

P0732 **Clinical outcome and risk factors for failure in late acute prosthetic joint infection treated with debridement and implant retention**

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Background: At the moment the same treatment strategy is recommended for all acute prosthetic joint infections (PJI). Its efficacy in patients with late acute (LA) PJI, which are presumed to be mostly hematogenous of origin, is not well described. We determined the clinical outcome in LA PJIs treated with debridement, antibiotics and implant retention (DAIR) and identified risk factors for failure.

Materials/methods: An international multicenter retrospective cohort study was performed on consecutive patients with LA PJI between 2005 and 2015. LA PJI was defined as the development of acute symptoms (≤ 3 weeks) occurring ≥ 3 months after arthroplasty. Failure was defined as: i) the

need for implant removal, ii) death due to the infection, iii) the need for suppressive antibiotic therapy and/or iv) relapse or reinfection during follow-up.

Results: 340 patients from 27 centers were included. The overall failure rate was 45.0% (153/340). Failure was dominated by PJI caused by *Staphylococcus aureus* (failure rate of 54.7%, 76/139). Significant independent preoperative risk factors for failure according to the multivariate analysis were: fracture as indication for the prosthesis (odds ratio (OR) 5.4), rheumatoid arthritis (OR 5.1), age above 80 years (OR 2.6), male gender (OR 2.0) and C-reactive protein > 150 mg/L (OR 2.0). Exchanging the mobile components during DAIR was a strong predictor for treatment success (OR 0.35).

Conclusions: LA PJIs have a high failure rate. Treatment strategies should be individualized according to the patients' age, comorbidity, clinical presentation and microorganism causing the infection.

