



## ANEURYSMAL BONE CYST OF TALUS

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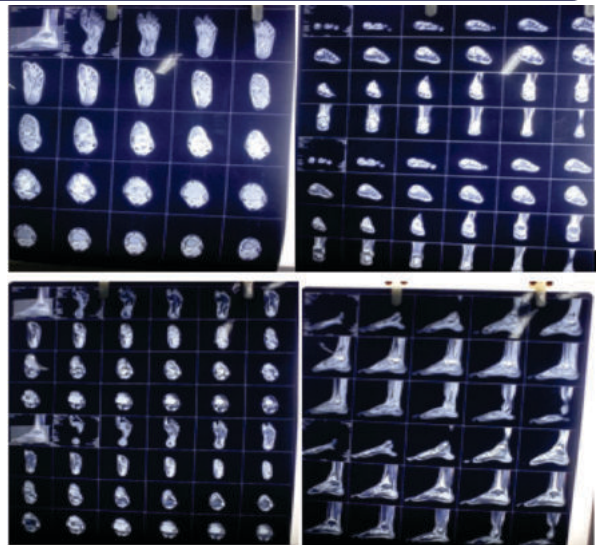
**ABSTRACT** Aneurysmal bone cyst (ABC) of talus is rare benign, expansile and osteolytic bone growth cyst contains bloody fluid lined with variable amount of osteolytic giant cells. Talus is a extremely rare site for aneurysmal bone cyst . Here is,we present a 16 –year-old boy with ABC of talus manage by total resection of talus and filling defect with iliac bone graft and finally tibiocalcaneal arthrodesis due to articular surface involvement supported by ilizarov and followed by bone marrow therapy. At 21 months follow up postoperatively, no recurrence was detected

**KEYWORDS :****INTRODUCTION**

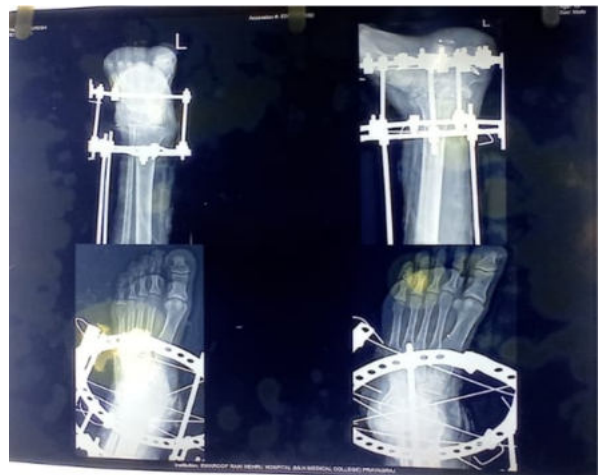
- Aneurysmal bone cyst (ABC) is a benign bone tumor like condition of bone which consists of blood filled cystic cavities and is locally destructive<sup>1</sup>.The incidence is 0.14 per 100000 of the population per year with slight female predominance 2-3<sup>4</sup>Although all parts of human skeletal involved, ABC of foot bones is very rare .Several primary ABCs of talus and secondary ABCs on giant cell tumor and Chondroblastoma [2'3'4].ABCs occur in metaphysis of long bones. Current hypothesis supports malformation of intraosseous arteriovenous channel with surrounding periosteum [5,6]
- In present case ,we describe a case of 16 years male with ABC talus with articular surface involvement which manage by Resection of talus with tibiocalcaneal arthrodesis followed by BONE MARROW THERAPY.

