

FOCUS ON BARIATRIC SURGERY

Mortality Falls as Surgery Techniques Improve

BY MITCHEL L. ZOLER

FROM THE AMERICAN SOCIETY FOR METABOLIC AND BARIATRIC SURGERY ANNUAL MEETING

ORLANDO – Bariatric surgery achieved an unprecedented level of safety through 2009, as U.S. surgeons mastered the laparoscopic gastric bypass approach and offered patients gastric banding or gastroplasty, based on data collected on more than 100,000 U.S. patients treated at academic medical centers during 2002-2009.

This recent era also ushered in a new list of risk factors for in-hospital mortality in patients undergoing bariatric surgery, including two modifiable risk factors: diabetes and the type of surgery used, Dr. Brian R. Smith said at the meeting.

“We find six preoperative factors that predict mortality. We can’t change patient age, sex, or insurance type, but we can better manage their diabetes preoperatively, and we can change the type of

surgery they receive” to minimize their risk, said Dr. Smith, a surgeon at the University of California, Irvine, and chief of general surgery at the Veterans Affairs Healthcare System in Long Beach, Calif.

“Bariatric surgery is now statistically safer than appendectomy. Probably the most significant factor is that [surgeons]



Bariatric surgery is now safer than appendectomy, because surgeons have mastered the laparoscopic approach.

DR. SMITH

have gotten better with the laparoscopic approach; we got over the learning curve,” he said in an interview.

Dr. Smith and his associates reviewed 105,287 patients who underwent bariatric surgery during 2002-2009 at hospitals that contribute data to the University Health System Consortium, a database of about 360 U.S. academic medical centers and affiliated hospitals. During that period, bariatric surgery volume ranged from about 10,000 cases in 2002 to about 16,000 in 2009. Through

2003, open bypass was most commonly being done, and starting in 2004 surgeons also began reporting use of laparoscopic gastric bypass and gastric banding. By 2005, about 60% of the roughly 13,000 bariatric procedures that year involved laparoscopic bypass, with open bypass reduced to less than 20% of the total. During 2009, nearly 70% of bariatric procedures done at hospitals in the consortium were laparoscopic bypasses, about a quarter were banding or gastroplasty, and only about 6% of cases involved open bypass.

Concurrent with this shift in type of bariatric surgery came a striking drop in in-hospital mortality. In 2002, the rate was 4 deaths/1,000 patients. Over the following 7 years, mortality steadily fell and reached a new low of 0.6 deaths/1,000 patients in 2009, Dr. Smith reported (see chart).

In an interview, Dr. John M. Morton, director of bariatric surgery at Stanford (Calif.) University, attributed the sharp decline in mortality to the rapid switch from open to laparoscopic gastric bypass, the focus starting in 2004 on treating bariatric surgery patients at designated centers of excellence, improved clinical pathways, and better patient selection.

The more than 100,000 patients reviewed by Dr. Smith included 17% who were older than 60 years. About 80% were women and about 73% were white. The prevalence of hypertension was 56%, 30% had diabetes, and 22% had hyperlipidemia. Two-thirds of the

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Major Finding: During 2009, bariatric surgery done at U.S. academic hospitals had an in-hospital mortality rate of 0.6/1,000 patients, compared with a rate of 4/1,000 cases in 2002.

Data Source: Review of 105,287 patients undergoing bariatric surgery at U.S. hospitals participating in the University Health Consortium.

Disclosures: Dr. Smith said he had no disclosures. Dr. Morton said that he has received an educational grant from Ethicon Endo-Surgery, and he has received honoraria from and served on the scientific advisory board of Vibrynt.

patients had private medical insurance coverage.

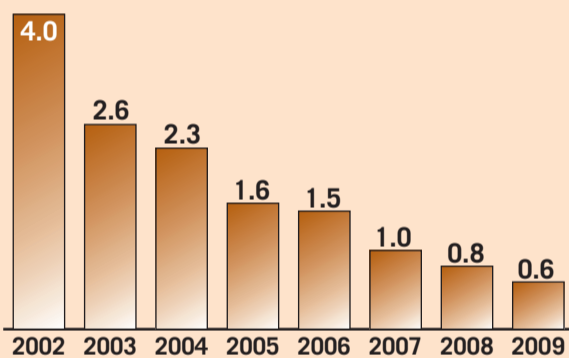
A multivariate analysis identified six factors linked with an increased mortality risk: age older than 60 years, male sex, Medicare coverage, diabetes, open surgery, and gastric bypass surgery. Diabetes had not previously been identified as a mortality risk in published analyses.

