

REVIEW ARTICLE

Management of Pathological Fracture with Metastasis of Proximal Femur Secondary to Breast Cancer

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HOW TO CITE THIS ARTICLE:

R.B. Uppin, R.B. Patil, et al. Management of Pathological Fracture with Metastasis of Proximal Femur Secondary to Breast Cancer. Jr. Orth. Edu. 2025; 11(2): 61–64.

ABSTRACT

When breast cancer cells spread from primary bone in the breast to the bones, they are called metastasis in the bone and this is considered advanced or stage 4 breast cancer and commonly affected bones are humerus, femur, spine, ribs, skull, pelvis. Patients with bone metastasis from breast cancer presents with pain, pathological fractures, spinal cord compression causing neurological symptoms, hypercalcemia. Bone scan detects metastasis. Treatment include radiation therapy, cryotherapy, bone modifying drugs to manage pain and prevent fractures¹. One such case of proximal femur fracture due to metastasis secondary to breast cancer reported.

KEYWORDS

• Breast cancer • Metastasis • Pathological fracture • Modular hemi-arthroplasty • Tumour prosthesis

INTRODUCTION

Secondary breast cancer in the bone occurs when cancer that started in the breast has spread to the bone. Breast cancer cells are the ones that have gone to the bone. However, it

is not the same as bone-based cancer. Blood or the lymphatic system can carry breast cancer cells to the bone. Breast cancer cannot be cured after it has gone to the bone, although it can be treated. The goals of treatment are to manage

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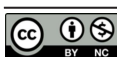
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➤ Received: 02-04-2025 ➤ Accepted: 03-06-2025



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and prevent the cancer's spread, alleviate symptoms, and provide the highest quality of life for as long as possible².

Prognosis may depend on how much cancer there is and which areas of body are affected. People with limited areas of cancer in the bones only may have a better outlook. Fractures may result from osteoclasts becoming hyperactive when breast cancer cells move to the bone. Secondary cancerous areas in the bone can be classified as sclerotic, lytic, or both. Pain at the metastatic location is one symptom¹.

CASE REPORT

A 70 year old female with stage 4 breast cancer presented with pain at the thigh following

trivial trauma. On examination patient had swelling, tenderness over proximal thigh, ROM at hip is painful and restricted. On getting radiographs, pathological fractures are seen over proximal third femur with metastasis. Patient was on chemotherapy and was planned for surgery. During surgery, 6cm of proximal femur shaft excised along with part of trochanter and complete head of femur resected and replaced with modular uncemented bipolar hemiarthroplasty would close layer by layer. Immediately patient was mobilized, started weight bearing with walker. Patient had painless, mobile and functional lower limb after 1 year follow up. Postoperatively continued chemotherapy and radiotherapy.



Figure 1: Preoperative x-rays showing metastatic lesion with pathological fracture



Figure 2: Post operative x-rays

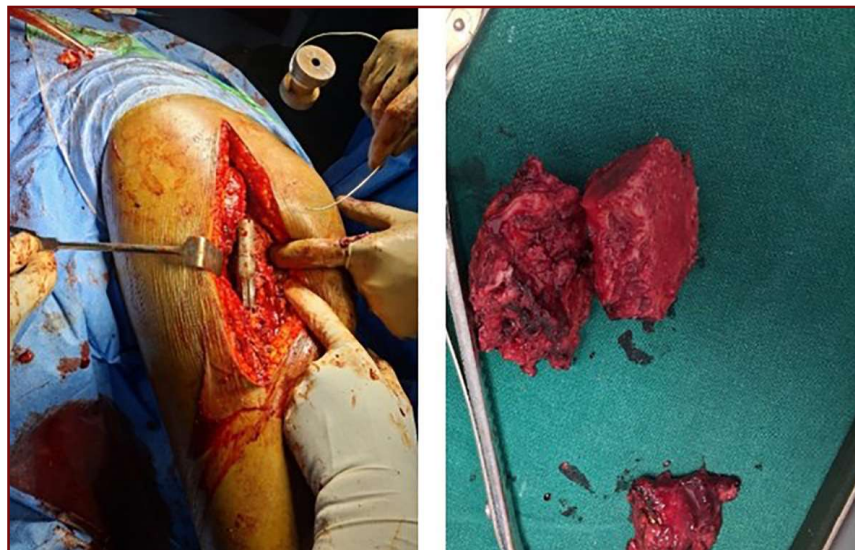


Figure 3: Intraoperative images

DISCUSSION

Metastasis breast cancer in the bones originate from breast tissues. It is as advanced form of cancer. Treatment involve managing symptoms rather than curing the cancer. Metastatic cancer in the bones can lead to a decline in a person quality of life and it can also be fatal. According to studies, the average survival time for patients with breast cancer that has spread to their bones is 19–25 months.³ Determining metastases will be aided by needle biopsy. A person's treatment option is determined by the treatment's objective. Some patients use medications that strengthen bones, such as denosumab and bisphosphonates⁴. These medications lessen the risk of bone fractures. Chemotherapy, radiation therapy, immunotherapy, surgery, natural medications, yoga, meditation, and so forth are additional treatment possibilities. These techniques may reduce the severity of patient symptoms and improve the quality of life.² Locally for the pathological fracture of proximal femur, limb salvage surgery has now become an acceptable method of treatment.⁶ Various techniques of segmental reconstruction have been described including arthrodesis using autograft or allograft, rotationplasty, bone transport such an ilizarov system. Arthroplasty using allograft, tumour femoral prosthesis and endoprosthesis bipolar cemented or uncemented hemiarthroplasty. As survival rates of patients have improved with chemotherapy, radiotherapy added along with surgical resection³⁻⁷.

CONCLUSION

Metastasis in proximal femur secondary to breast cancer with pathological fracture is treated with uncemented modular bipolar hemiarthroplasty after resection of proximal femur is one of the good options. This type of treatment gives painless functional limb along with chemotherapy, radiotherapy pre and post operatively followed by drug therapy like bisphosphonates and denosumab.

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