

Pearson Gean – 2021 – RRD - THA Before or After Renal Transplantation?

Background:

End stage renal disease (ESRD) frequently leads to osteonecrosis of the femoral head, leading to high rates of total hip arthroplasty. There is limited data comparing the outcomes in THA between patients with prior renal transplantation and dialysis patients. Limited studies have suggested that total joint arthroplasty (TJA) outcomes are better after renal transplant; however, these studies used all dialysis patients as a single group, rather than differentiating patients which may be transplant candidates with those that are not. These patients may experience undue pain while waiting for renal transplant prior to THA.

Methods:

A national insurance database was used to identify patients with ESRD who underwent THA between 2010 and 2017. These patients were placed into three mutually exclusive groups: patients with ESRD who underwent THA, patients who underwent THA after renal transplantation, and patients with ESRD that had THA before transplantation. There were 1054, 787, and 100 patients in these groups respectively. The 90 day outcomes, rates of reoperation for the first two years, and cost of hospital stay were compared between these groups.

Results:

Patients with ESRD, whether going on to future renal transplantation or not, were at an increased risk of of sepsis (OR 1.91, 95% CI 1.08-3.29, p=0.022) and readmission (OR 1.80, 95%CI 1.10-2.91, p=0.018) after THA compared with patients after renal transplantation. Patients with arthroplasty prior to transplant had higher rates of revision at increased risk of reoperation at one year (OR 2.75, 95% CI 1.03-7.11, p=0.049) and two years (OR 2.77, 95%CI 1.01-6.83, p=0.034), higher hospital costs (\$5,698 ± 17,269), and higher 90 day postoperative costs (\$8,209 ± 17,168, p=0.001) compared to patients with prior transplantation.

Conclusion:

Patients with renal transplantation prior to THA had significantly better outcomes, fewer reoperations, and cheaper hospital and postoperative costs than patients with ESRD that underwent THA prior to transplantation.