

12 Best Papers

[O117] ANTIBIOTIC-LOADED HYDROGEL COATING TO PREVENT EARLY POST-SURGICAL INFECTION AFTER JOINT ARTHROPLASTY. RESULTS FROM A MULTI-CENTER EUROPEAN TRIAL

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Aim: Infection remains among the first reasons of failure of joint prosthesis. According to various preclinical reports, antibacterial coatings of implants may prevent bacterial adhesion and biofilm formation. Aim of this study is to present the first clinical trial on an antibiotic-loaded fast-resorbable hydrogel coating*, in patients undergoing hip or knee prosthesis.

Method: In this multi-center, randomized, prospective, study, a total of 380 patients, scheduled to undergo primary or revision total hip or knee joint replacement, using a cementless or a hybrid implant, were randomly assigned, in six European orthopedic centers, to receive the antibiotic-loaded DAC coating or to a control group, without coating. Pre- and post-operative assessment of clinical scores, wound healing, laboratory tests and x-ray were performed at fixed time intervals.

Results: Overall 373 patients were available at a minimum follow-up of 6 months (maximum 24 months). On average, wound healing, laboratory tests and radiographic findings did not show any significant difference between the two-groups. Eleven early surgical site infections (6%) were observed in the control group, compared to one (0.6%) in the treated group ($p=0.003$). No local or systemic side effects related to DAC hydrogel coating were observed and no detectable interference with implant osteointegration was noted.

Conclusions: The use of a fast-resorbable, antibiotic-loaded hydrogel implant coating provides a reduced rate of early surgical site infections after hip or knee joint replacement using cementless or hybrid implants, without any detectable adverse event or side effects.

*Defensive Antibacterial Coating, DAC®