Timing of Renal Transplant Prior to Total Hip Arthroplasty Impacts Two-Year Post-Operative Outcomes

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INTRODUCTION:
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Renal transplant (RT) patients are at increased risk for complications after total hip arthroplasty (THA); however, it is unknown if the time from RT to THA influences such risks. This study evaluated RT patients undergoing primary THA at various time intervals after transplant. We hypothesized that increased time between RT and THA would decrease the risk of complications after THA.
METHODS:
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A national database was utilized to review 737 RT patients undergoing subsequent primary THA for osteoarthritis (OA) and avascular necrosis (AVN) between 2010 and 2020. Patients were stratified by intervals of less than one year (N=95), between one to two years (N=142), and greater than two years (N=500) from RT to THA. Medical complications up to 90 days, readmissions, and two-year revisions were compared via univariable and multivariable analyses.
RESULTS:
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When compared to patients who underwent THA less than one year after RT, those who underwent THA greater than two years after RT were less likely to have 90-day acute kidney injury (AKI) (OR 0.55, CI 0.35-0.88 p=0.01) and wound dehiscence (OR 0.36, CI 0.15-0.88 p=0.04). RT after two years was also associated with a decreased risk of periprosthetic fracture (OR 0.16, CI 0.02-0.98 p=0.05). When controlling for age, gender and Charlson comorbidity index, patients who underwent RT greater than two years after RT remained less likely to have an AKI within 90-days of surgery (OR 0.56, CI 0.35-0.91 p=0.05). Multivariable regression analyses did not demonstrate an association with time from RT to THA and all-cause revision at two years.
DISCUSSION AND CONCLUSION:
Conclusion:
RT patients who underwent THA at least two years from transplant have a decreased risk of acute postoperative medical complications and periprosthetic fracture. Although surgical timing is patient-specific, awaiting two years after RT before proceeding with THA may be advantageous.