

Free Papers D

[071] SILVER-COATED MEGAPROSTHESES OF THE PROXIMAL TIBIA IN PATIENTS WITH BONE SARCOMA: DOES SILVER PREVENT INFECTION?

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Aim: In patients with bone sarcoma, placing megaprotheses in the proximal tibia is associated with high rates of infection. In studies with small numbers of patients and short follow-up periods, silver-coated megaprotheses have been reported to lead to reduced infection rates. To the best of our knowledge, this study is the largest one that has compared the infection rates with titanium versus silver-coated megaprotheses in patients treated for sarcomas in the proximal tibia.

Method: The infection rate in 98 patients with sarcoma or giant cell tumour in the proximal tibia who underwent placement of a titanium (n = 42) or silver-coated (n = 56) megaprosthesis* was assessed, along with the treatments administered for any infection.

Results: As the primary end point of the study, the rates of infection were 16.7% in the titanium group and 8.9% in the silver group, resulting in 5-year prosthesis survival rates of 90% in the silver group and 84% in the titanium group. Overall, seven of 56 patients in the silver group (12.5%) developed periprosthetic infection. Two patients became infected after revision surgery due to mechanical failure of the prosthesis. In the titanium group, one patient developed a periprosthetic infection after revision surgery (which was carried out in 50% of patients) due to a mechanical prosthetic failure, leading to an overall infection rate of 19.0% (eight of 42). Overall, nine of 12 (75%) periprosthetic infections in the two groups occurred within the first 2 years postoperatively, if later revision surgery due to mechanical failure was not necessary. Whereas three of the eight patients in the titanium group (37.5%) ultimately had to undergo amputation due to infected proximal tibia replacement, these mutilating surgical procedures were necessary in the silver group in only one patient (14.3%). In the titanium group, two-stage revision surgery with a temporary antibiotic-impregnated cement spacer was ultimately successful in four of eight patients (50.0%), but this procedure was necessary in only one patient in the silver group (14.3%).

Conclusions: The use of silver-coated prostheses reduced the infection rate in a relatively large and homogeneous group of patients. In addition, less aggressive treatment of infection was possible in the group with silver-coated prostheses.

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