



The prognosis of streptococcal prosthetic bone and joint infections depends on surgical management-A multicenter retrospective study

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BACKGROUND: The optimal treatment of streptococcal prosthetic joint infections (PJIs) is unclear.

METHODS: A cohort of streptococcal PJIs was reviewed retrospectively in seven reference centers for the management of complex bone and joint infections, covering the period January 1, 2010 to December 31, 2012.

RESULTS: Seventy patients with monomicrobial infections were included: 47 had infections of total hip arthroplasty and 23 had infections of total knee arthroplasty. The median age was 77 years (interquartile range (IQR) 69-83 years), the median Charlson comorbidity score was 4 (IQR 3-6), and 15.6% (n=11) had diabetes. The most commonly identified streptococcal species were *Streptococcus agalactiae* and *Streptococcus dysgalactiae* (38.6% (n=27) and 17.1% (n=12), respectively).

Debridement, antibiotics and implant retention (DAIR) was performed after a median time of 7 days (IQR 3-8 days), with polyethylene exchange (PE) in 21% of cases. After a minimum follow-up of 2 years, 27% of patients had relapsed, corresponding to 51.4% of DAIR treatment cases and 0% of one-stage (n=15) or two-stage (n=17) exchange strategy cases. Rifampicin or levofloxacin in combination therapy was not associated with a better outcome (adjusted p= 0.99). *S. agalactiae* species and DAIR treatment were associated with a higher risk of failure. On multivariate analysis, only DAIR treatment and *S. agalactiae* were independent factors of relapse. Compared to DAIR without PE, DAIR with PE was only associated with a trend towards a benefit (odds ratio 0.33, 95% confidence interval 0.06-1.96; adjusted p= 0.44).

CONCLUSIONS: Streptococcal PJIs managed with DAIR have a poor prognosis and *S. agalactiae* seems to be an independent factor of treatment failure.

Résumé en anglais

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