On the basis of these factors, Dr. Smith and his associates developed a mortality risk-scoring formula that assigned 1 point for each of four risk factors – male sex, Medicare insurance, open surgery, and gastric bypass – and 0.5 points for each of the other two factors, age 60 years or older and diabetes. After assigning these point values to the patients in the database, they found that patients with a risk score of 3.5 or greater had a sevenfold increased risk of in-hospital mortality, compared with patients with a score of zero or 0.5.

To view an interview with Dr. Smith, scan this QR code using your smartphone.



In-Hospital Mortality
(per 1,000 bariatric surgery patients)



Note: Rates based on data for 105,287 patients.
Source: Dr. Smith

ELSEVIER GLOBAL MEDICAL NEWS

Omentectomy May Enhance Benefits of Roux-en-Y

BY HEIDI SPLETE

FROM THE ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS

SAN DIEGO – Adding omentectomy to Roux-en-Y gastric bypass surgery improved levels of lipids, glucose, and adipokines 90 days after the procedure in nondiabetic patients.

Visceral fat predicts incipient diabetes and cardiovascular disease, but the effect of reducing visceral fat tissue on metabolic risk factors is unknown, said Dr. Troy Dillard of the Oregon Health & Science University in Portland, Ore., at the meeting.

Omentectomy is the surgical removal of the omentum, a fold of visceral fat. To determine the impact of adding omentectomy to gastric bypass surgery, Dr. Dillard and colleagues ran-

domized 29 nondiabetic adults aged 18 years and older to Roux-en-Y alone or Roux-en-Y plus omentectomy. Baseline characteristics including age, gender, and body mass index were similar between the groups.

At 90 days after surgery, body mass index was significantly lower in both groups compared with baseline. But only the omentectomy patients showed significant decreases in fasting glucose, total cholesterol, and very low-density lipoprotein cholesterol, as well as significant increases in their total adiponectin ratios.

Among the omentectomy patients, fasting glucose decreased from 101 mg/dL at baseline to 87 mg/dL after 90 days. Total cholesterol decreased from 191

mg/dL to 163 mg/dL, and VLDL cholesterol decreased from 37 to 21 mg/dL. Triglycerides also decreased significant-

ly, from 179 to 106 mg/dL. Adiponectin increased significantly in the omentectomy group, from 7.2 mcg/mL at baseline to 8.6 mcg/mL after 90 days.

Two patients in the omentectomy group developed gastroenterostomy stenosis and were treated with outpatient endoscopic balloon dilation.

However, any positive effects from the omentectomy seen at 90 days “are likely dwarfed by the metabolic improvements at long-term follow-up conferred by marked weight loss” with the gastric bypass surgery, Dr. Dillard noted.

His study looked at short-term 90-day follow up data, but the long-term clinical benefits of omentectomy remain uncertain, and additional studies are needed.

Long-term follow-up data from other studies suggest that omentectomy is not a beneficial procedure to add to Roux-en-Y gastric bypass, Dr. Dillard said in an interview.

But the type of surgery might make a difference, he noted. “In subjects who are undergoing gastric banding, omentectomy

has been shown to be beneficial in long-term follow-up studies. However, more studies are needed in that population to validate that finding” he said.

“At this time, our findings do not indicate that omentectomy should be routinely added to laparoscopic Roux-en-Y gastric bypass, and we look forward to further data to clarify whether subjects undergoing gastric banding will benefit from this procedure.”

The improvements seen on the omentectomy group in Dr. Dillard’s study were not explained by differences in total weight loss or inflammatory markers, he said, and the findings support the hypothesis that removing visceral fat tissue might offer metabolic benefits to patients at increased risk for diabetes and heart disease. ■

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Major Finding: Omentectomy improved several metabolic parameters after 90 days in patients undergoing Roux-en-Y surgery.

Data Source: Data from 29 nondiabetic adults.

Disclosures: Dr. Dillard said he had no financial conflicts.