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Reconstruction of Metacarpal Bone Giant Cell Tumor with Free Osteoarticular Non Vascularized Metatarsal Bone

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I. INTRODUCTION

• Giant cell tumour is a benign locally aggressive tumour involving epiphysio
• Involvement of hand bones is rare.
• Giant cell tumour of metacarpals has some different. features from that fof
• Secondly, there is a limited free space in hand and ; hence any small mass
• The rate of recurrence is little higher when compared to other long bones.
• En-bloc resection of the involved metacarpal is required for local control ofsubstitution, vascularized or non-vascularized fibular graft, iliac crest strut
• The aim of treatment is to get a good local control of the disease and to • In this case ,we have used a technique of replacing the pathological bone transposition of another bone graft from a different site.

II. MATERIAL AND METHODS

• A 21 year old male presented to our OPD at Mata Gujri Memorial college,Kishanganj, Bihar.
• complains of mild pain and swelling over his left hand on the dorsal aspect of second metacarpal with slight restriction of movement at MCP joint since 2.5 years.
• The required investigations i.e Xrays and MRI scan for a suspected case of tumor was done which was followed by biopsy and this was found to be Giant cell tumor of 2nd metacarpal bone.
• Surgery was done in which en-bloc resection of second metacarpal bone was done with chemical cauterization of tumor site.
• This defect was filled with autologous bone graft from left foot ,fourth metatarsal keeping the exact size as of the defect.
• The foot being a weight bearing structure the donor site was filled with autologous bone graft from left Fibula. The bone grafts were fit to their respective sites using intramedullary K wires.

Pre-op images
POST-OP IMAGES

III. DISCUSSION

• Giant cell tumour of metacarpal bones is rare. However, when encountered it is a quite aggressive tumour involving almost the entire length of the metacarpal at the time of diagnosis. In order to achieve long term local control of disease and to minimize the recurrence, enbloc resection of the involved metacarpal is often required.
• In these reconstruction options, patient has to undergo surgeries at multiple sites i.e. hand ,leg and foot.
• The surgical time is prolonged, longer post op follow up time as one has to wait for longer duration till graft gets incorporated. And also, there is a risk of recurrence.

IV. CONCLUSION

• In conclusion, we found the low rate of recurrence for En-bloc resection, followed by curettage and reconstruction. Curettage alone was consistently associated with the highest rate of recurrence.

• We were unable to identify any factors that were associated with a higher risk of complication or recurrence. From the literature en-bloc resection and ray amputation are associated with functional and aesthetic disability and are rarely indicated as a salvage procedure.
• But en-bloc resection followed by curettage and reconstruction eventually resulted in the cure of the patients in our case .

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