

**PP-196****Decreased periprosthetic infection rate using silver-coated megaprotheses**

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Introduction: Infection of megaprosthesis reconstructions is a major concern. Silver coating of prostheses can decrease infection or reinfection rate due to release of silver ions. We performed this study to present the outcome of 20 patients who were treated with silver-coated megaprotheses, aiming to provide useful insights into the antimicrobial effects of this kind of implants.

Methods: We prospectively studied 20 patients (5 men and 15 women; mean age, 56.2 years; range, 26-78 years) admitted and treated at our institution for reconstruction of large bone defects with silver-coated megaprotheses over a 2-year period (2013-2015). Indications for the use of these megaprotheses were primary reconstruction after tumor resection (9 patients) and revision surgery after infected total hip (7 patients), total knee (3 patients) arthroplasty or osteosynthesis (1 patient). Reconstruction sites involved the total femur (4 patients), proximal femur (9 patients), distal femur (4 patients), proximal tibia (1 patient) and proximal humerus (2 patients). Mean length of resection/bone defects was 18.3 cm (range, 6-42 cm). Mean follow-up was 13.8 months (range, 4-24 months).

Results: Infection rate was 10%. Local or systemic silver-associated side-effects were not observed. Two patients (10%) experienced infection of their silver-coated megaprosthesis reconstruction. A female patient with multiple unsuccessful revision operations for *Staphylococcus warneri* infected total hip arthroplasty was initially treated with a proximal femoral silver-coated megaprosthesis after two-stage revision. She experienced infection recurrence and was finally treated successfully with a silver-coated total femoral megaprosthesis after another two-stage revision. A second female patient presented with multidrug resistant *Klebsiella pneumoniae* infection after a third revision of total hip arthroplasty. She was treated with a silver-coated proximal femoral megaprosthesis; however, she died from septicemia.

Conclusion: Silver-coating of megaprotheses seems promising. Reduced rates of infection and revision surgery are expected by using these prostheses.