

Contralateral Axillary Metastasis in Breast Cancer : case report

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Abstract

Background: Contralateral axillary metastasis is a rare presentation in breast cancer, normally treated as a systemic disease. New researches shows that it may represent a locally advanced disease due to altered lymphatic drainage or it may be the only presentation of a contralateral primary occult breast cancer . Many recent publications have proposed aggressive surgical treatment with benefits to the patients in terms of survival.

Case report: We present a case with a history of unilateral breast cancer, presented with contralateral axillary metastasis without any evidence of distant metastasis or new primary contralateral breast cancer.

Conclusion: There is limited evidence of the correct management of contralateral axillary metastasis, and individualized multidisciplinary management is the best option for these patients , and it is proposed to be treat it as a loco regional disease for best survival benefit of the patient.

Keywords: Breast cancer, contralateral axillary metastasis, altered lymphatic drainage

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Introduction

Contralateral axillary lymph node metastasis is a rare and uncommon presentation in breast cancer . It is regarded as distant metastases (M1) so represent stage IV and treated as a systemic disease. Incidence of contralateral axillary lymph node metastasis is 3.6 to 6% in stage IV carcinoma breast patients [1]. It can present with primary breast cancer (synchronous contralateral axillary lymph node metastasis)or can present after the breast carcinoma was treated (meta synchronous contralateral axillary lymph node metastasis). many recent

publications have proposed aggressive surgical treatment in terms of survival benefits for the patients.

New researches shows that it may represent a locally advanced disease due to altered lymphatic drainage or it may be the only presentation of a contralateral primary occult breast cancer. This uncertainty regarding staging made dilemmas to choose management strategy for this presentation.

In the case presented in this paper , we suggest a different way to approach contralateral regional metastasis rather than

the traditional methods in which the contralateral regional metastasis is treated with systemic therapy as it is regarded as systemic disease [3] . One can understand after reviewing the related literature that the contralateral regional metastasis can be mainly due to lymphatic spread [1,4,5].

Case Report

A 50 years old woman , postmenopausal presented to our Breast center because of a left breast mass on December 2016. A tumor measured 4.5×3 cm in lower outer quadrant of her left breast was detected by both Mammography and ultrasonography in addition to multiple suspicious axillary lymphadenopathy. Core biopsy of the mass in the left breast and FNA of the most suspicious axillary node revealed poorly differentiated metaplastic mammary carcinoma showing classical invasive ductal carcinoma mixed with foci of squamous differentiation forming 50% of the size of the core , FNA showed metastatic mammary carcinoma. There was no evidence of distant metastases by (CT) scan of the chest and abdomen and bone scan .

Modified radical mastectomy of the left breast and 3 levels axillary lymph node dissection was performed and histopathological tissue examination from the breast mass contained a grade 2 to 3 metaplastic mammary carcinoma with 90% squamous differentiation measured 4.5×4 cm, with negative margins, desmoplasia with lymphatic and perineurial invasion but no definite vascular invasion noted .Axillary node dissection showed 12 involved of 21

nodes at level 1 and 2 in addition to 2 involved of 3 nodes at level 3 axillary dissection . All the involved nodes showed multifocal extracapsular extension . Pathological stage 3C(T2,N3,M0). Immunohistochemistry results was Estrogen receptor positive (+2), Progesterone receptor positive (+2), HER2/neu Negative (+1), and Ki-67 index was 25% , the tumour was Luminal type B molecular subtype .

Following surgery, the patient received full 6 courses of adjuvant chemotherapy in form of Adrimycin and Cyclophosphamide followed by paclitaxel and maintained on Tamoxifen . She received the adjuvant radiation therapy doses of 5000Gy in 25 fractions ,and the last fraction given on September 2017.The patient was regularly followed up with both clinical examination and imaging workup.

Seventeen months after surgery, in April 2018, patient felt mass at her right axilla and multiple enlarged highly suspicious lymph nodes in right axilla was seen by ultrasound . MRI of the breast revealed a BIRADS 3 lesion in the right breast and no any suspicious lesion could be felt clinically , by mammography or by ultrasonography. CT, bone scan, and positron emission tomography (PET) did not show any evidence of metastases else where in the body.

