

Infiltrating Ductal Carcinoma Breast with Solitary Metastasis to the Humerus Shaft: A Case Report

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Abstract: Breast cancer is the most common tumor metastasing to the bones. Approximately 3.5% of the breast cancer patients develop long bone metastasis. The most common sites according to descending order of frequency are spine, femur, humerus.

Keywords: Breast, metastasis, bone.

INTRODUCTION

Breast cancer is the most common malignancy in women throughout the world. It accounts for 18% of all female cancers and approximately 600,000 annual deaths worldwide [4]. Breast carcinomas are the most common tumors with the skeletal metastasis. The other tumors metastasing to the bone are prostate, kidney, thyroid and lung.

Most common site of metastatic lesions include spine > proximal femur > humerus [3]. 3.5% of breast cancer patients develop long bone metastasis, 88% in femur and if humerus is involved then almost 90% lesion arise in the proximal part [4]. Pathological fractures are reported to occur in only 10% of metastasis to the humerus. Metastatic involvement of the bone will progressively destroy bone, creating areas of lysis or sclerosis. We present a case of 55 year old female a known case of breast cancer with humeral metastasis.

CASE REPORT

A 55 year old female patient noticed a lump in her left breast 3 years back in 2014 for which she was diagnosed as Infiltrating Ductal Carcinoma Breast with axillary lymph node metastasis. She underwent radical mastectomy for the same in 2014. The tumor was ER negative, PR negative and HER2 neu positive. She received 6 cycles of chemotherapy and 25 cycles of 50 Gy radiotherapy. After 2 years i.e in 2016 patient developed pain in her right arm and was first given symptomatic treatment from the local practitioner. Her pain was not relieved and thereby she got an X-ray done which showed a radiolucent lesion in the shaft of right humerus. PET CT scan revealed metabolically active intramedullary soft tissue density lesion with

destruction of anterior and posterior cortex in mid shaft of right humerus suggesting skeletal metastasis. The patient then was given 4 cycles of radiotherapy. After this treatment patient developed spontaneous fracture of the humerus which was diagnosed as pathological fracture. The fracture was treated by open reduction and internal fixation and curetting's from the lesion was sent to Department of Pathology for histopathological examination.

On Gross examination – Multiple grey white soft tissue pieces were received measuring 0.5x0.5x0.5cm.

Microscopic examination revealed Metastatic Carcinomatous deposits of breast. [Figure 1, 2]

Now the patient is on regular follow up and is being treated with Bisphosphonates (Inj Zoledronic acid) and Tab Tamoxifen.

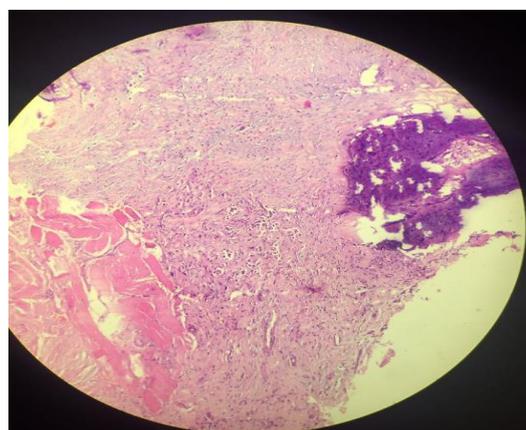


Fig-1: H&E 10x magnification

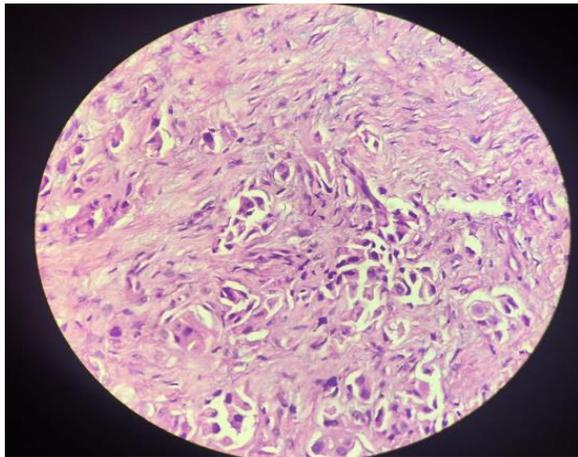


Fig-2: H &E 40X magnification

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DISCUSSION

Breast cancer is the most common site of origin of metastatic deposits in the skeleton as well as the most common site of recurrence of breast cancer. As much as half of the pathological fractures are due to breast cancer. Metastasis to the bone arises in 20% to 60% of patients and in upto 70% to 80% at autopsy. More than 69% of these patients have a solitary recurrence confined to a single anatomic site and 12% have multiple metastatic sites [4].

However only 3.5% of breast cancer patients develop long bone metastasis, 88% recur in the femur and when humerus is involved almost 90% lesions arise in the proximal (42%) and diaphyseal region (47%). Metastasis to the distal humerus is more infrequent accounting for only 11% of the cases. Recurrence features in more than two thirds of breast cancer patients treated with post mastectomy radiotherapy. Lee found that the greater the extent of axillary metastasis, the higher the relapse rate [6].

CONCLUSION

Despite modern cancer therapy, upto 2/3rd patients with bone metastasis will subsequently develop skeletal related events such as pathological fracture, requirement for surgical intervention and palliative radiotherapy to bone lesions [2].

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