No Difference in Infection Eradication, Complications, or Reoperations in Patients Undergoing '1.5-Stage' Articulating Spacers for Prosthetic Joint Infection Following Total Hip Arthroplasty

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INTRODUCTION:

There are varying spacer protocols for prosthetic joint infections (PJIs) after total hip arthroplasty (THA). A "1.5-stage exchange" can be utilized, which may provide similar infection eradication rates, function and less morbidity for the patient. However, data on the outcomes of this procedure is relatively scarce. The purpose of this study was to evaluate complication rates, reoperations, and infection eradication in patients treated with 1.5-stage articulating spacers compared to those who underwent 1-stage or 2-stage exchange arthroplasty for periprosthetic joint infection following THA.

METHODS:

This was a retrospective review done at a single high-volume institution that included 285 patients from 2017-2023. Patients were categorized into 3 cohorts: 1-stage, 1.5-stage, and 2-stage group. Patients who received an all-polyethylene acetabular component with a real femoral component and did not undergo another revision surgery in 9 months were considered a 1.5-stage surgery. We collected data on implants used and postoperative reoperation/re-revision rates. A Kaplan-Meier curve was used to evaluate time to failure between the 3 cohorts.

RESULTS: 69 patients (24.2%) were in the 1 stage group, 73 (25.6%) in the 1.5 stage group, and 143 (50.2%) in the 2-stage group. Reoperation/re-revision rates were comparable across all 3 procedure types as was time to failure. A Kaplan-Meier plot comparing time to failure between the groups showed 3-year survivorship of 80.9%, 90.4%, and 81.8% for 1-, 1.5-, and 2-stage exchange, respectively. There was no difference in infection eradication between the 3 cohorts.

DISCUSSION AND CONCLUSION: This study found no difference in re-operation rates and complications between 1-, 1.5-, and 2-stage exchange for the treatment of THA PJI. Given the comparable infection eradication rates among the 3 groups, 1.5-stage surgery is a reasonable option for appropriate patients, as it may be associated with reduced morbidity and health care costs compared to 2-stage surgery.