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RESEARCH ARTICLE

A RARE CASE OF GIANT CELL TUMOUR (OSTEOCLASTOMA) OF THE TALUS: A CASE REPORT

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Abstract

Aim and Objective: This study aims to describe a rare case of giant cell tumor (GCT) of the talus.

Background: Giant cell tumors rarely present around bones of the foot and involvement of the talus is infrequent. In comparison to long bones, diagnosis and management of talus GCT is challenging and is sparsely reported in the literature.

Case Description: We report a case of GCT arising from the talus in a 23-year-old male, presenting as non-specific ankle pain and instability for the past 2 years. The diagnosis was established by CT and MRI and was treated with excisional curettage and antibiotic impregnated bone cement application. At 6 months of follow-up, the symptoms of the patient had resolved clinically and no sign of recurrence at last clinico-radiological examination.

Conclusion: Diagnosis and management of GCT talus is challenging and can be treated with excisional curettage and antibiotic impregnated bone cement application.

Clinical Significance: Presentation of GCT talus may be missed at early stages. A high index of suspicion can help in diagnosis and appropriate management.

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Introduction:-

Sir Astley Cooper first described the giant cell tumor (GCT) in 1818. GCT of the bone is a benign lesion with local aggressiveness and tends to recur locally. In the epiphysio- metaphyseal region, 20–40 years old is the average age of presentation. It is widely prevalent in long bones, with 50% of cases occurring in the proximal tibia and distal femur region. Distal radius, proximal humerus and fibula are the other common locations. Foot involvement is rare and GCT arising from talus is rarer. As a result of their rarity and unfamiliar presentation, diagnosis is usually missed or delayed. In previously reported cases, management ranged from intralesional curettage to total talarctomy with stabilization of the subtalar joint.

We report a case of GCT arising from the talus, presenting as non-specific ankle pain, in a 23-year-old male, treated with excisional curettage and antibiotic impregnated bone cement application.

Case Description

A 23-year-old male presented to the outpatient department of our institution with chief complaints of non-specific pain in left ankle and instability for the past 2 years. There was swelling around the left ankle and difficulty in bearing weight on the affected side. The pain was insidious in onset with increasing intensity over time while swelling was slowly progressive. There was no history of trauma, fever, loss of appetite, loss of weight, pain at

neither other parts of the body nor any history of similar complaints in the past. The general physical and systemic examinations were within normal limits.

On local examination, the attitude of the limb was neutral. There was a 6 × 3 cm swelling over anterior aspect of the left ankle joint. There were no visible veins, sinus, or discharge from the swelling. The local temperature was raised slightly and the swelling was tender. All movements at the ankle and subtalar joint were painfully restricted. Routine blood investigations were within normal limits including Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP).

Antero-posterior and lateral radiographs of the ankle showed a geographic osteolytic lesion in the body of the talus with a narrow zone of transition and no cortical break. Non-contrast computed tomography (NCCT) of the affected part was corroborative of X-ray findings. MRI was performed to delineate soft tissue extent, the lesion measured approximately 35 × 20 × 22 mm involving Body of talus without soft tissue involvement.

After taking patient's consent for the operation, the patient was operated under spinal anesthesia, in the supine position. A standard anterolateral incision was made and the lateral flap raised followed to expose the talus. A cortical window was made on the lateral surface to enter the lesion. Extended curettage was performed and tumor material was removed.

Tumor was reddish-brown in color with a soft consistency. Curettage with a burr, cauterization with absolute alcohol was done to clear tumor tissues.



Fig 1:- Plain Radiographs showing the lytic lesion in the body of Talus.



Fig 2:- Incision site at the antero-lateral aspect of left ankle.



Fig 3:- The tumor before its removal, after soft tissue dissection.



Fig 4:- After curettage of the tumor from the bone making a cavity in it.



Fig 5:- Reddish brown tumor (GCT) removed from the bone.

The resultant cavity was filled with antibiotic impregnated bone cement. Hemostasis was maintained throughout the procedure and the wound was closed in layers. Below knee plaster of Paris (POP) slab applied. The intraoperative

and immediate postoperative period was uneventful. On histopathological examination, the tumor was confirmed to be GCT

The patient was followed up every 15 days initially for the first 2 months, then monthly for 6 months. Sutures were removed at 2 weeks. At the last follow-up visit, there were no complications, the patient was able to walk with partial weight-bearing with a fair range of motion at the ankle joint and minimal pain. Radiological examinations showed healing with no sign of recurrence.

