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Original Research Paper

Orthopaedics

RECURRENT GIANT CELL TUMOUR OF 5TH METATARSAL- A RARE CASE

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ABSTRACT Giant cell tumour (GCT) is one of the common benign tumours found in young adults. But small tubular bones are an uncommon site. Very few cases of GCT occurring in the metatarsal have been mentioned in literature. Recurrent GCTs in the foot are even rarer. We are reporting a case of recurrent GCT of 5th metatarsal of left foot in a 24 years female. She presented with pain and swelling of the lateral aspect of left foot for 3 months. She was initially treated with tumour excision, curettage and bone cement spacer placement and after tumour recurrence she underwent 5th ray amputation and is symptom free till last follow-up.

KEYWORDS : Giant cell tumour, 5th metatarsal, recurrent

INTRODUCTION

Benign tumours of the foot and ankle are a common occurrence. Common tumours of the foot and ankle are synovial cyst, lipoma, villonodular synovitis, enchondroma and simple bone cyst.[1,2] GCT is a benign but locally aggressive tumour with eccentric epiphyseal expansile lytic lesion occurring in bones after skeletal maturity. It is common in the distal femur, proximal tibia and distal end of radius. However, GCT of small tubular bones of hands and feet are very rare. GCT in hand and feet occur in around 2% of all GCTs. Phalanges are more common sites than metacarpals or metatarsals even in these cases.[3] GCT in the feet are more aggressive than in other bones and recurrence rate is reported to be about 20% even with the use of adjuvants.[4] We are reporting a rare case of recurrent GCT of 5th metatarsal in a young adult.

Case Description

A 24 years female presented to our OPD with history of pain and swelling of the lateral aspect of left foot for 3 months. Pain was insidious in onset, continuous and more with walking. Pain and swelling were gradually progressive in nature. There was no h/o trauma, fever, discharge from the swelling. Skin overlying the lesion was apparently normal and no distal neurovascular deficit was noted. Rest of the foot and ankle were normal. No similar swelling in other parts of body was seen. On plain radiograph of the left foot (fig. 1) there was a lytic expansile lesion in the 5th metatarsal involving the diaphysis, distal metaphysis and epiphysis with cortical destruction and possibly soft tissue extension. Rest of the foot and ankle was normal.

MRI scan (fig. 2) revealed a well-defined expansile altered signal intensity lesion involving the diaphysis, distal metaphysis and epiphysis upto the subarticular region with cortical breech and with soft tissue extension suggestive of Giant Cell Tumour (GCT).

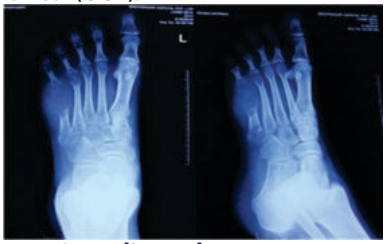

Fig.1: Pre-operative radiograph

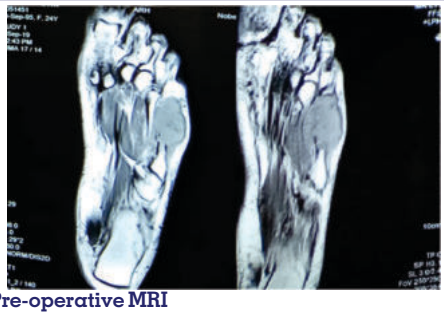

Fig.2: Pre-operative MRI

With a pre-operative diagnosis of GCT of the 5th metatarsal of the left foot, the patient was assessed for PAC fitness and subsequently tumour excision, extended curettage with H_2O_2 and bone cement spacer placement (fig. 3). The material collected was sent for histopathological examination. The patient was discharged on 2nd post-op day and has been under regular follow-up till now and was symptom free till 1 year.

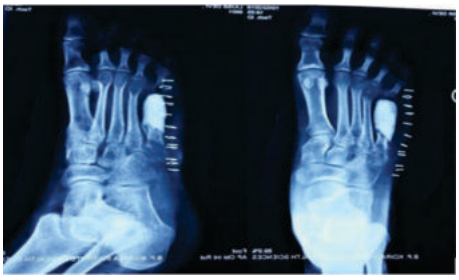

Fig.3: Post-operative Xray

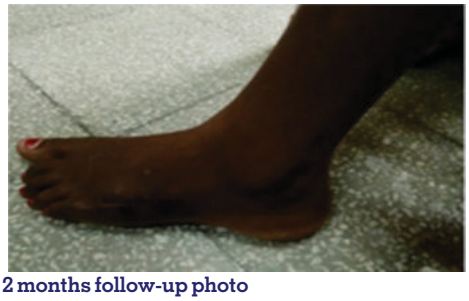

Fig.4: 2 months follow-up photo

The biopsy report (fig. 5) showed proliferation of mononuclear cells along with multinucleated giant cells in the

subepithelium with typical mitotic figure and focal areas of necrosis suggestive of Giant Cell Tumour.

