GLP-1 Receptor Agonists Decrease Medical Complications, Surgical Complications, and Readmission Rates Following Total Hip Arthroplasty

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INTRODUCTION:
Obesity is known to increase perioperative risk in total hip arthroplasty (THA). Glucagon-like peptide-1 receptor agonists (GLP1-RA) have become popularized due to their effectiveness as weight loss medications. The purpose of this study was to determine the effects of obese patients with osteoarthritis (OA) taking GLP1-RA.
METHODS:
All obese patients with OA undergoing primary THA from 2010 to 2022 were identified using an insurance claims database (n=310,678). Patients taking a GLP1-RA (n=11,883) were matched on a 1:1 basis to patients not taking the medication (n=11,883) using age, gender, body mass index (BMI), Elixhauser Comorbidity Index (ECI), and tobacco use. Outcomes included 90-day medical complications, 90-day readmission rates and 2-year surgical complications.
RESULTS:
There were no differences in age, sex, BMI, tobacco use, and ECI between the two groups ($p>0.05$). Patients on GLP1-RA were found to have lower odds of developing ischemic stroke (0.15% versus 0.37%; OR 0.44; $P < 0.05$), deep vein thrombosis (0.33% versus 1%; OR 0.35; $P < 0.05$), pulmonary embolism (0.14% versus 0.50%; OR 0.3; $P < 0.05$), myocardial infarction (0.10% versus 0.29%; OR 0.4%; $P < 0.05$), pneumonia (0.45 versus 1.28%; OR 0.39; $P < 0.05$), acute kidney injury (0.81% versus 1.68%; OR 0.68; $P < 0.05$), and sepsis (0.14% versus 0.50; OR 0.36; $P < 0.05$). The odds of revision surgery was lower for GLP1 RA patients (3.03% versus 3.71%; OR 0.87; $P < 0.05$). When examining indications for revision surgery, patients taking a GLP1-RA had lower odds of prosthetic joint infection (0.30% vs. 0.76%, OR=0.42, $p<0.05$), periprosthetic fracture (0.12% vs. 0.30%, OR=0.54, $p<0.05$), and aseptic loosening (0.13% vs. 0.34%, OR=0.33, $p<0.05$).
DISCUSSION AND CONCLUSION:
Obese patients with OA taking GLP1-RAs had lower odds of 90-day medical complications, 90-day readmissions, and 2-year reoperations following THA when compared to a matched cohort not taking the medication.