

Flipped Distal Tibia Osteoarticular Allograft And Ankle Arthrodesis Following Wide Resection Of Distal Tibia Chondrosarcoma: A Case Report

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INTRODUCTION:

Allograft reconstruction following sarcoma resection is challenging and complications include infection, nonunion and fracture [1]. However, up to 84% are disease free and have no major pain or functional limitations [2]. We present a method we have used in allograft reconstruction of a distal tibia chondrosarcoma following wide resection.

CASE REPORT:

A 24-year-old lady was diagnosed with a right distal tibia chondrosarcoma. The tumour was located in the distal right tibia epiphysis and metaphysis, and had breached the lateral cortex, invading the adjacent distal fibula.



Figure 1: Initial radiographs

Wide resection was done, and the bone defect was reconstructed using a fresh frozen cadaveric allograft. The resection involved the lateral half of the distal tibia epi-metaphysis as well as the lateral malleolus. The neurovascular bundle was spared. The medial half of the allograft was flipped 360 degrees along its longitudinal axis and fixed with screws, such that there was now two 'medial malleoli' forming the ankle mortise. Arthrodesis of the ankle was achieved using K wires.

Histopathological examination revealed a well differentiated grade I chondrosarcoma. Resection margins were clear of tumour.

The affected limb was immobilized with a splint until radiographic union was achieved at 9 months post surgery.

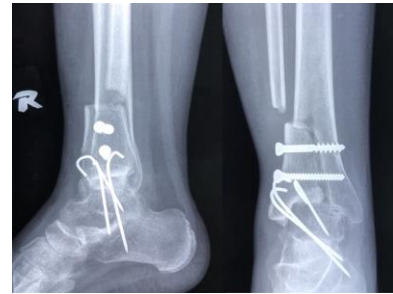


Figure 2: Post-operative radiographs

At two years follow up she is pain free and walking without aids. There have been no signs of infection, allograft fracture or local recurrence. Serial radiographs show evidence of incorporation of the allograft into the adjacent host bone.



Figure 3: Radiographs at 9 months post surgery

CONCLUSION:

The reported method has shown good results and can be considered in limb salvage surgeries of distal tibia chondrosarcomas.

REFERENCES:

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2. Ogilvie C, Crawford E, Hosalkar H, King J, Lackman R. Long-term Results for Limb Salvage with Osteoarticular Allograft Reconstruction. Clinical Orthopaedics and Related Research®. 2009;467(10):2685-2690.