Trends, Demographics, and Outcomes for Glucagon-Like Peptide-1 Agonist Use in Total Hip Arthroplasty: An 11-Year Perspective

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INTRODUCTION:

Obesity and diabetes mellitus (DM) pose challenges for total hip arthroplasty (THA) patients, increasing the risk of complications and prolonging hospital stays. Glucagon-like peptide-1 agonists (GLP-1Ag) have emerged as promising agents for managing weight and glycemic index in these patients. The purpose of this study is to determine how GLP-1Ag affect THA outcomes, and to explore trends of perioperative GLP-1Ag use in patients undergoing THA. METHODS:

A retrospective review identified 454 primary, elective THAs with perioperative GLP-1Ag use and at least 90 days of clinical follow-up at an urban academic health system from 2012 to 2023. A ten-to-one propensity score match based on demographic variables created a cohort of 4,540 THAs without GLP-1Ag use for comparison. Rates of same-day surgery cancellation, length of stay (LOS), discharge disposition, additional hospital encounters, and revision rates were assessed.

RESULTS:

Patients taking GLP-1Ag had comparable BMIs to matched controls, but significantly higher mean Charlson Comorbidity Index (CCI), preoperative hemoglobin A1C, and rates of DM (P<0.001 for all). Semaglutides were the most commonly prescribed GLP-1Ags, comprising 43.4% of all prescriptions. The GLP-1Ag and matched control groups demonstrated comparable rates of same-day cancellations (P=0.516); the GLP-1 group had zero cancellations due to retained gastric contents. GLP-1Ag users had higher rates of 90-day ED visits (4.3% vs. 6.8%, P=0.024) but no significant differences in 90-day readmissions (6.0% vs. 4.4%, P=0.174) compared to matched controls. Both groups demonstrated comparable rates of revision at two-years (3.7 vs. 3.9%, P=0.999) and at latest follow-up (4.7 vs. 4.6%, P=0.999). DISCUSSION AND CONCLUSION:

Our results demonstrate that use of GLP-1Ag in the perioperative period surrounding THA is safe with non-inferior clinical outcomes compared to matched controls, despite GLP-1Ag patients having higher CCI scores, preoperative A1Cs, and higher rates of diabetes and insulin use. Further investigations, with longer follow up, are warranted to explore the broader impact of GLP-1Ag on surgical outcomes.

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