

Sleeve Gastrectomy Precludes Need for Subsequent Bypass

BY DIANA MAHONEY
New England Bureau

DALLAS — Laparoscopic vertical sleeve gastrectomy is a safe first-stage procedure for high-risk, superobese patients whose weight and size complicate biliopancreatic diversion with duodenal switch, Dr. Chrystine M. Lee said at the annual meeting of the Society of American Gastrointestinal and Endoscopic Surgeons.

Originally conceived as the first stage of a two-stage duodenal switch procedure, laparoscopic vertical sleeve gastrectomy was meant to help high-risk superobese patients lose sufficient weight to make the subsequent procedure more technically feasible. However, vertical sleeve gastrectomy alone may produce enough weight loss in some patients to preclude the need for a second-stage operation, said Dr. Lee of the David Grant U.S. Air Force Medical Center at the Travis (California) AFB.

Vertical sleeve gastrectomy closes off and removes about 85% or more of the stomach and creates a thin, tubelike stomach, without bypassing the intestines.

In a study of 216 obese patients who underwent the procedure between November 2002 and August 2005, the surgery was associated with a mean excess weight loss of 58.5% at 1 year and 83.1% at 2 years, "which is on par with weight loss achieved with the duodenal switch and the Roux-en-Y gastric bypass procedures," Dr. Lee said. Of the 216 patients, only 9 experienced a weight loss plateau, defined as a loss of less than 10 pounds in a 6-month period, she said.

Patients in the study, 80% of whom were female, were aged 16-64 years (mean 44.7 years). The mean preoperative weight and body mass index (BMI) were 302 pounds and 42 kg/m², respectively. All operations were laparoscopic; no conversions to open procedures were required. Surgeons started 6 cm from the pylorus, and used 5-7 firings of a

45- to 60-mm linear stapler loaded with 3.5-mm staples along a 32F bougie. They performed a greater curvature gastrectomy to create a 100- to 120-mL gastric tube. The mean operating room time was 66 minutes, the mean excess blood loss was 29 cc, and the mean length of stay was 1.9 days, significantly less than that associated with the Roux-en-Y and switch procedures, Dr. Lee said.

Weight loss after the procedure was similar to that seen with the Roux-en-Y and switch procedures, and higher than that associated with gastric banding.

No deaths were associated with the surgery, but 20 patients experienced mild complications, 3 had leaks, and 26 required reoperations—rates similar to those associated with gastric banding, Dr. Lee said.

"All six patients whose pre-operative BMI was less than 50 achieved BMI less than 35," she said, eliminating the need for second-stage surgery. "The question with this type of procedure is weight loss durability. The gastroplasties in the past have not had durable weight loss—usually from 60% to 70% at 1 year, dropping down to 30%-40% at 5 years. The question is whether this procedure will follow those footsteps and be associated with rebound weight gain," she said.

Previous data from a procedure similar to vertical sleeve gastrectomy showed "good results and durable 5-year weight loss," Dr. Lee said. In that procedure, the stapled portion of the stomach was left instead of removed.

"We think our results will follow that lead," she said. The fact that vertical sleeve gastrectomy removes the part of the stomach that secretes ghrelin, the hormone associated with appetite, may contribute to long-term durability, she suggested.

"What we've observed is weight loss similar to that seen with the Roux-en-Y and switch procedures, and higher than that associated with gastric banding. Morbidity is lower than the Roux-en-Y bypass and the switch, but comparable to gastric banding, so it's the best of both without some of the disadvantages," she said.

Dr. Lee reported no conflict of interests with respect to her presentation. ■

Bariatric Surgery Mortality Lower at High-Volume Centers

BY MARY ANN MOON
Contributing Writer

The 30-day mortality for bariatric surgery was 0.4% when the procedure was done at academic medical centers with a high volume of this surgery, reported Dr. Ninh T. Nguyen, chief of the GI surgery division at the University of California, Irvine, and his associates.

Some researchers and clinicians became concerned about high perioperative mortality when a recent study in Washington state reported a 1.9% 30-day mortality for bariatric surgery, and a national study involving over 16,000 Medicare patients reported a 2% 30-day mortality, Dr. Nguyen and his associates said.

They evaluated the perioperative outcomes of 1,144 bariatric surgeries performed at facilities affiliated with a university health system. A total of 29 of the 93 member academic medical centers participated; each facility provided the medical records of about 40 consecutive bariatric surgeries performed between October 2003 and March 2004.

Most of these medical centers performed a high volume of bariatric procedures. The analysis was restricted to routine or elective procedures in patients with a body mass index (kg/m²) of 35-70. Of the total group, 82% were women, 78% were white, and 79% had private insurance. Most of the procedures (76%) were performed laparoscopically.

