

Rates of Persistent Infection in Patients Referred with Antibiotics Spacers Placed Elsewhere

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INTRODUCTION: Occasionally patients undergo total knee or hip resection for periprosthetic joint infection (PJI) and are then referred to another institution for reimplantation. This creates a difficult decision of whether to re-resect or reimplant the joint. The purpose of this study was to report the rate of persistent PJI in these patients and identify predictors of persistent infection.

METHODS: From 2000-2020, there were 170 patients (87 knees, 83 hips) referred to our institution following joint resection for PJI. All knees and 90% of hips had an antibiotic spacer in place. Eight hips had a Girdlestone resection without an antibiotic spacer. Mean age was 63 years, mean BMI was 35 kg/m² and 51% were males. Presenting ESR, CRP, joint aspiration and intraoperative pathology were evaluated for association with positive cultures from the initial surgery at our institution.

RESULTS: Presenting ESR was >30 mm/h and CRP >10 mg/L in 39% and 43% of cases, respectively. Cultures obtained at the first surgery following joint resection were positive in 26% of cases (30% in hip and 23% in knee). Elevated ESR and CRP were associated with positive intraoperative cultures from the hips ($p=0.006$) but were not associated with positive intraoperative cultures from the knees ($p>0.05$). Preoperative aspiration and acute inflammation on intraoperative pathology were not associated with positive cultures from either joint ($p>0.05$ for all).

DISCUSSION AND CONCLUSION: One in four patients referred following hip or knee resection for PJI at another institution have persistent infection. Although preoperative serology predicted culture positivity in hips, we did not identify a reliable way to determine which patients remain persistently infected. Surgeons should have a high suspicion for persistent PJI in patients referred for definitive reimplantation when the resection was performed elsewhere.