Background

Staphylococci are the most frequent bacteria in PJI. In patients with acute PJI (i.e. <1 month following the implantation), DAIR with exchange of removal components followed by a combination of antibiotics including rifampin (RMP) (particularly RMP + fluoroquinolone) are recommended. Unfortunately, some patients could not receive RMP due to drug-drug interaction or stopped it due to an adverse event. Finally, it is unclear if the dose and the duration of RMP influenced the prognosis.

Results

79 patients were included (median age: 71 years [IQR 53-89]; 55 men [69.6 %]; median ASA score: 2 [IQR 2-3]). Cultures revealed 65 (82%) S. aureus and 15 (19%) coagulase negative staphylococci infections, including 14 methicillin-resistant strains (18 %). Among all isolates, only 2 (3%) were resistant to RMP and 16 (20%) were resistant to fluoroquinolone. The median duration of antimicrobial therapy was 92 days (IQR 31-152). Only 59 patients received RMP (75%), and 35 (44%) the combination RMP + fluoroquinolone. Median duration of RMP was 57 days (IQR 16-86) and median dose 14.6mg/kg/d (IQR 13-17). Forty patients (51%) received RMP in the first 2 weeks and 43 patients (54%) received at least 2 weeks of RMP. Six patients (8%) developed an adverse event leading to RMP interruption. During a median follow-up of 443 days (IQR 220-791), 21 patients (27%) experienced a treatment failure including 12 persistence of the initial pathogen (57%) and 9 superinfections (43%).

Method

Retrospective cohort study in 4 hospitals (Hospices Civils de Lyon, CH métropole Savoie, CHU Clermont-Ferrand, CHU de St-Etienne) including patients with staphylococcal acute post-operative PJI treated with DAIR in 2011-2016. Univariate and multivariate Cox analysis and Kaplan Meier curves were used to determine the risk factors for treatment failure.

Conclusions

In patients with staphylococcal acute PJI, the use of RMP and its duration strongly influenced the prognosis. As 25% of patients could not receive RMP, new drugs with anti-biofilm activity are required.

IPASTAPH Study Group

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