

## **GIANT CELL TUMOR OF BONE: AN ANALYSIS OF 130 CASES.**

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**INTRODUCTION:** Management of giant cell tumor (GCT) of bone remains challenging because there are no absolute clinical, histological, radiological or treatment parameters that accurately predict recurrence and survival.

**AIMS/OBJECTIVES:** This study aimed at identifying clinico-pathological characteristics, recurrence pattern, prognostic factors for recurrence and treatment strategies in giant cell tumors of the appendicular skeleton.

**METHODS:** Retrospective analysis of 130 patients with giant cell tumor of the appendicular skeleton, treated between 1990 and 2010 at our institution.

**RESULTS:** Male: female ratio was 1.2:1. Mean age of presentation was 30 years (12-74 years). 31 patients had recurrent tumor and 12 patients had pathological fracture at presentation. Commonest site was lower end of femur (35.6%). Curettage with ancillary procedures, resection with endo-prosthetic replacement and amputation were done for 51(39.23%), 55(42.6%) and 24(18.8%) patients respectively. Microscopic margin positivity did not alter the chances of local recurrence ( $p=0.09$ ). Pathological fracture, soft tissue disease at presentation and recurrent disease favored resection with prosthesis. Overall recurrences were 8(6.15%). Local recurrence in 7 patients & distant failure in one (pulmonary). Patients who had a local recurrence were salvaged by resection (4), amputation (3) and 1 patient declined treatment. The 5 year DFS was 91.6%. On multivariate analysis only type 1c margins ( $p=0.03$ ) and soft tissue disease ( $p=0.002$ ) at presentation predicted recurrence, there was no correlation between pathological, radiological grade, MSTS stage and local recurrence. There were no local recurrences in patients undergoing endo-prosthetic replacement/amputation. Late complications were more in patients undergoing endo-prosthetic replacement. There was no difference in survival between patients who had a recurrence and those who did not. ( $p=0.08$ ).

**CONCLUSION:** Type 1c margins and extensive soft tissue disease predicted increased risk of local recurrence. Resection with endo-prosthetic replacement had best oncological outcomes and these patients had low risk of local recurrence. Recurrence did not alter survival. However the choice of treatment should be balanced between functional and oncological outcomes.