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: Short-Term Complications in Elective Joint Reconstruction: The Impact of GLP-1 Agonists

Total joint arthroplasties (TJA) such as hip (THA) and knee (TKA) replacements are pivotal in treating joint disorders. Escalating rates of TJA are linked to the growing elderly population and the obesity-driven rise in osteoarthritis. The increasing prevalence of these surgeries accentuates the need to evaluate the impact of GLP-1 agonists—antidiabetic drugs prescribed to 10.7% of type 2 diabetics in 2019. This study delves into the short-term gastrointestinal effects of these drugs in the postoperative period of joint reconstruction to improve patient outcomes and surgical success.

A retrospective analysis was performed using the PearlDiver Mariner dataset, covering 161 million patients from 2010 to April 30, 2022. Patients undergoing total hip or knee arthroplasty were identified and stratified by GLP-1 agonist use, including all available GLP-1 agonist drugs within 90 days prior to surgery. Statistical analyses involved chi-square tests and univariable and multivariable logistic regression analyses.

Over 12 years, 83,587 THA and 150,099 TKA patients were studied, with 667 THA, 1,876 TKA patients using GLP1 agonists. TKA patients on GLP1 agonists had higher gastroesophageal reflux rates ($p < 0.001$) and a 6-17% increased odds of reflux within 90 days post-surgery. GLP1 use was linked to a 31% higher odds of gastrointestinal ulcers at 30 days post-TKA ($p=0.010$) and a 13% higher risk of diarrhea after TKA. Conversely, GLP1 agonists reduced constipation risk by 10-30% in both TKA and THA patients postoperatively.

GLP-1 agonist use was significantly associated with certain short-term gastrointestinal complications post-elective joint arthroplasty, particularly increased risks of ulcers, ileus, and cholecystitis in THA patients, and gastroesophageal reflux, diarrhea, and cholecystitis among TKA patients. The study emphasizes the need for tailored perioperative care strategies for patients on GLP-1 agonists to mitigate these risks.