

CASE REPORT

Management of Giant cell tumor occupying the 5th metacarpal bone in 6 years old child

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ABSTRACT

Giant cell tumor of the bone (GCTOB) is a relatively uncommon tumor of the bone. It is characterized by the presence of multinucleated giant cells. Giant-cell tumor of the bone accounts for 4-5% of primary bone tumors and ~20% of benign bone tumors. Giant cell tumors of the hand are rare, accounting for only 2 – 4% of all giant cell tumors.

Giant cell tumor (GCT) of the bones of the hand has some special features as compared to GCT at other sites. Because of the aggressive nature of this lesion, adequate assessment of the treatment method is required.

The aim is to eradicate the disease but preserve as much hand function as possible. Methods of treatment include curettage with or without bone grafts, local resection possibly combined with reconstruction using homologous or autologous bone, amputation, and resection of one or more rays.

INTRODUCTION

We would like to report a case of Giant cell tumor in 5th metacarpal bone of the left hand in a six years old Indian male who presented with left hand painless swelling involving the ulnar dorsal side for the last one year. Swelling is increasing in size and interfering with patient daily activity. Preop assessment showed hard immobile painless swelling not attached to the skin, with normal range of motion (Figure 1)¹.

MANAGEMENT

First step

Open biopsy (incisional biopsy) was taken under general anesthesia and sent to histopathology; result came with Giant cell tumor.²



Figure 1. Preop X-ray: well-defined osteolytic bony lesion involving fifth metacarpal of left hand with intact cortex.

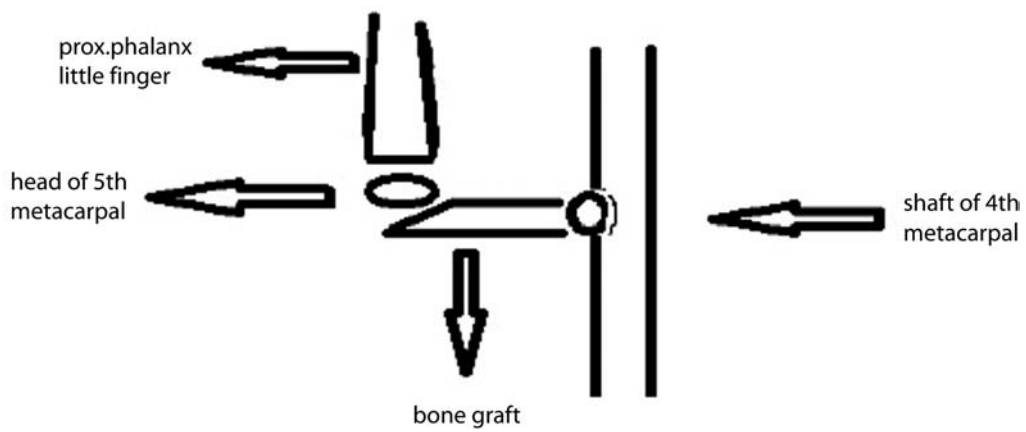


Figure 2. Overview of procedure.



Figure 3. Postop excision and bone grafting with k-wire fixation.



Figure 4. Right foot wound after removal of stitches.



Figure 5. Postop pictures.

Second step

After diagnosis was made using the incisional biopsy, we managed the case with complete excision of the involved metacarpal till its distal part (head and growth plate was preserved) and reconstruction of the defect was done with 2nd phalanx of third toe of the right foot.³

Technical points

A portion of 4th metacarpal shaft cortex was removed (excised) and the bone graft was fixed transversely in that portion with k-wire, the other end of bone graft

was designed in beveled – shape to meet the growth plate of the 5th metacarpal head and fixed with k-wires (Figures 2 – 4).

Outcome and follow-up

Patient is now doing well with occupational therapy (full range of motion, no pain or tenderness). Wound is healed in both hand and foot. Two k_wires were removed in clinic. He is due for follow-ups on a monthly basis for the next 2 years (Figure 5).

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