Bariatric Surgery Prior to Total Hip Arthroplasty and Total Knee Arthroplasty Leads to Worse 90-day Outcomes

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INTRODUCTION:
Bariatric surgeries are a cornerstone for weight loss management in morbidly obese patients prior to additional surgical procedures or for general lifestyle improvements. Additionally, these procedures have been associated with improved post-operative outcomes in patients undergoing a variety of procedures; however, the impact of these procedures on 90-day outcomes in patients undergoing total hip arthroplasties (THA) or total knee arthroplasties (TKA) remains unclear. The present study explores the effects of prior bariatric surgery on a variety of postoperative TKA and THA outcomes to assess its feasibility.
METHODS:
A retrospective query of the TriNetX database research network was performed to identify patients who underwent TKA or THA and had prior history of bariatric surgery. These patients were 1:1 propensity score-matched to controls for obesity, age, gender, hemoglobin A1C and BMI, yielding 4,754 patients in the THA analysis group and 11,317 patients in the TKA analysis group. Outcomes included 90-day postoperative medical conditions and readmission, revision, and ED utilization rates. Odds ratios (ORs), 95% confidence intervals, and p values were calculated. For the purposes of this analysis, $p < 0.05$ was considered significant.
RESULTS:
THA patients with prior bariatric surgery experienced significantly higher rates of deep SSI (2.9% vs. 1.4%; OR 2.092; p=0.000), superficial SSI (0.8% vs 0.3%; OR 3.100; p=0.000), acute renal failure (0.8% vs. 0.3%; OR 1.627; p=0.015), revision (2.3% vs. 1.4%; OR 1.625; p=0.002), ED utilization (6.0% vs. 4.1%; OR 1.479; p=0.001), anemia (5.6% vs. 4.0%; OR 1.419; p=0.002), sepsis (0.9% vs. 0.4%; OR 2.275; p=0.002) and dehiscence (2.5% vs. 1.0%; OR 2.396; p=0.000) compared to the control group. TKA patients with history of prior bariatric surgery were at higher risk for deep SSI (1.1% vs. 0.7%; OR 1.487; p=0.006), revision (0.8% vs. 0.4%; OR 1.762; p=0.002), dehiscence (1.4% vs. 1.1%; OR 1.283; p=0.040), ED utilization (5.6% vs. 5.6%; OR 1.227; p=0.009) and anemia (4.9% vs. 4.0%; OR 1.235; p=0.006) compared to the control group.
DISCUSSION AND CONCLUSION:
Patients who underwent bariatric surgery at any point prior to THA or TKA experienced worse 90-day outcomes compared to those without a history of bariatric procedures. Considering these outcomes, it may be important to direct more attention to bariatric procedure history prior to administration of these surgical operations. Future studies should investigate the inter-operative spacing between bariatric surgery and arthroplasty procedures and its influence on surgical outcomes. Additionally, perioperative care strategies should be employed for optimal outcomes in this patient cohort.