

Pictorial CME

Large Aneurysmal Bone Cyst of Proximal Tibia in A 10 Year Old Child Treated by Bone Graft from Mother

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A 10-year-old thin built female presented with pain and swelling over upper aspect of left leg for 2 months. The pain was diffuse and dull aching which aggravated on walking and was relieved on rest. This was associated with an ill defined swelling over upper aspect of left leg. It was tender, not adherent to underlying structures and did not have any overlying skin changes. General examination revealed no abnormalities.

A plain X-ray of the left leg showed an expansive large well defined Osteolytic lesion in Metaphyseal region of upper Tibia with extension upto the shaft starting from 8mm below the epiphyseal line. CT angio revealed an expansile well defined lucency with a very thin cortex in medial, lateral and posterior aspect of left upper Tibia showing thin internal strands of bone with possible fluid level. The lesion measured approximately 3.8cm x 2.9cm x 5.5cm in size radiologically. MRI Scan of left upper Leg suggested Neoplastic Nature Solid Cystic Lesion in Proximal Diaphysis of Tibia with expansile thinning of bone, periosteal hyperintensities and underlying myositis. D/D consisted of Giant Cell Tumour, Ewings Tumour and Aneurysmal Bone Cyst.

Needle Biopsy of the tumour was performed because the lesion was suspected to be malignant. Histology revealed that it was not malignant (Figs 1-4).

Surgical treatment consisted of : (1) Curettage of the lesion. (2) Stabilization of the Tibia by plate and screws as the Tibia had chance of fracture sooner or later due to the extensive nature of the Osteolytic Lesion taking care that the epiphyseal line was not damaged during operation. (3) The cavity was huge and the patient's iliac crest inadequate for any graft. Moreover bone cement could not be used due to the age and growth potential of the patient . So the huge defect was reconstructed using her Mother's Cortico Cancellous Graft from Iliac crest.

Histopathology reported cyst wall showing proliferation of Uniform Plump Spindle Fibroblast - like cells and osteoclasts. Woven Blue bone is noted in the wall suggestive of Aneurysmal Bone Cyst.

Partial weight bearing was allowed at 3 months and full weight bearing at 4 months after the graft was taken up satisfactorily. Follow up showed good healing without the re appearance of symptoms at 1 year.

Our case is different from those reported in literature because of the massive size of the osteolytic expansile lesion of a weight bearing bone in a growing child with chance of a pathological fracture due to 3 cortices involvement of the Tibia, proximity to the epiphyseal line,

inadequate source of bone graft from the child and the limitations of using bone cement due to age. The Reconstruction of the defect was done by taking bone graft from mother who was AB positive and the child is A positive. The



Fig 1 — AP and LAT views of plain X-ray showing a large expansile osteolytic lesion in left upper Tibial Metaphysis with extension upto shaft



Fig 2 — The deep cavity after surgical exposure revealing the size of the tumour to be 4.2cm x 3.5cm x 7.5cm



Fig 3 — Tibia osteolytic lesion of child packed with mother's iliac crest bone graft

result of the case is highly satisfactory. Informed consent of the guardian of the patient was taken before publication of this clinical case.

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Fig 4 — Postoperative X-ray showing bone graft and fixation of Tibia

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