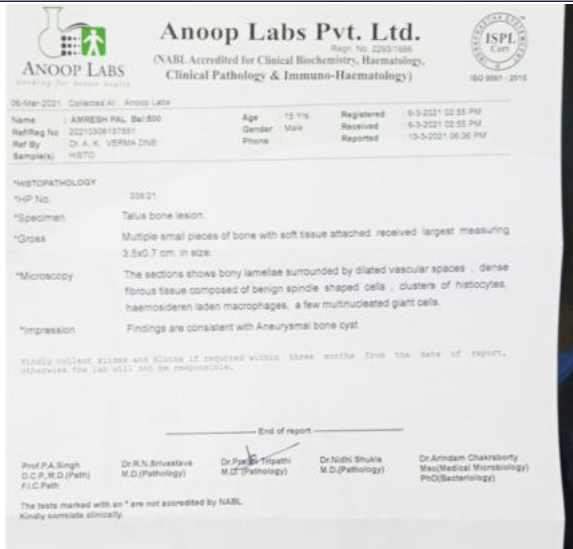
**Case Report**

- A 16 year-old male ,student by occupation came to out patient department of orthopaedics in our institute SRN HOSPITAL joint with Motilal Nehru Medical College ,UP,India in 20 Feb 2021 with complaint of intermittent dull aching pain in left ankle since last 6 months and swelling since 3 months which is progressive in nature and also restriction in range of motion of involved ankle
- He had no h/o fever, chills, sweats, weight loss, history of any trauma and other joints involvement
- Family, drug, any past history, occupational history were non –contributory
- General and systemic examination within normal limits
- On local examination of foot-there was visible and palpable swelling on dorsum of ankle and heel, local temperature was normal and tenderness on palpation was noted
- The distal neurovascular status was normal
- Blood investigation was within normal limit.Anteroposterior (AP) and lateral radiograph [figure 1] revealed radiolucent, expansile, lytic lesion with lobulated borders occupying whole of talus( heads, Neck and body of talus). No periosteal reaction or calcification noted.Magnetic resonance imaging ( MRI) [ figure 2] of foot and ankle showed cystic lesion on left talus, which was hypointense in T1 weighted image and hyperintense in T2 weighted images, there was subtalar joint involvement seemed but no extension in soft tissues
- Ct guided fine needle aspiration from lesion numerous osteoclast giant cells in hemorrhagic background
- On the basis of the clinical findings, imaging studies and cytological examination a provisional diagnosis of giant cell lesion of bone was made ie; aneurysmal bone cyst



- As diagnosis of ABC of talus was made,we go for management
- Management;-surgery was performed under spinal anaesthesia in lateral position after inflation of a thigh tourniquet using sterile condition. Through anterolateral approach ,the articular surface of tibiotalar and subtalar joints were removed and thus resection of whole talus was performed and tibiocalcaneal fusion with bone grafting done and graft taken from iliac crest, tibiocalcaneal fusion is supported by tensioned k-wire and ring fixator ( ILIZAROV)[ immediate post-op xray fig 3]
- Resected talus send for histopathological examination which also confirmed aneurysmal bone cyst [report of HPE attached fig 4] and patient allow for partial weight bearing





- FOLLOW-UP;-patient initially followed-up 2 weekly for 2 months and then monthly
- To fasten the healing we started bone marrow therapy at monthly basis when callus was visible on radiograph then ring fixator was removed about after 1 year
- After removal of ring fixator ,slab was given to heal pin sites and when pin site was healed then we allow patient to walk on patellar tendon bearing cast (PTB CAST)
- PTB cast was removed after 3 months and now about 1.5 years after surgery patient is walking well and doing well of his work [follow-up xray and clinical pics attached in figur5]



After 1.5 years followup



After removal of ring fixator

**DISCUSSION**

- ABC is a benign tumoral condition peaking at the first two decades of life. Although different treatment options are available, commonly surgical treatment of ABCs including curettage with or without bone grafting in addition to different adjuvants or wide en-bloc resection of tumor is preferred
- Resection of a huge ABC with involvement of articular surfaces in the talus could result in instability and functional compromise; therefore arthrodesis might be an acceptable option to diminish the possibility of recurrence, as done in the presented case.
- Tibiototalcalcaneal arthrodesis could be done utilizing retrograde hindfoot intramedullary nails or different plate and screw constructs. Although intramedullary nails are good options with higher stability and lower soft tissue damage
- Many authors believe it to be a result of local circulatory disturbances and therefore do not consider it as a true neoplasm.[7]
- Most cases occur between the ages of 10-20 years and show a slight female preponderance. The favored site of presentation is the vertebrae, flat bones and metaphysis of long bones.[7] Talus is an unusual site for ABC, in fact the most common tumors of talus are intra-osseous ganglion cysts
- It has been said that ABC is associated with distinctive 17p13 translocations that result in up-regulation of USP6, a deubiquitinating enzyme.[8]
- Aneurysmal bone cysts that arise de-novo are termed as 'primary' whereas those occurring in conjunction with another tumor are termed as 'secondary'.
- standard treatment for ABCs in long bones. However, talar lesions can be challenging to treat. Many authors have described excellent

results with intralesional curettage and bone grafting for lytic lesions that were well localized within the talus.) Partial or total talectomy along with tibiocalcaneal arthrodesis has also been described for lesions that show extensive destruction of the talus and soft tissue or subtalar extension.[7]Luna et al., have described the use of external fixation in place of a traditional cast after curettage and bone grafting for ABC of talus

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