

Total Joint Arthroplasty Complications in Dialysis and Renal Transplant patients

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INTRODUCTION: Patients with end-stage renal disease (ESRD) and a history of renal transplant (RT) carry increased risks for perioperative complications including periprosthetic joint infection (PJI), overall reoperation rate, and mortality. This study compares medical and surgical complications after primary total joint arthroplasty (TJA) in patients with ESRD on dialysis versus those status-post RT.

METHODS: A single center retrospective review of all primary TJA in ESRD or RT patients performed from 2013-2023 were identified. Post-operative complications including mortality, reoperation rate, or unplanned readmission were identified. Fisher's exact test was used to compare unplanned readmissions between groups.

RESULTS: In total, 63 patients with 76 TJAs (25 knees and 51 hips) were included, with 39 in the ESRD cohort and 24 in the RT cohort. There are no significant differences in age between groups (61.8 ± 12.4 years ESRD, 58.9 ± 14.7 years RT). Mean follow-up was 2.2 ± 3.4 years. The overall mortality rate was 4.76% (2/39 ESRD, 1/24 RT), and 4.8% (3/63) patients underwent revision surgery (1/39 ESRD, 2/24 RT) for instability. Manipulation under anesthesia was required for 12.0% (3/25) of TKA patients (3/15 ESRD; 0/10 RT). Unplanned readmissions within 90 days were reported for 25.4% (16/63) of patients (7/39 ESRD, 9/24 RT). No patients were diagnosed with PJI during the study period. There were no differences in two-year mortality rate, readmissions, revisions, or unplanned admissions between RT and ESRD patients at our institution ($p > 0.05$ for all).

DISCUSSION AND CONCLUSION: The findings of this study show that both ESRD and RT patients are considered high-risk for TJA. ESRD patients had higher MUA rates than RT patient at our institution. In our cohort, there is a relatively high rate of 2-year mortality, however there was no difference in two-year mortality rate, readmissions, revisions, or unplanned admissions between the RT and ESRD groups.