

TREATMENT OF PATHOLOGICAL FRACTURE OF RADIUS DUE TO MULTIPLE MYELOMA WITH ELASTIC INTRAMEDULLARY NAIL AND CEMENT AUGMENTATION:EXPANDING THE INDICATIONS OF ELASTIC NAILS

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INTRODUCTION-OBJECTIVE

Multiple myeloma represents an uncommon malignancy accounting for approximately 1,5% of all cancer cases.Pathological fractures of the proximal radius due to multiple myeloma are exceedingly rare.We present a case of an 81-year-old multiple myeloma female patient with a pathological fracture on her left proximal radius which was treated with a novel surgical approach using a flexible intramedullary nail technique with cementation.

METHODS AND MATERIALS

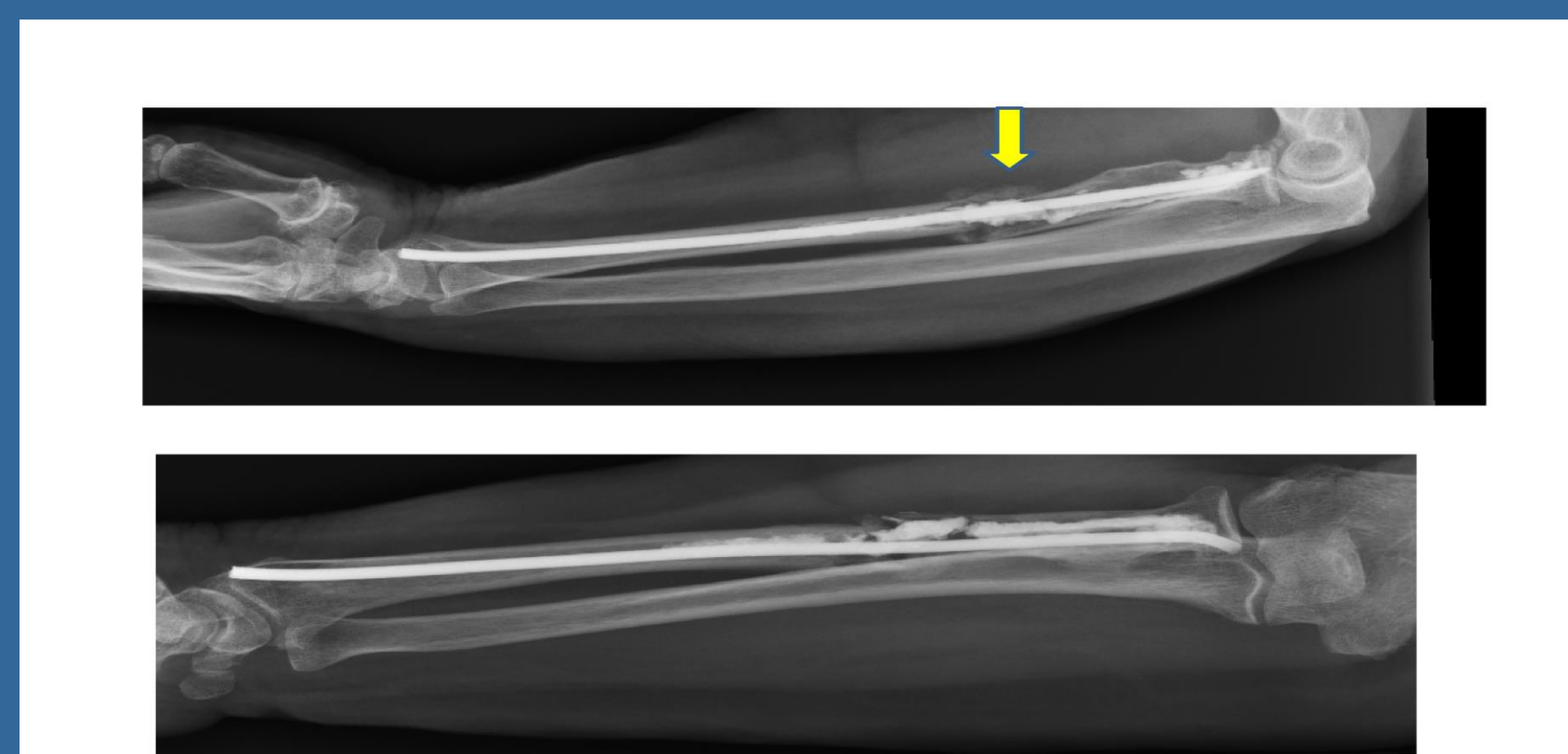
An 81-year-old lady with multiple myeloma,diagnosed 15 years previously,presented to our fracture clinic complaining of pain in her left forearm.Radiographs revealed a displaced pathological fracture of the left proximal radius with severe cortical destruction.Due to fracture's proximity and lack of adjacent healthy bone tissue,we decided to stabilize the fracture with an unreamed radial nail, typically utilized in pediatric cases, and cement augmentation.The nail was bended manually into the curvature of the bone with a special bending instrument and was inserted through a 15-20 mm incision from distal to proximal metaphysis under fluoroscopy.A percutaneous kyphoplasty cement delivery device was bent and inserted through an anterior approach to the proximal radius in order to facilitate the cement insertion(Polymethyl methacrylate) into the medullary canal.

RESULTS

Tenderness over the nail insertion site troubled the patient for the first week post-op.However,on review at 4 weeks post-operatively, she was much improved with pain free forearm rotation. Forearm flexion, extension, pronation and supination were full and unrestricted.Radiographically,the fracture showed evidence of callus formation 6 weeks post-op and the patient was referred for adjuvant external beam radiotherapy to the lesion.



Figure 1. Anteroposterior and lateral x-ray view of left forearm before surgery.



6 weeks post op

CONCLUSIONS

Our study represents the first time a pediatric flexible nail is used for the treatment of upper extremity long bone metastasis hinting at a possible future application in the treatment of long bone metastases of the most commonly affected lower limbs as well.



Figure 2 . Image during surgery showing the insertion of cement

Figure 3.Anterolateral and lateral x-ray view of left forearm 6 weeks postoperatively

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