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**Misbah Mehraj**  
Shri Guru Ram Rai Institute of  
Medical and Health Sciences,  
Dehradun, Uttarakhand, India

**Iqra Shah**  
Shri Guru Ram Rai Institute of  
Medical and Health Sciences,  
Dehradun, Uttarakhand, India

### Osteochondroma of distal tibia: A case series

Misbah Mehraj and Dr. Iqra Shah

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#### Abstract

Osteochondroma are cartilaginous, benign bone lesion. They thought to originate within the periosteum as small cartilaginous nodules. They account for about 30% of benign bone lesion. Common in 2nd decade of life. Mostly asymptomatic and common sites are distal femur, proximal tibia and proximal humerus. Genc B *et al* reported rare case of distal tibial osteochondroma causing fibular deformity and deep peroneal nerve entrapment neuropathy but we had encountered three cases of distal tibial osteochondroma with fibular deformity and deep peroneal neuropathy from last 1 year and is not as rare as previously thought.

**Keywords:** Osteochondroma, Peroneal neuropathy, fibular deformity

#### Introduction

Osteochondroma is a benign bone lesion. It accounts for about 10% of bone lesion and 30-35% of benign lesion. They are probably developmental malformations and seems to originate within the periosteum as small cartilaginous nodules. Other theory attributed it to develop at the sites of muscular attachments. They originates from physis near metaphysis and is directed away from physis. Their growth ceases after fusion of physeal growth plate. Common in males and usually occurs in second decade of life. Mostly asymptomatic and are incidentally discovered when they cause mechanical symptoms, fracture, false aneurysm or compressive neuropathies.

The osteochondroma of distal tibia is a common site. The tumor usually arises from lateral aspect of tibial metaphysis and is directed away from tibia towards the fibula. There are insufficient literature on distal tibial osteochondroma causing fibular deformity of significant nature and peroneal neuropathy. We reported three cases of distal tibial osteochondroma causing fibular deformity and deep peroneal nerve compression neuropathy from last one year.

#### Method and materials

Three patients with swelling of distal tibia and paresthasias and numbness over dorsal aspect of ankle and foot in age group of 16- 18 years reported in department of orthopedics Shri Mahant Indresh Hospital from January 2017 to December 2017. There were 2 males and 1 female patient. There was history of painless swelling over distal tibia from last 2- 3 years with gradual increase in size of swelling. There is also history of paresthasias and burning sensations over dorsum of ankle and foot. On examination, there was hard swelling over anterolateral aspect of distal tibia. There was hypoesthesia over the foot and ankle. The radiographs were taken in AP, Lateral and oblique views. FNAC of the lesion taken and diagnosis of osteochondroma confirmed. Informed written consent were taken from the patients and entire lesion was excised end block.

Surgery performed through anterior approach and entire bone lesion along with cartilaginous cap removed. The deep peroneal nerve and site of compression identified.

Post operatively, short leg slab applied for two weeks and full weight bearing allowed after that. The specimen was sent for histopathological examination. The patient was followed up for 3 months and signs and symptoms of compression neuropathy checked.

**Correspondence**  
**Misbah Mehraj**  
Shri Guru Ram Rai Institute of  
Medical and Health Sciences,  
Dehradun, Uttarakhand, India

## Results

All the three patients had gradual improvement in symptoms of compression neuropathy over period of 4 weeks and complete resolution of symptoms over 3 months. There was no case of fracture, ankle joint instability, sural nerve or peroneal nerve injury and infection.

## Discussion

Osteochondroma is commonest benign bone lesion which is composed of cancellous bone covered by cartilaginous cap. The distal tibial osteochondroma usually arise from anterolateral aspect of distal tibia and is directed away from metaphysis. The fibular deformity can occurs with this type of deformity and is most often of plastic deformation. Danielsson *et al.* <sup>[1]</sup> 1990 had reported three cases of osteochondroma of distal tibial metaphysis causing impingement and deformity of fibula. They did not reported any case of peroneal neuropathy in these patients.

Chin *et al.* <sup>[2]</sup> in 2000 reported 23 cases of distal tibial osteochondroma over period of 16 years. They had plastic fibular deformity in only 11 patients and no patient had deep peroneal neuropathy. Wani *et al.* <sup>[3]</sup> in 2009 reported a case of distal tibial osteochondroma arising from interosseous border of tibia and causing fibular deformity. Fibula was found to be thinned but there was no sign of fracture of fibula. Genc *et al* <sup>[4]</sup> 2014 reported rare case of distal tibial osteochondroma causing fibular deformity and peroneal nerve neuropathy.

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