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Two-Stage Reimplantation in Patients Requiring an Interim Spacer Exchange for Periprosthetic Joint Infection is Associated with Poorer Functional Outcomes

Adult Reconstruction Hip Poster Session 1
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INTRODUCTION:
Patients undergoing a 2-stage revision for periprosthetic joint infection may often require a repeat spacer in the interim (removal of existing spacer with insertion of a new spacer) due to persistent infection. The presence of a spacer exchange has been associated with poorer clinical outcomes than generally expected from a 2-stage revision arthroplasty. Patient-reported outcome measures (PROMs) are becoming an increasingly important tool in total joint arthroplasty outcomes research as these provide a mechanism for quantifying the clinical effectiveness of a procedure. However, as the effect of a repeat spacer exchange on patient outcomes remains largely unknown, this study aims to investigate whether a repeat spacer exchange in the interim is associated with worse patient-reported and clinical outcomes.
METHODS:
A total of 110 consecutive hip or knee 2-stage revisions with reimplantation and minimum 1-year follow up were investigated in this retrospective study. An interim spacer exchange was performed in 21 patients (exchange cohort). Patient demographics as well as infection organism-related factors were collected for the exchange and non-exchange group. Patient-reported outcomes (PROMs) and clinical outcomes including reinfection, rerevision, readmission rates, and time to implantation were compared between both cohorts. Statistical analysis was performed using a non-parametric Mann-Whitney test.
RESULTS:
Both study cohorts were matched with respect to patient demographics (Table 1). There was no significant difference in preoperative PROMs between both groups, with the exchange group demonstrating significantly lower postoperative PROMs for KOOS PS (44.5 vs. 52.8; p=0.05) and Physical SF 10A (30.8 vs. 34.2; p=0.03). Patients in the exchange group had a significantly prolonged time to reimplantation (p<0.001) and increased 1-year amputation rates (30.8 vs. 34.2; p=0.03). There was no significant difference between both cohorts with respect to reinfection rates and prevalence of resistant organisms.
DISCUSSION AND CONCLUSION: This is one of the first studies to demonstrate that patients requiring an interim spacer exchange have lower postoperative patient-reported outcome measures. The poorer functional outcomes are accompanied by a prolonged time to reimplantation and increased 1-year complication rates, indicating that an interim spacer exchange in 2-stage revision is associated with worse patient outcomes

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