

Abstract:

Background: Despite successful recovery from total knee arthroplasty (TJA), it is unclear whether TJA patients can lose weight and improve overall health measures. The ability to exercise after TJA is thought to improve cardiovascular health and decrease weight. With the increasing obesity epidemic, it is important to understand the role of TJA and injections in improving diabetes management and systemic health postoperatively in type 2 diabetic patients.

Methods: A retrospective review of diabetic patients, 80 undergoing primary TJA and 48 undergoing intra-articular injections, was performed to assess trends in laboratory outcomes post intervention. Age, gender, BMI, ASA, ethnicity, and medical comorbidities were compared between surgical and injection groups to assess baseline characteristics. 6-month pre and post intervention hemoglobin A1c (HbA1c), albumin, cholesterol panel, systolic blood pressure, and BMI measurements were recorded to assess overall health and diabetes management.

Results: Compared to the surgical cohort, injection patients were more likely to be on insulin and had higher pre-intervention HbA1c levels. There was no statistically significant change in 6-month pre-intervention HbA1c, albumin, triglycerides, HDL, blood pressure, and BMI compared to 6-month post-intervention. In both groups, overall HbA1c levels increased by 0.2. Injection-only patients had a significant decrease in LDL and total cholesterol.

Conclusions: Although weight loss is recommended for diabetic patients prior to TJA, it is unclear whether TJA can assist with improved diabetic management, weight loss, and overall health markers. In diabetics not optimized for surgery, corticosteroid injections can be considered.

Significance: The interplay between type 2 diabetes and osteoarthritis is complex as are the treatments. The impact of osteoarthritis treatments on both the short and long-term health of diabetics is poorly understood. Therefore, this study aims to better understand the impact of various injections as well as total joint arthroplasty on health markers in diabetics.