includes breast ultrasound and MRI. MRI’s high sensitivity for breast tumors may optimize diagnostic accuracy and, in turn, disease management [7]. Estrogen and progesterone receptor status with estimation of HER2/neu are very useful to classify the tumor with a molecular criterion that is useful for diagnosis and to plan the treatment [8].

Traditionally occult primary breast cancers were treated with mastectomy and axillary lymph node dissection; however, with the advent of breast MRI and improvement in radiation techniques, the management of this rare entity is changing [9]. If a primary site is identified, the patient should undergo appropriate surgical management with a lumpectomy or mastectomy with lymph node evaluation. Occult primary breast cancer has traditionally been treated with ipsilateral mastectomy and axillary lymph node (ALN) dissection [9,10].

In terms of definitive therapy for occult primary breast cancer, breast conserving therapy (BCT) or mastectomy with ALND provides equivalent survival and recurrence outcomes, and the practice of BCT is steadily increasing. Khandelwal and Garguilo [11] reported 50% recurrence rate when the axilla is treated only with radiotherapy in comparison to axillary dissection (<10%). ALN biopsy (without formal axillary dissection) followed by RT to axilla also showed higher recurrence (20–50%) as well. They concluded that ALN dissection as an essential component for better locoregional control of disease for such patients. In case of fixed unresectable ALN, neoadjuvant chemotherapy and hormone therapy depending on hormone receptor status followed by ALN dissection could be a valid option [11–13]. We emphasize that aggressive approach and detail clinical history with thorough examination should be undertaken, in a woman with metastatic adenocarcinoma in the ALN.

Conflict of interests
None.

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