

Distal Fibular GCT - A Rare Entity

Dr ANIL KULDEEP (PG RESIDENT)

Dr KULBHUSHAN KAMBOJ (ASSOCIATE PROFESSOR)

Dept Of Orthopaedics,

Lady Hardinge Medical College

Introduction

- Giant cell tumor - benign but aggressive lesion, commonly arises from epiphysis, common locations- distal femur, proximal tibia and distal radius(in decreasing order).
- Distal fibula - a very rare site for GCT, with only few descriptions available in literature.

Management options

- Intralesion curettage - high recurrence. Adjuvant (phenol, argon beam coagulation etc) use following curettage -low recurrence,
- En-bloc wide resection and reconstruction in aggressive lesions and in cases with cortical breach,
- Irradiation and/or embolization , Denosumab- in inoperable lesions in pelvis or spine, when surgery is contraindicated.

Case

- **History and complains** - 33 yrs old male presented with complain of swelling over Lt distal leg and ankle lateral aspect for one month with occasional mild pain, without any history of preceding trauma/ fever.

- **On examination** - swelling over lateral aspect of Lt distal leg and ankle, no skin discoloration, no engorged veins, in continuity with Lt distal fibula/lateral malleolus, local temp normal, 5 × 3 cm in size, non compressible, non reducible, not adherent to skin, fixed to fibula, mild diffuse tenderness present.
- left ankle ROM - normal.

MANAGEMENT - Investigations

- X Ray - a lytic lesion of Lt distal fibula and lateral malleolus, margins clear with cortical breach, ~5×3 cm in size.
- MRI - in addition to xray, the swelling was dark on T1 and bright on T2 weighted images.
- CT scan - findings as in x ray + a breach in the cortex of the fibula was noticeable.



Fig.1. Pre op x ray of Lt ankle showing lytic lesion of distal fibula



Fig. 2. Pre-op MRI

- Haematological investigations and chest x ray - within normal limits

Biopsy - needle biopsy was taken under image guidance and LA which confirmed it as GCT.

Treatment

Surgery : Under spinal anaesthesia using direct lateral approach to fibula en-bloc excision with safe margins done and reconstructed using ipsilateral proximal fibula which was fixed with a 1/3rd tubular plate and a syndesmotic screw.

- Initially immobilized by slab then B/K cast after suture removal on post-op day twelve. Drain was removed on post-op day three. Follow up was on monthly basis.
- Partial wt (toe touch) bearing was allowed after 8 weeks, which was progressively increased to 60-70 % over next one month and gradually to full weight bearing in another month. Cast was removed after 4 months post operatively.

At 6 months of follow-up patient was able to walk without support.



Fig. 3. Excised part

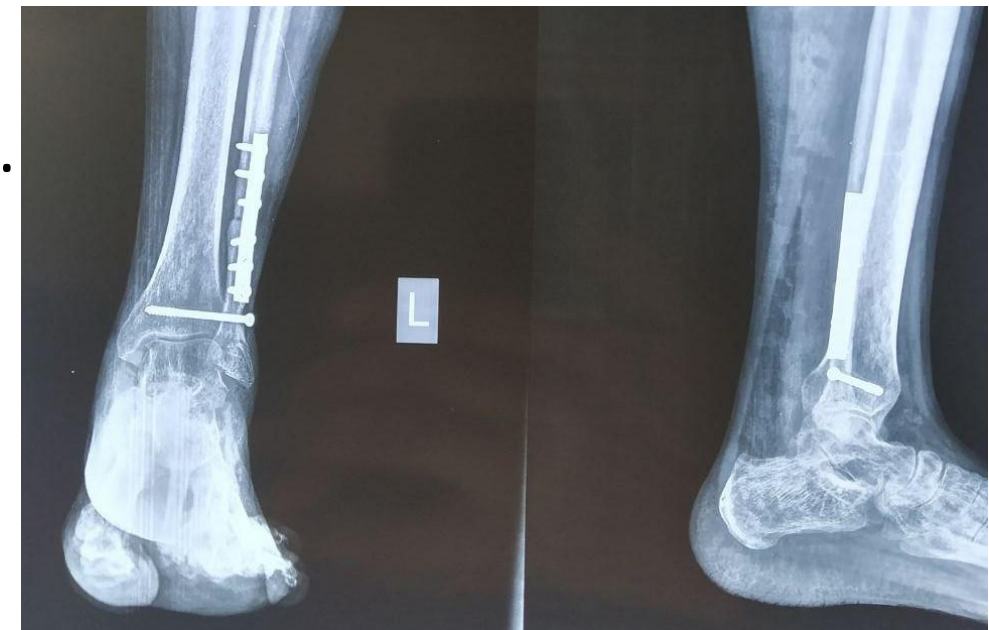


Fig. 4. X ray after 4 months of operation

- **Discussion-** The current method of treatment for benign and mild aggressive GCT is extended curettage followed by adjuvant use like phenol, cautery or argon beam coagulator to kill any remaining tumor cells and for highly aggressive GCT is en-bloc excision.
- In this case, tumour had thinned out the cortex extensively with breach in cortex of fibula, so extended curettage was not a good choice as it may lead to difficulty in fracture healing.
- Other possibilities were enbloc excision and primary ankle arthrodesis, enbloc excision and reconstruction with graft (autograft/allograft). In young patients satisfaction is poor with arthrodesis.
- We chose en-bloc excision and reconstruction with fibula as a salvage procedure. Autograft in the form of ipsilateral proximal fibular graft was used as it helps in some stabilization of the ankle as well as early healing.
- **Conclusion** - We found en-bloc resection with reconstruction using ipsilateral proximal fibular graft to be a reasonable salvage option for distal fibular GCT where extended curettage is not feasible.