

# Postbariatric Complication Rate Found to Be High

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A nationwide population-based study suggests that the rate of complications 6 months after bariatric surgery is higher than previous research suggested, and that resultant hospital readmissions increase health care costs.

"A clear way to reduce the costs and improve outcomes of bariatric surgery is to address the high rate of postoperative complications," said William E. Encinosa, Ph.D., and his colleagues at the Agency for Healthcare Research and Quality in Rockville, Md.

The study of insurance claims data across 49 states in 2001 and 2002 found that nearly 40% of bariatric surgery patients experienced a complication within 180 days of being discharged, while 22% of patients had a complication prior to discharge (*Medical Care* 2006;44:706-12). That represents an 81% increase in complications over the 6 months after surgery, compared with the 10%-20% range found in the literature, the authors said.

The five most common complications were dumping syndrome (19.5%), complications of the anastomosis (12.3%), abdominal hernia (7%), infection (5.7%), and pneumonia (4.1%).

However, the study is weakened by its reliance on claims data, Dr. Matthew M. Hutter said in an interview. "Reliance on claim forms data makes it difficult to determine what a complication is," he explained. As the authors themselves con-

ceded, visits for nutritional issues are especially difficult to sort out. "If you're seeing a patient because of a nutritional issue, it might be because he has a nutritional issue or it might be because you're concerned that he might develop one. So you wouldn't want to say that the responsible surgeon who is just following up on his patient within the first 180 days and monitoring a nutritional issue necessarily [indicates] a complication," said Dr. Hutter, who is director of the Center for Clinical Effectiveness in Surgery at Massachusetts General Hospital, Boston.

According to the study, 18.2% of the patients with postoperative complications were readmitted, visited the emergency department, or were treated as outpatients. The most costly aspect of bariatric surgery was readmission: Total 6-month risk-adjusted inpatient and outpatient health care payments were 140% higher for those with 180-day readmissions with complications. Total 6-month risk-adjusted health care payments were \$65,031 for those with 180-day readmission, compared with \$27,125 for those without readmission.

For their data source, the authors used the MarketScan Commercial Claims and Encounter Database created by the Medstat Group for 2001 and 2002. The database covered approximately 5.6 million enrollees under the age of 65 in employ-



To reduce costs and improve outcomes, the complication rate needs to be addressed, said William E. Encinosa, Ph.D.

er-sponsored benefit plans for 45 large employers.

Patients with more than one comorbidity were more likely to have a complication diagnosed during readmission, an outpatient hospital visit, or an office visit. Although there was no difference between men and women, older individuals had a 26% higher risk-adjusted complication rate than did those aged 18-39 years.

The authors cited the following limitations of their study: the inability to track deaths outside the hospital, which accounted for the low death rate of 0.2%; the lack of information regarding patients' body mass indexes; and, in their risk-adjusted regressions, the inability to control for surgeon and hospital bariatric volume. "Hospitals with more experience may

have fewer complications," they said. "However, in a subset of 625 surgeries in which we had bariatric volume, we found no link between volume and the risk of complication after adjusting for age, sex, and number of comorbidities.

"As patients, payers, and . . . physicians increasingly consider gastric bypass surgery for treatment of morbid obesity, this study provides representative information regarding complications and clinical risks after surgery for the privately insured, relatively young population. The risk of a complication and readmission was

significant for both clinical outcomes and costs, which provides incentive for intervention and improvement," the investigators concluded.

While applauding the authors for shedding more light on this topic, Dr. Hutter said future research "should compare apples to apples. In this study, we don't know what to compare the numbers to."

He added that in addition to trips to the emergency department and hospital visits, "perhaps we also should look at real outcomes for patients, such as weight reduction and loss of comorbidities including diabetes, hypertension, sleep apnea, and hypercholesterolemia, and compare them with a group of untreated obese patients, and for a period of time longer than 180 days." ■

## Bariatric Surgery Can Be Safe, Effective in Older Adults

BY JEFF EVANS  
Senior Writer

SAN FRANCISCO — Bariatric surgery may be safe for older patients and provide weight loss benefits and improved comorbidities similar to those achieved by younger patients, according to four new studies presented at the annual meeting of the American Society for Bariatric Surgery.