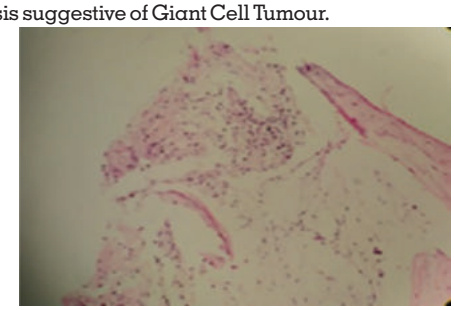

Fig. 5: Histopathological section

But on subsequent follow up patient presented with recurrence of pain and swelling at the surgical site. On radiographic examination (fig. 6), there was a lytic lesion in the base of the 5th metatarsal which had caused dislodgement of the cement spacer suggesting a recurring tumour. So, the patient underwent 5th ray amputation. She was discharged on 2nd post-op day and is on regular follow-up and is symptom free till now.

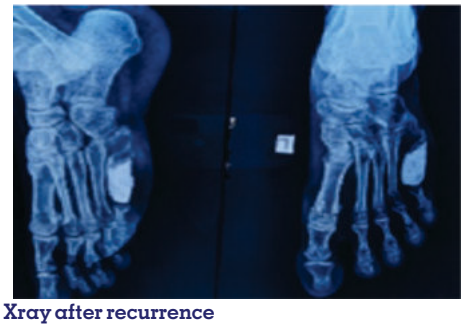

Fig. 6: Xray after recurrence

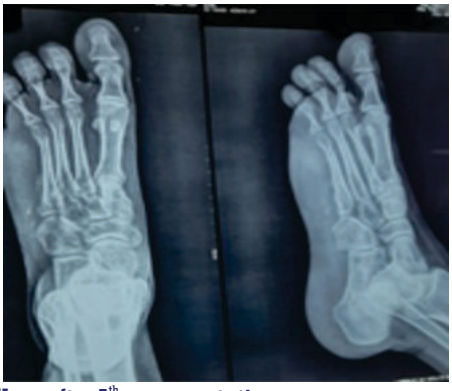

Fig. 7: Xray after 5th ray amputation

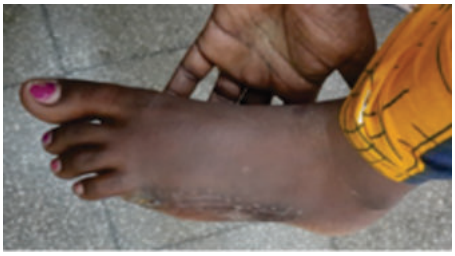

Fig.8: Clinical photo post-surgery

DISCUSSION

GCT is a benign but locally aggressive tumour occurring in long bones in young adults. The most common sites are distal femur, proximal tibia and distal radius in decreasing order. However, it is a rare occurrence in small tubular of hands and feet. GCT in feet are even rare than in hands. Phalangeal involvement is common than metatarsals. GCTs in the feet are found to be multicentric and aggressive than conventional ones.

Treatment options for GCT mentioned in literature are, curettage, extended curettage, curettage with bone grafting or bone cement placement, radiotherapy, resection with reconstruction and amputation depending on the site involved and stage of lesion.[5]

Recurrence of GCT is reported to be 25-50% with curettage alone and 20% even with the use of adjuvants.[4]

Our patient was treated with curettage, H_2O_2 and bone cement spacer placement in the index surgery. After the recurrence, she was treated with 5th ray amputation.

Prasant K et al[3] have reported a case of GCT of 1st metatarsal treated with tumour resection and reconstruction with fibular autograft.

Siddiqui YS et al[6] have also reported a case of 1st metatarsal. Yurdoglu al[7] reported a rare case of GCT in second and third metatarsal. All have reported favourable outcome with treatment. Recurrence rate is the concern after local tumour care whereas it is rare after amputation.

Balaji GG et al[4] have treated 2 cases of recurrent GCT of foot, one with resection and fibular graft and the other one with amputation and subsequent no recurrence in both cases.

Golz A et al[8] reported a case of GCT of 1st metatarsal which recurred twice after index surgery and managed with excision and iliac bone graft and plating and no subsequent recurrence.

The other differential diagnoses of GCT in the metatarsal are aneurysmal bone cyst (ABC), Brown's tumour of hyperparathyroidism, giant cell reparative granuloma and expansile metastatic tumours.

CONCLUSION

GCT should also be kept in mind while assessing tumours of the foot and ankle. Timely treatment may decrease the chances of unwanted outcomes. Despite good treatment recurrence is still a major complication.

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