

Association Between Bariatric Surgery and Long-term Survival

Importance Accumulating evidence suggests that bariatric surgery improves survival among patients with severe obesity, but research among veterans has shown no evidence of benefit.

Objective To examine long-term survival in a large multisite cohort of patients who underwent bariatric surgery compared with matched control patients.

Design, Setting, and Participants In a retrospective cohort study, we identified 2500 patients (74% men) who underwent bariatric surgery in Veterans Affairs (VA) bariatric centers from 2000-2011 and matched them to 7462 control patients using sequential stratification and an algorithm that included age, sex, geographic region, body mass index, diabetes, and Diagnostic Cost Group. Survival was compared across patients who underwent bariatric surgery and matched controls using Kaplan-Meier estimators and stratified, adjusted Cox regression analyses.

Exposures Bariatric procedures, which included 74% gastric bypass, 15% sleeve gastrectomy, 10% adjustable gastric banding, and 1% other.

Main Outcomes and Measures All-cause mortality through December 2013.

Results Surgical patients (n = 2500) had a mean age of 52 years and a mean BMI of 47. Matched control patients (n = 7462) had a mean age of 53 years and a mean BMI of 46. At the end of the 14-year study period, there were a total of 263 deaths in the surgical group (mean follow-up, 6.9 years) and 1277 deaths in the matched control group (mean follow-up, 6.6 years). Kaplan-Meier estimated mortality rates were 2.4% at 1 year, 6.4% at 5 years, and 13.8% at 10 years for surgical patients; for matched control patients, 1.7% at 1 year, 10.4% at 5 years, and 23.9% at 10 years. Adjusted analysis showed no significant association between bariatric surgery and all-cause mortality in the first year of follow-up (adjusted hazard ratio [HR], 1.28 [95% CI, 0.98-1.68]), but significantly lower mortality after 1 to 5 years (HR, 0.45 [95% CI, 0.36-0.56]) and 5 to 14 years (HR, 0.47 [95% CI, 0.39-0.58]). The midterm (>1-5 years) and long-term (>5 years) relationships between surgery and survival were not significantly different across subgroups defined by diabetes diagnosis, sex, and period of surgery.

Conclusions and Relevance Among obese patients receiving care in the VA health system, those who underwent bariatric surgery compared with matched control patients who did not have surgery had lower all-cause mortality at 5 years and up to 10 years following the procedure. These results provide further evidence for the beneficial relationship between surgery and survival that has been demonstrated in younger, predominantly female populations.