In February, the Centers for Medicare and Medicaid Services extended coverage for bariatric surgery to beneficiaries of all ages, provided that the surgery was performed at certified facilities.

And although a recent review of Medicare beneficiaries reported significantly higher mortality in patients aged 65 years and older than in younger patients (*JAMA* 2005;294:1903-8), the new studies do not support that finding.

In a study of 340 Medicare patients who underwent bariatric surgery, individuals aged 65 years and older had similar rates of major and minor complications but lower mortality after surgery than did those younger than 65 years, reported Dr. David A. Provost of the University of Texas Southwestern Medical Center, Dallas.

No deaths occurred in 65 older adult patients who received either laparoscopic adjustable gastric banding (LAGB) or open or laparoscopic Roux-en-Y gastric bypass (RYGB), but 3 (0.1%) of 275 younger patients died. The overall complication rate for patients aged 65 years and older was similar to that observed for patients under 65 years of age.

In a separate retrospective study of 55 patients aged at least 60 years, laparoscopic bariatric procedures caused no deaths and few complications, reported Dr. David Haz-

zan of the division of minimally invasive surgery at Mount Sinai School of Medicine, New York.

The procedures, performed during 1999-2005, included laparoscopic RYGB (33), LAGB (9), biliopancreatic diversion with duodenal switch (7), sleeve gastrectomy (3), and a revision of previous bariatric surgery (3).

In the first 30 days after surgery, 4 (7%) patients developed complications: upper GI bleeding, an empyema, a urinary tract infection, and a wound infection. No patients had died at 90 days after surgery.

All patients underwent a contrast swallow study on the first day after surgery, and more than 70% were monitored in the surgical or postanesthesia ICU for the first 24 hours after surgery, based on their comorbidities and cardiovascular status.

Another study found that RYGB surgery in patients aged 60 years and older could be safe and effective in resolving comorbidities, even though the older patients lost less excess weight and had more comorbidities than their younger counterparts.

Of 1,002 patients who received bariatric surgery at the Geisinger Medical Center, Danville, Pa., during 2001-2005, 61 patients aged at least 60 years (mean, 62 years old) and 941 younger patients (mean, 43 years old) received laparoscopic or open RYGB surgery, said Dr. Stephanie E. Dunkle-Blatter, of the center.

Surgeons performed laparoscopic RYGB surgery in 32% of the older patients and in 53% of the younger patients. All patients received a preoperative weight management intervention for a minimum of 6 months; patients aimed for a 10% reduction in excess body weight. The intervention included supervised diet and exercise programs, psychological evaluations, counseling, and medical treatment of comorbidities.

Postoperative body mass index was similar between the two groups (about 36 kg/m<sup>2</sup>), despite a larger percentage of excess weight lost in younger patients (53% vs. 46%).

At a mean follow-up of nearly 14 months in older patients and almost 17 months in younger patients, a significantly greater percentage of older patients resolved or improved their type 2 diabetes than did younger patients (98% vs. 91%), but a significantly larger percentage of younger patients had improvement or resolution of hypertension than did older patients (83% vs. 76%). The number of prescription medications decreased from about 10 to 5 in older adults and from about 5 to 3 in younger patients.

Rates of major complications were 13% in older adults and 12% in younger patients, while rates of minor complications were 27% and 21%, respectively. However, 90-day mortality rates were similar in the two groups (1.6% vs. 0.53%, respectively).

A similar study presented by Dr. Peter T. Hallowell at a poster session during the meeting also showed that patients older than 60 years can have rates of complication and death similar to those of younger patients.

In a review of 43 older patients (62 years old on average) and 794 younger patients (43 years old on average) who received a primary RYGB, Dr. Hallowell and his associates at the University Hospitals of Cleveland found that the two groups did not differ in their rate of postoperative pulmonary embolism, leak, fistula, bleeding, pneumonia, or bowel obstruction. No older patients died, but 3 (0.4%) younger adults did.

More bariatric surgery is likely to be performed in older adults in the future, given the aging population and climbing rate of obesity, several speakers noted. ■