Discussion:-

Femur, tibia, and distal radius are typical locations for the occurrence of GCT while foot bones, hand, and spinal involvement are rare. Giant cell tumor ankle are typically solitary lesions, but 1–2% may be multicentric.

Minhas et al., in their study at the tertiary care center, found 240 cases of GCT but only 5% related to foot bones and of them, only 0.4% of cases involving talus.

Similarly, Goldenberg et al., in their series of 218 cases of GCT, found only one case involving the talus; as also by Sung et al., one talus GCT case in their series of 208 cases.

The usual clinical picture of the talus GCT is that of insidious onset pain, which in many cases may be mismanaged as an ankle sprain. A history of preceding trivial trauma may be present. Other features are non-specific. Radiologically, the tumor appears as an eccentric lytic lesion with cortical thinning and expansion.

Reactive new bone formation is absent. The tumor may erode the cortex and invade the subtalar joint or may cause a pathological fracture. Intralesional curettage and bone grafting have been reported by several authors with satisfactory results. However, curettage alone has a high rate of recurrence, and adjuvants like methyl methacrylate (bone cement), cryotherapy, and phenol have been suggested.

In cases where there is substantial involvement of the talus, partial or complete talectomy can be contemplated. Arthrodesis may or may not be performed, depending on the involvement of the surrounding joints. Modality of treatment has changed over the past from amputation to reconstruction. Among the published literature for talus GCT, the management has varied from resection, excision intralesional or wide margin, curettage to amputation.

Due to the non-specific nature of the symptoms, our patient was diagnosed late as he was receiving treatment for non-specific ankle pain elsewhere. This underlines the importance of investigations and radiology. Given the good outcomes in published literature, we decided to go with excisional curettage with antibiotic impregnated bone cement application.

On the last follow-up, the patient was able to walk partial weight-bearing, without any surgical site complication, and had a good range of movement at the ankle joint with no sign of recurrence on radiographs and CT scan.

Conclusion:-

The primary GCT arising out talus is a rare disease and can masquerade clinically as an ankle sprain initially. Early diagnosis and management is key to the successful and complete removal of the tumor. Excisional curettage and antibiotic impregnated bone cement application is a favorable treatment modality for GCT given the least recurrence rates. Special attention should be given to the articulate cartilage intraoperatively, and arthrodesis should be done if any doubt regarding the involvement.



Fig 6:- Post operative plain radiograph of ankle.



Fig 7:- Healed Incision site.

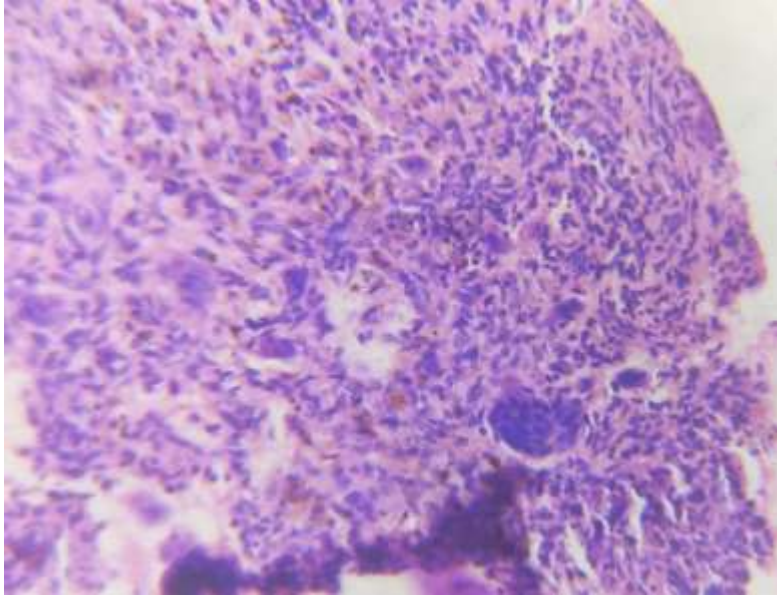


Fig 8:- Histological appearance of GCT.

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