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Malignant bone tumors of the pelvis - biological reconstruction after surgical therapy

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Surgical treatment of malignant pelvic bone tumors can be very challenging. The objective of this retrospective study was to evaluate the oncological as well as the clinical and functional outcome after limb salvage surgery and biological reconstruction.

Methods: The files of 27 patients with malignant pelvic bone tumors, who underwent surgical resection at our department between 2000 and 2011, were retrospectively analyzed (9Ewing's sarcoma, 7 Chondrosarcom, 4 Osteosarcoma, 1 Synovial sarcoma, 1 Malignant fibrous histiocytoma and 4 carcinoma metastases).

Results: After internal hemipelvectomy reconstruction was performed by hip transposition (n=16), using autologous non-vascularised fibular graft (n=5) or autologous iliac crest bone graft (n=2). In four patients a femoral respectively a total hip prosthesis was implanted at the time of resection. The median follow-up was 33 months. 2 and 5 year disease-specific survival rates of all patients were 86.1% and 57.7% respectively. The mean functional MSTS score was 16.5 (~55%) for all patients.

Conclusion: On the basis of the oncological as well as the clinical and functional outcome, biological reconstruction after internal hemipelvectomy seems to be a reliable technique for treating patients with malignant pelvic bone tumors.

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