Bariatric Surgery Riskier for Superobese, Chronically Ill

BY MARY ANN MOON

The risk of death for 1 year after bariatric surgery is significantly higher in patients who are "superobese" and those with a greater burden of preoperative comorbidity than in other patients undergoing the procedure, according to results of a retrospective study.

The findings suggest that bariatric surgery must be considered carefully in patients with body mass indexes of 50 kg/m^2 or more and in those who have chronic disorders such as heart failure, complicated diabetes, chronic obstructive pulmonary disease, and stroke, said Dr. David Arterburn of the University of Washington, Seattle, and his associates.

To define postsurgical mortality risk and identify associated factors, the researchers performed a retrospective study of 856 patients who underwent bariatric surgery at 12 Veterans Affairs medical centers between 2000 and 2007. The number of these procedures performed at VA centers per year rose more than threefold during this interval (Arch. Surg. 2009;144:914-20).

The study population had a mean age of 54 years and was predominantly male (73%) and white (84%). Three-fourths of the procedures were open surgeries; the rest were laparoscopic. About a third (36%) of the patients were considered superobese, with BMIs of 50 or greater.

A total of 54 patients (6.5%) died during a median follow-up of 984 days. Overall, 30-day mortality was 1.3%, 90-day mortality was 2.1%, and 1-year mortality was 3.4%.

Superobese patients had a significantly higher rate of death, particularly at 90 days (3.6%) and at 1 year (5.2%), than did patients with lower BMIs. "Exclusion of superobese patients from our cohort would have reduced the overall 30-day, 90-day, and 1-year mortality rates by approximately one-third," Dr. Arterburn and his colleagues wrote.

Possible explanations for this result include the greater technical difficulty of the surgery in superobese patients because of added visceral adiposity and hepatomegaly, which in turn increases intra-abdominal pressure and reduces visualization.

Superobese patients also appear to be at greater risk for wound complications such as infections or dehiscence, compared with less obese patients (incidence of wound complications 13.3% vs. 7.2%, respectively).

Patients with multiple or chronic comorbidities also were at greater risk of death in the year following bariatric surgery than were healthier patients. Their 30-day mortality was 1.5%, 90-day mortality was 5.8%, and 1-year mortality was 10.1%. Excluding patients with a diagnostic cost group score of 2 or more—a marker of health care utilization during the past year—from this cohort would have reduced the 90-day and 1-year mortality rates by approximately 20%, the investigators said.

Future research should compare the mortality risk of no surgery with that of bariatric surgery in superobese patients and in those with significant comorbidities, they added.

In an invited critique, Dr. Clifford W. Deveney of Oregon Health and Science University, Portland, noted that among study subjects who were superobese and had multiple concomitant disorders, 25% died during 3 years of follow-up. The study thus may have identified a subgroup of patients "in whom bariatric surgery may not offer a survival advantage," he said (Arch. Surg. 2009;144:920).

This study was supported by the Department of Veterans Affairs. Neither Dr. Arterburn nor Dr. Deveney reported any financial conflict of interest. ■

Preop Conditions Weigh Down Bariatric Success

BY MARY ANN MOON

The most common bariatric surgeries carry low rates of adverse perioperative outcomes when performed by experienced surgeons in established centers, according to a prospective, multicenter, observational study.

Thirty-day mortality was 0.3% and the rate of major complications was 4.1%, which are comparable to rates for other major operations. Those rates are considered low for bariatric surgery, because most patients are extremely obese and have multiple comorbid conditions, said Dr. David R. Flum of the University of Washington, Seattle, and his associates in the Longitudinal Assessment of Bariatric Surgery (LABS) study (N. Engl. J. Med. 2009;361:445-54).

The investigators evaluated 4,776 consecutive patients who underwent first-time bariatric surgery in 2005-2007, performed by 33 surgeons certified by the LABS consortium. "Our study provides standardized, prospective data on a cohort from multiple centers that is large enough to evaluate potential factors associated with safety outcomes," they noted.

The most common procedure was Roux-en-Y gastric bypass (71% of patients), which was performed laparoscopically in 87% of cases and as an open procedure in 13% of cases. Another 25% of the study subjects underwent laparoscopic adjustable gastric banding, and the remaining 4% underwent other bariatric procedures.

