



UNICAMERAL BONE CYST OF CALCANEUM - A RARE PRESENTATION

Orthopaedic

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ABSTRACT

Unicameral bone cyst of calcaneum is a benign, fluid filled skeletal lesion that accounts for 3% of primary bone tumours¹. Unicameral bone cyst is primarily a metaphyseal intramedullary lesion that enlarges slowly and is common in first two decades of life^{2,3,4}. The lesion is usually unilocular cavity filled with clear or straw coloured fluid though septations may develop in irregular bone cysts or in cancellous bone or with healing of cortical breaches. The lining is composed of thin fibrovascular tissue membrane. The etiology of these lesions is poorly understood. Various hypothesis have included dysplastic processes, synovial cyst and abnormalities in the local circulation. Most patients present with undisplaced pathologic fracture but occasionally cysts are found incidentally. Once diagnosed unicameral bone cysts continued to be a treatment dilemma. Traditional methods such as prednisolone therapy, usually involve multiple anesthetic and injections and are associated with high recurrence rates. Major surgical procedures, such as wide exposure, curettage and bone grafting may be somewhat more effective, but still carry with significant morbidity and recurrence rates.

KEYWORDS

Unicameral bone cyst, Curettage, Bone graft

INTRODUCTION

Unicameral bone cysts have been recognized for many years as benign lesions, however, they remain troublesome in regard to their diagnosis and treatment. Virchow originally described the lesions in 1891 as "cystic structures", which he hypothesized occurred as abnormalities in the local circulation. Unicameral bone cyst are benign fluid filled cavities that tend to expand and weaken the local area. These are generally seen commonly in metaphyseal areas of long bones like humerus and femur in skeletally immature persons. Several theories have been postulated to explain the origin of UBC, including trauma and inflammation; however, none has been conclusive⁵. Unicameral bone cyst of calcaneum accounts for 3% of primary bone tumours. Due to its rarity in the prevalence rate, we report this case of Unicameral bone cyst of calcaneus which was diagnosed in Dr. psims and Rf.

CASE REPORT

A 27 year male presented with incidental finding of osteolytic lesion of right calcaneum when admitted for implant removal, plating to lateral malleolus and CC screw to medial malleolus fixed 4 year back for bimalleolar fracture of right ankle.

Family history-

No relevant history noted in the family.

Laboratory investigations-

Hb-9.5 g%, ESR-20 mm/hr, serum creatinine-0.9mg%
The routine investigations were normal and the patient was fit for surgery.

Radiological Examination -



fig 1

Xray(fig1) showing a symmetrical lytic lesion of calcaneum with implant insitu over the medial and lateral malleoli of the ankle joint.

Treatment-

Surgically treated with wide excision, curettage and bone graft substitute and the sample sent for histopathological examination.

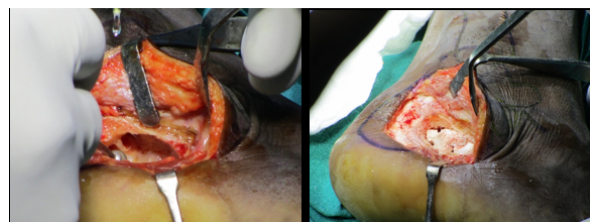
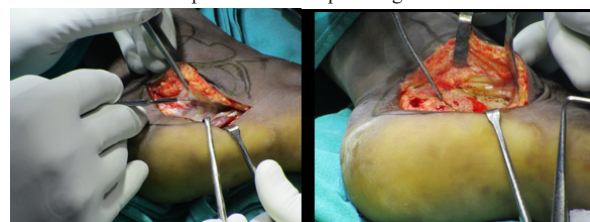


fig 2-intraop pictures

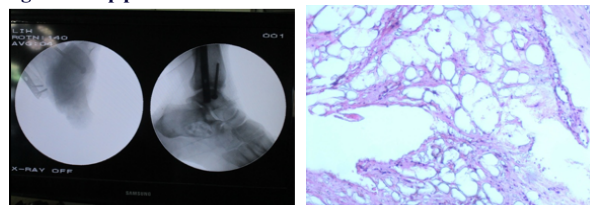


Fig3

The intra operative picture (fig 2) showing complete excision of cyst and filling of the cavity with bone graft substitute^{6,7}.

The histopathological examination(fig3) showing the features of unicameral bone cyst.

CONCLUSION:

The purpose of treatment is to restore bone strength, cortical thickness and obliteration of the cyst; and based on these criteria, healing of UBC was classified by Neer³ and Capanna⁴. Complete filling of the cyst with restoration of cortical thickness was described as healed cyst. When small radiolucent areas persist with good bone strength, the cyst was described as partially healed. When the UBC had continuous bone lucency and thin or broken cortex and did not respond to the treatment, the cyst was considered persistent. Cyst recurrence was defined when a cavity and expansile remodelling and thinning of the cortex develop after full obliteration. Many UBC heal either spontaneously. Pathological fractures through cyst often heal with healing of cyst un-intervened. Impending fracture may be treated with immobilisation and aspiration of the cyst along with hydrocortisone injections. For uncommon cases curettage, with or without bone grafting or cementing may be done. Newer techniques involving percutaneous grafting with allograft or bone substitute or a combination of these two are promising in view of their low complication rate and recurrence rate.

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