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Is Daptomycin a new key to solving the problem of Prosthetic Joint Infection?

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The aim: The aim of our study is to evaluate the possibility of using daptomycin in children and adults after implantation endoprosthesis.

Materials: There were 30 patients with cancer of bone, who underwent primary or repeat implant's replacement from 03.2010 to 05. Min. age 10, max. 48 years. Children under 14 used a dose 8-10mg/kg/day. Adults – 10-12mg/kg/day. Duration of the course in prevention of infection (due to the high risk of infection) varied introduction of 5 to 16 days. In the treatment of infection rate ranged from 14 days to 36. At high risk of infection, we mean: the patients with resection of the proximal tibia, with a deficit of soft tissue to cover the endoprosthesis, an extensive skin necrosis in the postoperative scar, reimplantation. At 1/30 (0.3%) patient developed an allergic reaction in the form of urticaria. For the treatment infection of the endoprosthesis bed daptomycin was used in 11 patients. Only in 8 out of 11 cases we had bacteriological seeding. In others cases – only indirect signs. In 6 out of 8 MRSE flora was detected, in 2 out of 8 - MSSA. Ineffectiveness of daptomycin revealed only one out of 8 patients - 12% with the agent of MSSA. In this patient during surgery revealed osteomyelitis-spoke - MSSA, for a long time to receive preventive therapy daptomycin 500mg/day - without effect, the patient was removed implant, the defect is replaced by a spacer from the bone cement with gentamicin - pus from the wound continues to stand out; bacteriological crops - without any flora.

Result: In all cases, the use of daptomycin for the prevention of infectious complications in high-risk after implantation, we have not received manifestation of any complications. In the case of the treatment of established infectious complications - efficiency was 10 of 11.

Conclusion: The use of the drug daptomycin in children and adults after using of tumor endoprosthesis, as a preventive antibiotic treatment is justified only for a group of patients at high risk of possible complications. Treatment of infections implant bed with daptomycin - effective, but requires further careful observation and analysis.

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