Modified radical mastectomy and full right axillary lymph node dissection was performed in May 2018 after full explanation and discussion with the patient who refused to take MRI guided core biopsy of the breast lesion and preferred to choose mastectomy .

Histopathologically, breast tissue sections showed only small fibroadenoma measuring 5 mm and no malignancy despite generous sampling , 30 of 33 lymph nodes contained metastatic glandular carcinoma ,no metaplastic elements seen , features most probably goes with metastases from contralateral breast with metastatic clone showing no metaplastic element rather than being another primary.

Immunohistochemical analysis results was estrogen receptor positive (+2), progesterone receptor weak positive (+1),(HER2/neu Negative (+1), and Ki-67 index 40% , so molecular subtype was Luminal type B.

Following the second surgery, the patient maintained on an aromatase inhibitors. Radiation therapy given to the left axilla and supraclavicular fossa.

Follow up with mammography, ultrasonography, CT scan , bone scan, and PET scan for 13 months after second surgery didn't show any evidence of recurrence locally or distant metastases up to latest work up of May 2019.

Discussion

The therapeutic approaches in axillary lymph node metastasis without clear evidence of the primary tumor which is an uncommon event with poor prognosis can depends on the site of the primary tumor [6]. Axillary lymph node metastases originated from the breast may indicates regional metastasis from an occult primary cancer in the ipsilateral breast , but with previous history of treatment for breast cancer , it is more likely to be originated from that treated

cancer rather than an occult cancer ,so it is likely to be an evidence of systemic disease [3] as the contralateral spread of a unilateral cancer implies hematologic spread.

The American Joint Committee on Cancer (AJCC) in its last edition considered contralateral axillary metastasis as stage IV disease as the contralateral axillary lymph nodes are regarded as a distant metastasis and not a regional extent of the disease[6]. However, several publications have questioned this consideration and proposed that treatment of contralateral axillary metastasis should be aggressive and multidisciplinary rather than treated as a distant metastasis[7,8,9]. A systematic review analyzed 48 patients with contralateral axillary metastasis, 23 had complete follow up data during a mean time of 50.3 months with an overall survival of 82.6%. An important fact is that 92.1% of patients received surgical treatment and 88.9% systemic treatment[10]. Whole body imaging work-up like computed tomography (CT), bone scan, and positron emission tomography (PET) should be performed in Patients with contralateral axillary metastasis [11] in addition to the specific examinations related to the breast like mammography and breast ultrasonography as the breast cancer is the most common cause of axillary metastasis[12].Still the breast MRI is considered to be better than mammography and ultrasonography regarding sensitivity, although its role in detecting the occult primary tumor from the breast is debatable [11,13,14]. Immunohistochemistry is of great

importance to determine the origin of the metastases if it is from breast cancer or not [15]. One can come to understand after reviewing many related literatures that the contralateral axillary lymph node metastasis can be thought of both hematogenous and lymphatic spread [1,3,4]. Damage or blockage to the lymphatic system of the breast which can be the consequence of breast cancer management weather after surgery or radiotherapy or in some cases tumor cells in the lymphatics might be the reason for the development of alternative routes for the lymphatic drainage.

Treatment of patients with contralateral regional metastasis probably should be individualized as their management is not straightforward. It is essential to give systemic treatment in patients with contralateral axillary metastasis presented with systemic metastasis, some times surgical interference to the involved axilla with metastatic lymph nodes can be done aiming to local control and sometimes palliation.

The contralateral axillary surgical clearance can be a good option with excellent axillary control in patients with regional axillary metastasis as the only site outside the breast [3] and radiation therapy in this situation can give an additional help.

Routine contralateral mastectomy is probably not indicated for local control but there are specific cases like primary lobular carcinoma and patients with hereditary breast cancer in which the mastectomy will be good surgical decision . For the patient presented in this study, after discussing the need of

performing an MRI guided biopsy of the BIRADS 3 lesion detected only on MRI, the patient preferred to have mastectomy.

Conclusions

As there are many controversies regarding the appropriate management and due to the rarity of the event there is poor evidence for the adequate treatment, therefore individualized and multidisciplinary approach is encouraged for these patients for the best survival benefit .

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