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Primary malignant bone tumors of the scapula - A retrospective single-center study of 27 consecutive cases

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Primary malignant bone tumors of the scapula are very rare. Apart from limited case reports international literature on flat bone sarcoma is exiguous and not much is known about the oncological outcome.
By database analysis of the Vienna Bone and Soft Tissue Tumor Registry, we retrospectively identified 27 patients diagnosed with a primary malignant bone tumor of the scapula treated between 1954 and 2011. This included 15 males and 12 females with a mean age of 39.1 years (range, 7.5-79.3 years). The most frequent tumors were chondrosarcoma (40%), Ewing's Sarcoma/PNET (19%), Osteosarcoma (11%) and Hemangiopericytoma (7%). The average time of follow-up was 36 months (±21 month).
Eleven patients received chemotherapy and 12 had radiotherapy. Wide resection was performed in 18 patients (67%). In five patients (19%) no further resection of the tumor was performed after biopsy due to multiple metastasis or inoperability. Postoperative complications comprised two nerve lesions, one seroma, one wound necrosis, and one thrombosis of the arm. Five patients (19%) were diagnosed with metastasis after a mean time of 8 months post surgery, while two patients (7%) suffered local recurrence at an average of 8 months post surgery. The overall patient survival was 58% at one year and 24% at five years. The corresponding median survival was 17 months.

The overall prognosis of primary malignant bone tumors of the scapula remains to be inferior compared to extremity sarcoma. Large-scale studies on these rare entities will be required to identify successful adjuvant treatment regimens.

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