Probabilistic chemotherapy in knee and hip replacement infection: the place of linezolid

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Mots-clés	Probabilistic antibiotics [16], Prosthetic joint infection [17]
Résumé en anglais	Prosthetic joint infection (PJI) can occur with a wide range of microorganisms and clinical features. After replacement surgery of prosthetic joint, prescription of probabilistic broad-spectrum antimicrobial therapy is usual, while awaiting microbial culture results. The aim of our study was to describe the antibiotic susceptibility of microorganisms isolated from hip and knee PJI. The data were collected to determine the best alternative to the usual combination of piperacillin-tazobactam (TZP) or cefotaxime (CTX) and vancomycin (VAN). Based on a French prospective, multicenter study, we analyzed microbiological susceptibility to antibiotics of 183 strains isolated from patients with confirmed hip or knee PJI. In vitro susceptibility was evaluated: TZP+VAN, TZP+linezolid (LZD), CTX+VAN, and CTX+LZD. We also analyzed resistance to different antibiotics commonly used as oral alternatives. Among the 183 patients with PJI, 62 (34%) had a total knee prosthesis, and 121 (66%) a hip prosthesis. The main identified bacteria were Staphylococcus aureus (32.2% of isolates), coagulase-negative staphylococci (27.3%), Enterobacteriaceae (14.2%), and Streptococcus (13.7%). Infections were polymicrobial for 28 (15.3%) patients. All combinations were highly effective: CTX+VAN, CTX+LZD, TZP+VAN, and TZP+LZD (93.4%, 94%, 98.4%, and 98.9% of all cases respectively). Use of LZD instead of VAN in combination with a broad-spectrum beta-lactam covers almost all of the bacteria isolated in PJI. This association should be considered in probabilistic chemotherapy, as it is particularly easy to use (oral administration and no vancomycin monitoring).

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