

Management and Oncologic Outcomes of Proximal Humerus Chondrosarcoma

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Abstract

Background: Proximal humerus is a frequent location of primary bone sarcomas, however for chondrosarcoma represents less than 15% and little evidence have been reported about this select group.

Questions: We proposed to analyzed a group of patients with proximal humerus chondrosarcoma treated with surgery and asses: 1) overall survival, 2) local recurrence rates, 3) surgical outcomes and 4) limb salvage procedure survival.

Methods: A retrospective review from our oncologic data base was performed and all patients with a proximal humerus chondrosarcoma treated with surgery were analyzed. Patients were grouped according to histological grade. Different reconstruction techniques, including osteoarticular allograft (OA), endoprosthetic replacement (EPR), alloprostheses composite (APC) or intercalary transplant were done after tumour on block resection. Post-operative complications were recorded and limb savage surgery failures classified according to Henderson classification.

Results: Thirty-seven patients were included in the study. The median age was 48±15.4 years (range, 17-75) and the mean follow-up was 84 months (range, 24-300). Ten year overall survival for the entire series was 94% (95%IC: 86-100) and 10 year event free survival was 88% (95%IC: 77-99). No patient with low or high grade proximal humerus chondrosarcoma died at the last follow-up. The two patients with dedifferentiated

chondrosarcoma died for disease. Four patients developed local recurrences (10.5%) and no one of them were grade 1 chondrosarcoma. Thirteen of the 18 patients with diagnosis of grade 1 chondrosarcoma were treated with an intralesional curettage. In the 22 remaining patients an on block resection was performed. Six post-op complications were reported after extralesional resection but no one after intralesional curettage. Five and 10 year limb salvage reconstruction survivals (n:36) were 81% (95%IC: 66-95) and 64% (95%IC:39-88).

Conclusion: Proximal humerus chondrosarcoma presented high survival rates and better prognosis compared to chondrosarcoma in pelvis or other long bones. For low grade chondrosarcoma with no soft tissue involvement curettage and bone grafting is a safe procedure, with minimal risk of complications or local recurrence. Five year limb salvage procedure survival for proximal humerus chondrosarcoma was over 80%.

Level of evidence: Level IV