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The use of modular Tumourprostheses in the Treatment of skeletal Metastases

Marcel-Philipp Henrichs¹, Arne Streitbürger², Georg Gosheger³, Sebastian Bockholt³, Wiebke Guder³, Markus Nottrott³, Jendrik Harges³

¹) University Hospital Münster ²) General Orthopaedics/ Tumourorthopaedics ³) General Orthopaedics / Tumouorthopaedics, Germany

Background:

Due to advancements in the treatment of carcinomas more patients reach the stage of bone metastases and survive several months or years in that stage. Thus the surgical treatment of bone metastases gets more important. One of the main aims of the surgical treatment is a long lasting reconstruction which survives the patient. Aim of this retrospective study was to evaluate the oncological outcome, treatment related complications and function after resection of metastases and reconstruction with modular tumourprostheses.

Methods:

All patients were traced by our tumour database. Patient files were reviewed for clinical information. Additional information has been obtained using a questionnaire including the MSTS-Score. Between 1993 and 2008 we performed resection of metastases and implantation of a tumourprostheses in 82 cases (80 patients, 30 female, 50 male).

Results:

The average age of the patients was 63 years. Most common primary tumours were renal cell carcinoma (46.7%), breast-cancer (21.3%) and lung cancer (7.5%). The proximal femur was affected in 45.1%, followed by the proximal humerus (25.6%) and the distal femur (17.1%). In 22 cases the tumourprosthesis was implanted as a revision due to local tumor recurrence or failure of the former osteosynthesis.

The mean survival after the operation was 2.9 years. The survival rate was 70% at one year, 20% at five years. The implant survival was 83% after one year and 74% at five years. The overall rate of operative revisions was 18%. Function and patients' contentment after operation is good (MSTS-score: upper extremity 67%, lower extremity 63%).

Conclusion:

We show that the implantation of modular tumourprostheses can be an appropriate treatment for bone metastases. This operation has a low complication rate, patients rapidly gain a good function. Consistent with recent literature resection of the affected bone leads to an improvement of survival, especially in single metastases. Compared to other osteosynthetic devices the event free survival of the tumourprosthesis is high. Thus, even regarding the implant related costs, implantation of modular tumourprostheses might be the better option.

E-mail (main author): marcelphilipp.henrichs@ukmuenster.de