

USE OF RIFAMPICIN FOR THE TREATMENT OF TWO-TIME SURGERY FOR PROSTHETIC JOINT INFECTIONS: A MULTICENTRE RETROSPECTIVE STUDY

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Aim

The treatment of a chronic prosthetic joint infection (PJI) is a combination of the bacteria's identification, a «carcinological» surgery and an appropriate antibiotherapy. In case of gram positive cocci infection, rifampicin is often used.

The aim of this study is to determine which factors are responsible for the development of resistance to rifampicine.

Method

All patients had a total hip (THA) or knee (TKA) arthroplasty with a chronic infection. They were treated with a two-time surgery. All of them received a bi-antibiotic treatment. In case of gram positive cocci infection, and according to the susceptibility test, they received rifampicin. The 221 patients were operated from July 1997 to November 2013 in 3 university centers (one Belgian and two French) and were retrospectively analysed. The demographical, clinical and bacterial data as well as the antibiotic treatment were collected. The healing was defined as the absence of recurrence during the 2 years following surgery.

Results

Among the 221 patients (from 22 to 91 years old, median age: 67), 133 (60%) had a THA infection. 22% of the peroperative samples collected during the first time surgery were sterile. 64% were mono-microbial and 14% were poly-microbial. For 69% of them, gentamycin-impregnated spacers were used and for 26% of them vancomycin and gentamycin-impregnated spacers were used. The median delay for the second time surgery was 52 days (15 to 221 days). The healing was higher for the patients treated by an antibiotic combination with rifampicin than the others (86 vs 72%; $p=0.02$). In the same way, the healing rate was higher in patients where the delay between the two surgeries was less than one month (91 vs 77%; $p=0.09$). There were more recurrence in TKA than in THA (30% vs 13%, $p=0.006$). 12 % of the patients showed a persistence of the germ or the emergence of a new microorganism with a comparable antibiogram. A resistance to rifampicin during the second surgery appears in 9 % of cases.

Conclusions

Theses study results suggest the benefit of the use of rifampicin for the treatment of gram positive cocci prosthetic joint infections treated by a two time surgery. In all cases, intravenous antibiotic therapy was maintained until the wound was closed to decrease the emergence of resistance.

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