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## Case Report

# Bilateral intraosseous ganglion of the talus

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### ABSTRACT

A bony cyst that is an intraosseous ganglion of benign nature that includes epiphyseal and metaphyseal zones of large bones. Intraosseous ganglion is an uncommon ganglion in talus and in all the cases described in literature where patient had unilateral cyst and had symptoms over ankle joint. No case has been reported with bilateral talus region causing complication with the subtalar joint. A 28-yr-old male presented to our OPD with complain of pain over bilateral ankle for last 9 months. Although ankle motions were within acceptable norms, painful, the subtalar movement was painfully reduced. The radiographic examination of both the foot and ankle confirmed no abnormalities. MRI testing of bilateral ankle revealed cystic lesion involving posterior aspect of talus communicated with the subtalar joint, measuring (1.6x1.2cm) over right and (1.3x1.0cm) over left side. The patient was treated by multiple drill hole and PRP installation. After three months, the clinical outcome was outstanding, and the patient was able to resume his usual activities with full painless range of motion. Bilateral intraosseous ganglion of talus is incredibly rare. Multiple drill holes or curettage should be employed to treat symptomatic patients.

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## 1. Introduction

Involving the epiphysis and metaphysis of long bones exist a benign, bony cyst i.e., Intraosseous ganglion.<sup>1</sup> The wrist, femoral head, medial malleolus, and carpal bones have proven to be the most common locations for these lesions.<sup>2–4</sup> These lesions only produce symptoms in patients when they are close to neurovascular systems or articular surfaces. They present with symptoms like pain, neurologic function, or articular fractures. In 40% of patients, they may seem to be asymptomatic.<sup>5</sup> The cases involving talus are very few. Intraosseous ganglions are uncommon in talus, and all of the patients exhibited symptoms related to the ankle joint.<sup>6–9</sup> A talus lesion that presents symptoms distinctive to the subtalar joint has still not been documented in any case. We document a rare instance of a talus

intraosseous ganglion that caused discomfort and pain in the subtalar joint. The patient was successfully treated with multiple drill hole and PRP installation to the lesion and was relieved of his symptoms.

## 2. Case Report

A 28-year-old man complained of pain in both ankles for the past nine months when he reached our OPD. The subtalar motions were excruciatingly restricted whereas the ankle movements were all within reasonable limits. He was able to do his daily activities but anything beyond that was really painful. No prior history of any significant trauma or fever nor any history of similar complaint in any other joints. On inspection, he did not have any wasting of muscles, erythema, redness, or inflammation around his foot. Although the subtalar mobility was markedly restricted, ankle joint motions were within recommended range. His sensory and motor tests came out clean as

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well. Radiographic investigation of ankle and foot were normal. MRI scans including both ankles indicated a cystic lesion involving posterior aspect of talus communicated with the subtalar joint, measuring (1.6x1.2cm) over right and (1.3x1.0cm) over left side (Figure 1). It was decided to operate on the patient since the cyst was symptomatic. Under guidance of c-arm cyst was identified and multiple holes were drilled using 2mm k-wire. After that 8ml freshly prepared PRP was installed at drilled site. The leg was put in a changeable cast bandage for ten days following surgery. Both intraoperative and postoperative complications were non-existent. Pathological analysis was used to validate the diagnosis of intraosseous ganglion. Partial weight bearing was permitted 1 week following removal of the splint. Full weight bearing was started 1 month following the surgery. After three months, the clinical outcomes were outstanding. He was able to do all his activities without discomfort. There was no pain even on activities involving exertion. With complete range of motion and no difficulty, the patient resumed his usual activities and minor leisure pursuits. At six months, there was no reappearance of symptoms.



Fig. 1:

### 3. Discussion

Orthopaedics frequently encounters soft tissue ganglia, but their intraosseous counterparts have been less frequently reported.<sup>10</sup> A benign cystic neoplasm with a pathophysiological resemblance to its soft tissue



Fig. 2:



Fig. 3:



Fig. 4:

