

A Propensity Score-Matched Comparison of Semaglutide Use in Patients Undergoing Hip or Knee Arthroplasty

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INTRODUCTION: The use of glucagon-like peptide-1 (GLP-1) agonists for weight loss has increased in recent years. Prior database studies on GLP-1 agonist use in patients undergoing hip or knee arthroplasty lack granularity on medication dosing and time course. This study retrospectively assessed if semaglutide use was associated with increased complications following total hip or knee arthroplasty using propensity score matching.

METHODS: All semaglutide prescriptions were identified at a single academic institution and cross-referenced for those who underwent total hip or knee arthroplasty. Patients were excluded if they discontinued this medication within three months of surgery. A total of 68 patients were identified and compared to a 2:1 propensity score matched cohort. Rates of delayed wound healing, superficial surgical site infections, periprosthetic joint infections, narcotic refills, gastrointestinal complications, myocardial infarctions, acute kidney injuries, and urinary tract infections were all compared. A subanalysis of the semaglutide cohort was also stratified by medication dose and if patients discontinued their medication within three months of surgery. Chi-squared, Fisher's exact test, and t-tests were utilized for statistical comparisons.

RESULTS:

There were no significant demographic differences between the two cohorts. There were no differences in rates of postoperative complications between the semaglutide and propensity score matched cohorts. Patients on a lower dose of semaglutide (< 0.75 milligram/dose) were significantly more likely to refill their narcotics post-operatively than patients on a higher dose (> 0.75 milligram/dose) (43.5% versus 18.4%, $p=0.0344$). There were no other differences when analyzing dosing of semaglutide, and there were no differences in postoperative complications for patients who maintained versus discontinued their medication within three months of surgery.

DISCUSSION AND CONCLUSION: Semaglutide use was not associated with increased complications following hip and knee arthroplasty, and the dose of semaglutide or discontinuation of it within three months of surgery was not associated with post-operative complications.