The findings of this study may not reflect outcomes in nonacademic medical centers or hospitals that perform a lower volume of bariatric procedures. The results also may not be generalizable to emergency or open procedures or to patients who are male, nonwhite, or less affluent or who have a BMI less than 35 or greater than 70, the investigators noted (*Arch. Surg.* 2006;141:445-50).

The 30-day mortality in these 1,144

cases was 0.4%, and the in-hospital mortality was 0.2%. Causes of death were multiple system failure (three patients) and pulmonary embolism (one patient). These results show that bariatric surgery performed at academic medical centers is safe, with low perioperative mortality, Dr. Nguyen and his associates said.

The 30-day readmission rate was 6.6%. Readmissions were needed for dehydration and vomiting, as well as other complications. The complication rate was 16% and included cases of anastomotic leakage (1.6%), wound infection (2.6%), pneumonia (1.9%), cardiac arrhythmia (1.7%), bowel obstruction (1.5%), urinary tract infection (1%), GI or abdominal hemorrhage (1.0%), and deep vein thrombosis/pulmonary embolism (0.3%).

"Another important finding from this study is that the practice of bariatric surgery has shifted from open surgery to laparoscopic surgery. To our knowledge, this is the first study to document greater use of laparoscopic bariatric surgery than open bariatric surgery. Laparoscopy was used in 76% of gastric bypass procedures and in 92% of restrictive procedures," the researchers said.

In a discussion accompanying the report, Dr. Ravi Moonka, a surgeon at the Virginia Mason Medical Center, Seattle, followed up on an observation that less than one-third of the medical centers affiliated with the university health system opted to participate in this study, saying that those "presumably are the centers that think they have good results."

In that case, the study findings reflect "what excellent centers do and not what the average center does," he said (*Arch. Surg.* 2006;141:450).

Dr. Moonka also noted that these findings cannot be generalized to many practices, including his own, because he performs open procedures, usually treats patients with greater BMIs, and often operates on male patients. ■

Monitor Nutrition After Gastric Bypass to Reduce Complications

BY PATRICIA L. KIRK
Contributing Writer

DALLAS — More patients are presenting with complications resulting from poor eating patterns and failure to take required nutritional supplements after bariatric surgery, Margaret Malone, Ph.D., said at a conference sponsored by the American Society for Parenteral and Enteral Nutrition.

Most complications can be prevented by teaching patients how to adapt food and fluid intake to a stomach pouch with capacity limited to 15-30 mL and educating them about the need for life-

long supplements, stressed Dr. Malone, a professor at Albany (New York) College of Pharmacy.

According to a recent study, 10% of bariatric surgery patients require rehospitalization because of the inability to keep up with fluid requirements (*Obesity Res.* 2005;13:2202-9). Dr. Malone stressed the need to instruct patients to sip water all day, avoid large gulps, and separate liquids from solids at mealtime.

A major problem in managing these patients is that nutritional monitoring frequently stops after the first year, once the weight-loss goal has been achieved. To ensure

adequate protein intake, Dr. Malone suggested that patients eat protein first, before becoming full, and/or use protein supplements. Vitamin B₁₂, folate, and iron are commonly deficient in gastric bypass patients. Dr. Malone said she recommends 60 mg iron, 2-3 times daily. She stressed the need to monitor menstruating women for anemia, noting that many of them require IV iron replacement several times a year.

Alterations in medications routinely taken by patients may also be required after gastric bypass. Hydrophilic, or water soluble, drugs that are distributed into

lean body mass should be dosed according to ideal body weight, she said, while dosage for lipophilic, or fat soluble, drugs, which are distributed equally between lean and fat body mass, should be calculated according to actual body weight. Drug dosages aimed at achieving a defined therapeutic outcome, such as blood pressure and blood glucose level, should be titrated upward until the goal is met, similar to what is done in normal-weight patients.

Dr. Malone recommended avoiding slow-release supplements, especially iron, as well as drugs that require acidic pH for

absorption, such as ampicillin; drugs known for poor absorption in normal people, such as protease inhibitors; or drugs that cause gastric ulceration/irritation, such as NSAIDs, aspirin, and potassium. She also suggested selecting chewable or soluble calcium products, such as Citracal liquid tabs, rather than large pills or tablets.

Gastric bypass patients also frequently report greater sensitivity to alcohol intake, Dr. Malone said, emphasizing the need to counsel patients on eliminating or limiting alcohol consumption, especially during the first year postop. ■