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Tumor endoprosthesis replacement after extraarticular knee resection in bone and soft tissue tumors

Jendrik Hardes¹, Marcel P. Henrichs², Sebastian Bockholt², Georg Gosheger³, Wiebke Guder², Markus Nottrott², Helmut Ahrens², Dimosthenis Andreou², Arne Streitbürger²

¹) University Clinic of Muenster, Germany ²) ³), Germany

Background: Most studies dealing with tumor prostheses around the knee describe their results after intraarticular tumor resection. The aim of this retrospective study was to report the results of tumor prostheses after extraarticular knee resection.

Methods: We evaluated the clinical results and complications after extraarticular resection of the distal femur and / or proximal tibia and reconstruction with a tumor endoprosthesis (Mutars®) used in 59 patients (mean age 33 years) with a malignant bone or soft tissue tumor.

Results: Limb survival was 80% after a mean follow-up of 53 months. Periprosthetic infection was the most common cause for secondary amputation (eight patients). Prosthetic failure was mainly caused by periprosthetic infection in 37%, aseptic loosening in 17% and periprosthetic fracture in 10% of patients. Wear of the bushings made a minor revision necessary in 20% of patients. The mean musculoskeletal tumor society score was 23 (range; 10 to 29). An active extension gap over 10° was obvious in ten patients.

Conclusion: Our results suggest that limb salvage with tumor prostheses after extraarticular resection can achieve good functional results in the majority of patients, but the complication rate and secondary amputation rate is higher compared to patients treated with an intraarticular resection.

E-mail (main author): hardes@uni-muenster.de