

## A Rare Case of Giant Cell Tumour of First Metatarsal

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### INTRODUCTION:

Giant cell tumour of bone (GCTB) is a benign, locally aggressive tumour with lung metastasis potential and has tendency of recurrence. About 5% of bone tumours are GCTs and commonly occur at epiphyseal-metaphyseal region of long bone. Half of them occur around the knee but rarely found in metatarsal.

### REPORT:

A 26-year-old male presented with a three-month history of swelling on the dorsum of his right foot, causing difficulty in footwear, following trauma during sports activity. Physical examination revealed a tender swelling over the dorsal medial aspect, corresponding to the 1st metatarsal region.

X-rays and MRI showed an expansile lytic lesion involving the entire 1st metatarsal with bone loss and infiltration into surrounding tissues, confirming a diagnosis of Giant Cell Tumor of Bone (GCTB).

Pre-operative denosumab therapy was administered to facilitate foot-preserving surgery. Complete tumor resection, including en-bloc excision of the 1st metatarsal and medial cuneiform, was performed.

Reconstruction with an ipsilateral non-vascularized fibula strut graft was done, with histopathological examination showing post-denosumab changes and no viable cells. A follow-up CT scan at four months post-surgery revealed callus formation over the graft site, indicating successful healing.



**Figure 1:** Right foot x-rays: Initial presentation (Right) & after denosumab therapy (Left)



**Figure 2:** Intra-operative photo (Left) and CT done at 4 months post operation (Right)

### CONCLUSION:

Rare in the foot, GCTB requires early diagnosis and treatment for improved outcomes. Denosumab therapy aids in tumor excision, enhancing local control. The first metatarsal, crucial for weight-bearing, benefits from structural bone grafting, leading to significant recovery post-resection.

### REFERENCES:

1. Kamath, B. J., Nayak, U. K. R., Mahale, A., & Divakar, P. M. (2023). Rare case of first metatarsal giant cell tumour and its unique reconstruction with double barrel non-vascularized fibular graft. *Fuß & Sprunggelenk*, 21(1), 84-91.