Outcomes of Total Hip Arthroplasty in Obese Patients With and Without Preoperative Weight Loss: A Systematic Review and Meta-analysis

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INTRODUCTION:
Obesity is often considered a relative contraindication to total hip arthroplasty (THA) due to presumed increased perioperative and postoperative risk. Consequently, patients with obesity are often advised to lose weight prior to THA. However, the effect of preoperative weight loss on THA outcomes remains uncertain. This meta-analysis compared outcomes in obese patients who lost weight preoperatively with those who did not.
METHODS:
A systematic review and meta-analysis were performed according to PRISMA guidelines and registered in PROSPERO. Medline and Embase were searched on February 1, 2025. Two independent reviewers screened and extracted data from prospective and retrospective studies comparing outcomes in obese patients undergoing primary THA with and without preoperative weight loss. Outcomes of interest (complications, infections, readmissions, reoperations, and revisions) were pooled in forest plots.
RESULTS:
Of 2896 identified references, 8 studies met inclusion criteria, resulting in 4,848 patients with preoperative weight loss and 78,860 patients without. Interventions included bariatric surgery (1 study), non-surgical measures (2), and unspecified methods (5). There was no significant difference in complication rates between groups in the short-term (14% for weight loss group versus 8% for control group, p=0.163) or mid-term (5% versus 8%, p=0.568). Short-term and mid-term prosthetic joint infection rates were similar (5% versus 4%, p=0.458 and 6% versus 4%, p=0.289). There was no significant difference in reoperation rates at short-term (2% versus 1%, p=0.840) and mid-term (7% versus 4%, p=0.139). Revision rates were similar at short-term (1% versus 1%, p=0.401) and mid-term (3% versus 3%, p=0.906), respectively. Readmission rates were 5% versus 4% (p=0.077).
DISCUSSION AND CONCLUSION:
Preoperative weight loss in obese patients undergoing THA does not significantly reduce the risk of postoperative complications, infections, reoperations, revisions or readmissions. These findings question routine weight loss requirements and underscore the need for individualized risk assessment over body weight alone.