



Invited Commentary | Surgery

Preoperative Weight Loss Before Bariatric Surgery—The Debate Continues

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The aim of the study by Sun et al¹ was to assess the association of preoperative body mass index (BMI; calculated as weight in kilograms divided by height in meters squared) and weight loss before bariatric surgery with 30-day mortality.¹ Using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) data, the authors analyzed nearly half a million patients who underwent bariatric surgery from 2015 to 2017. Sun et al¹ completed an assessment of the cohort's preoperative BMI and preoperative weight loss in association with 30-day mortality using 3 different models adjusting for covariables. The study found that, compared with no weight loss, even small preoperative weight loss (ie, >0% to <5%) was associated with a statistically significant decrease in postoperative mortality.¹ The findings also demonstrated lower mortality rates among patients with lower preoperative BMI.

This important topic continues to be debated after more than a decade of contradictory publications. Indeed, a 2019 study using the same MBSAQIP data set from 2015 to 2017 showed no 30-day mortality difference.² The current study¹ benefited from the use of the MBSAQIP database and its large sample size, which allows for assessment of rare occurrences. Postoperative mortality within 30 days of bariatric surgery is rare but certainly worth understanding, although a causal or mechanistic relationship cannot be established with this retrospective cohort. We know from prior studies, for example, that venous thromboembolism is a primary cause of mortality after bariatric surgery.³ Sun et al¹ could not report on cause of death nor control for perioperative anticoagulation prophylaxis practices that may have affected postoperative mortality. The method of preoperative weight loss also could not be accounted for, although it can have morbidity and mortality implications.⁴

Additionally, the accuracy of weight loss associated with the timing of surgery may be problematic as described by Sun et al.¹ Defining preoperative weight as "the most recent weight documented in the medical record within 30 days before the principal operation"¹ may create a significant bias, considering that it fails to accurately account for immediately preoperative weight loss. Many surgical teams place patients on a preoperative diet for 1 to 3 weeks before the procedure and witness sometimes very significant weight loss during that time. Therefore, these significant changes in weight might not be recorded in the current data set.

It is important to note that if there is a morbidity and/or mortality benefit with preoperative weight loss, as suggested in this study,¹ it is based on achieved weight loss, not on duration of effort. If preoperative weight loss is to be recommended, it should be goal oriented, not based on an arbitrary duration.⁵ The most recent position statement from the American Society for Metabolic and Bariatric Surgery concluded that after review of the literature, there is a lack of evidence showing that insurance-mandated (time-based) preoperative weight loss has any clear association with morbidity or mortality.⁶ The current study¹ may provide additional evidence for an updated recommendation.

Lastly, the largest mortality benefit shown by Sun et al¹ was among patients with BMI between 35.0 and 39.9, with mortality increasing across all models as BMI increased. Perhaps the answer is not really about maximizing preoperative weight loss; perhaps the answer is treating patients in the earliest possible stage of their disease to negate the increased morbidity and mortality that is associated with more advanced disease and higher BMI. Patients should be provided early and rapid access to the care they need; in this case, that means access to a life-saving procedure without artificial insurance barriers, such as duration-based mandatory weight loss.

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