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Osteosarcoma of the clavicle: a single institution experience

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Introduction: Tumors of the clavicle are very rare, with an incidence of less than 1% of all bone tumors. Osteosarcoma (OS) of the clavicle is very rare and a paucity of data in the literature on this lesion makes understanding of defining an optimal treatment. The aim of this study was to analyze oncologic outcome and complication in patients with clavicle osteosarcoma.

Methods: Between 1990 and 2013, 7 patients were treated: 4 males and 3 females, mean age of 33 years (13 - 55 years). The diagnosis was: osteoblastic OS in 3 cases, fibroblastic OS in 2 cases and chondroblastic OS in 2 cases. Five of these seven cases occurred in irradiated field and were regarded as post radiation sarcomas.

Results: At mean follow-up of 5.5 years (1.5 - 9 years), 4 patients were NED and 3 DWD. Overall survival was 57% at 4 and 8 years, higher in patients without local recurrence (p=0.0101). Patients with wide surgical margins had statistically higher overall survival (p=0.0082), survival to local recurrence (p=0.0143) and survival to metastasis (p=0.0082) than patients with marginal surgical margins. There was only one complication: a wound dehiscence that was treated with debrigment 1 week after surgery.

Conclusion: Clavicle is a rare site for osteosarcoma. Most of our cases (nearly 71,5%) were radioinduced. Disease free survival was worse than for OS of the extremities, similar to radio-induced OS. The best oncological outcome is obtained in cases with wide margins without metastases at diagnosis. Multicenter studies are needed.