The primary outcome of the study was a composite end point of death, deep-vein thrombosis, venous thromboembolism, reintervention, or failure to be discharged within 30 days. That occurred in 1% of the patients undergoing laparoscopic adjustable gastric banding, 4.8% of those undergoing laparoscopic Roux-en-Y gastric bypass, and 7.8% of those undergoing open Roux-en-Y gastric bypass.

Patients who had a history of thrombotic disorders, had poor functional status, or had sleep apnea were at increased risk of poor outcomes.

"Regardless of the type of procedure, the predicted probability of the composite end point was lowest among patients who did not have a history of deep-vein thrombosis or venous thromboembolism or of obstructive sleep apnea, and who were in the middle range of the spectrum of body mass index for the cohort," Dr. Flum and his colleagues said.

A history of thrombotic disorders, poor functional status, or sleep apnea yielded a risk of poor outcomes.

DR. FLUM

The researchers added that the study focused on perioperative adverse events. Another study that has just completed recruitment (LABS-2) will assess the long-term effects of bariatric surgery on health conditions, quality of life, health care costs, and psychosocial issues.

Dr. Flum reported receiving grant support from Sanofi-Aventis and Covidien AG and serving as an expert witness on cases involving adverse events after bariatric surgery. ■

Weight-Loss Chart Predicts Long-Term Bariatric Outcomes

BY BRUCE JANCIN

GRAPEVINE, TEX. — The use of a standardized longitudinal weight-loss chart reliably permits identification of underperforming patients within the first month after bariatric surgery, according to a data analysis of more than 1,200 patients.

"This project was inspired by the utility of pediatric growth charts. They allow monitoring of height and weight for any given age, and assessment of abnormal growth. Interventions are sometimes possible when children are identified as being below the norm for growth," Dr. Lindsey S. Sharp said at the annual meeting of the American Society for Metabolic and Bariatric Surgery.

The gastric bypass surgery weight-loss chart can be used to target patients for interventions aimed at boosting their long-term outcomes. The chart was derived through retrospective analysis of prospectively collected data on 1,274 patients who underwent primary Roux-en-Y gastric bypass at Duke University, Durham, N.C., between 2000 and 2007.

The percentage of excess weight loss was determined for each patient at follow-up clinic visits scheduled for 1, 3, 6, 12, and 36 months. The purpose was to define the normal pattern of weight loss following gastric bypass, use that information to generate weight-loss nomograms, and learn whether early weight loss predicts long-term success. It does, according to Dr. Sharp of Duke.

According to the chart, a 12%-15% excess weight loss at the 1-month postoperative visit places a patient in the second quartile. The third quartile is a 16%-18% excess weight loss, while more than 18% excess weight loss is the fourth quartile.

At 12-month follow-up, most patients remained in the same weight-loss quartile they were in at 1 month post surgery. Being in the first weight-loss quartile at 1 month, with a 0%-11% excess weight loss, had a 39% positive predictive value for being in the first quartile at 12 months. The negative predictive value was 81%. Sixty-one percent of patients in the first quartile at 12 months, with a 15%-53% excess weight loss, were in the first or second quartile at 1 month.

Moreover, 72% of patients in the fourth quartile at 12 months, with a greater than 70% excess weight loss, were in the third or fourth quartile at 1 month.

These trends continued at 36 months.

"The take-home message here is that, in general, patients who do well initially are likely to continue along that path, and those who have first-quartile weight loss at the first postoperative visit are at risk of having continued poor weight loss," Dr. Sharp said.

Further analysis showed that an excess weight-loss velocity of 2% or more per week between the 1- and 3-month postoperative visits had a specificity of 90% for being above the first quartile for excess weight loss at 1 year.

"Our suggested algorithm for follow-up includes assessment of excess weight loss at the first postoperative visit. If patients are found to be in the first quartile, they should be assessed for dietary, exercise, and psychological factors that could be modified. Frequent follow-up between the first- and third-month postoperative visits can be used to assess the success of the interventions using the excess weight-loss velocity. Hopefully, patients will improve their weight loss. In continuing to follow them, if they again drop down to the first quartile, you can institute new interventions," Dr. Sharp said.

The surgical weight-loss charts will eventually be published in the journal Surgery for Obesity and Related Diseases. ■