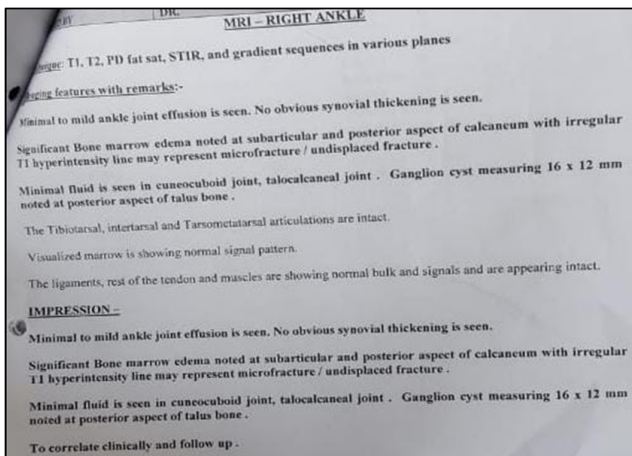


Fig. 5:

equivalent is the intraosseous ganglion. Mean average age of presentation is 42 years.<sup>11</sup> Even while the lesion frequently lies near to a joint, it seldom interacts with it. The ganglion has a yellowish mucoid and a gelatinous quality to its contents centre.<sup>12</sup> Intermittent discomfort that becomes worse with activities is a typical complaint among patients. Intraosseous ganglia that are asymptomatic might eventually infiltrate a joint and destroy the joint cartilage, becoming symptomatic.<sup>7</sup> There are various theories behind the origin of intraosseous ganglion. Some

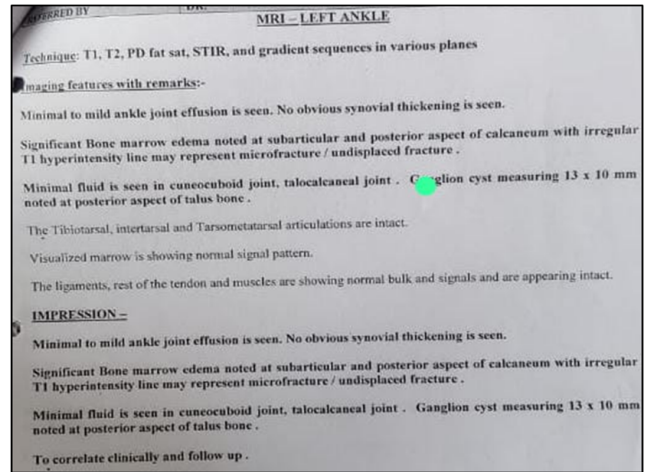


Fig. 6:

scientists believe intramedullary metaplasia as a cause of intraosseous ganglion cyst.<sup>1,13,14</sup> Others believe that it makes deterioration secondary. Additionally, trauma was identified as a potential cause of intraosseous ganglion cysts.<sup>14</sup> Radiographs reveal an asymmetrical intraosseous radiolucent disease that needs to be distinguished from osteoblastoma, osteoid osteoma, posttraumatic cysts, enchondroma, and osteoarthritic cysts. The patient described here did not exhibit any other osteoarthritis radiologic symptoms, and his age did not support this diagnosis. There was nothing to suggest an osteoid osteoma, such as a history of trauma, a typical nidus, or reactive sclerosis. Because MRI imaging displays the intraosseous lesion, identifies any connections seen between intraosseous disease and the joint space, and detects the existence of any pathologic fracture, it was employed for differential diagnosis. The cystic lesion in this patient was connected to the subtalar joint cavity and was situated in the subchondral area at the bottom of the talus. Intraosseous ganglions are extremely rare in talus. A significant, problematic intraosseous ganglion is best treated by debriding the cyst, drilling through the cystic wall and the neighbouring sclerotic bone, and then either injecting PRP or using an autologous bone transplant to replace the defect.<sup>3,6–8,12</sup> However, Therapeutic curettage of talar defects does not require the addition of bone grafts.<sup>15</sup> These lesions in the talus can be approached by arthroscopy<sup>6,7</sup> and arthrotomy. The transplantation of cultured chondrocytes has also been used to treat the cartilage lesion<sup>7</sup> after curettage. This instance is unusual because intraosseous ganglions are extremely uncommon, and on top of that, in every case that has been documented, the ganglion has resulted in symptoms that are related to the ankle joint.<sup>6–9</sup> No case of an intraosseous ganglion causing symptoms of the subtalar joint has been documented in the literature.

#### 4. Conclusion

A uncommon condition is the intraosseous ganglion of the talus. Patients with symptoms should have surgery. Surgical removal, multiple drill hole with PRP installation shows good clinical as well as radiological results. If a patient has prolonged foot or ankle pain that does not go away with symptomatic therapy, the possibility of an intraosseous ganglia should always be explored as a differential diagnosis.

#### 5. Source of Funding

None.

#### 6. Conflict of Interest

None.

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