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[O66] IS AN ANTIBIOTIC-LOADED HYDROGEL COATING ABLE TO REDUCE EARLY POST-SURGICAL INFECTION AFTER INTERNAL OSTEOSYNTHESIS?

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Aim: Aim of this study is to present the first clinical trial on an antibiotic-loaded fast-resorbable hydrogel coating*, in patients undergoing internal osteosynthesis for closed fractures.

Method: In this prospective, multi-center, randomized, controlled, prospective study, a total of 260 patients were randomly assigned, in five European orthopedic centers, to receive the antibiotic-loaded DAC coating or to a control group, without coating. Pre- and post-operative assessment of laboratory tests, wound healing, clinical scores and x-rays were performed at fixed time intervals.

Results: 253 patients were available at follow-up. On average, wound healing, clinical scores, laboratory tests and radiographic findings did not show any significant difference between the two groups. Six early surgical site infections (4.6%) were observed in the control group compared to none in the treated group ($p < 0.02$). No local or systemic side effects related to DAC hydrogel coating were observed and no detectable interference with bone healing was noted.

Conclusions: The use of a fast-resorbable, antibiotic-loaded hydrogel implant coating provides a reduced rate of early surgical site infections after internal osteosynthesis for closed fractures, without any detectable adverse event or side effects.

*Defensive Antibacterial Coating, DAC®