Are Real Component Articulating Spacers a Safe and Effective Option Compared to All Cement Spacers for the Treatment of Prosthetic Joint infection in Total Knee Arthroplasty?

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INTRODUCTION: Articulating spacers, used in two-stage treatment of total knee arthroplasty (TKA) prosthetic joint infection (PJI) can be all-cement or one can implant real femoral and polyethylene tibial components. We aim to demonstrate if real-component (RC) spacers are a safe, effective alternative to all-cement (AC) spacers.

METHODS: This ongoing retrospective review examines all patients that underwent spacer placement at our institution between March 2019 and April 2023 and assessed the following metrics for each patient: demographics (age, sex, BMI), baseline health (Charlson Comorbidity Index (CCI), smoking status, diabetes), surgical details (operating time, blood loss, length of stay), discharge status, and outcomes based on MSIS successful management guidelines.

RESULTS: 31 RC and 16 AC patients had similar baseline characteristics without significant differences, except in regards to CCI. CCI mean was 3.82 [2-7] for RCs and 2.62 [0-7] for ACs (p=0.04). No significant differences were identified in the first stage procedure metrics. At second stage, RC mean surgical time (125 vs 148 minutes; p=0.16) and length of stay (1.65 vs 2.5 day, p=0.06) were shorter. Less RC patients were Tier 1 with controlled infections not requiring chronic suppression (42% versus 68%); as well as less RC patients were Tier 3B or 3D requiring septic revision (9.6% versus 12.5%). In the RC group, 5 patients were Tier 3F and not candidates for replant (16%), 1 required above knee amputation (3.2%), 4 have plans for replant (12.9%), 5 were satisfied with their spacer and do not desire a replant procedure (16%). In the AC group, 18.5% of patients were Tier 3F with retained spacers and were not candidates for replant procedure.

DISCUSSION AND CONCLUSION: Based on preliminary data, RC spacers appear to be a safe, effective alternative to AC spacers in patients with TKA PJI, which may allow patients the option of forgoing second-stage procedure.