

## Bariatric Surgery May Be Cost Effective in Long Run

BY DOUG BRUNK

NEW ORLEANS — Although not cost-saving, bariatric surgery appears to be a good value for the money, results from a large single-center study showed.

“The long-term cost-effectiveness of bariatric surgery will largely depend on the natural history and extent of late postsurgical complications and costs,” Dr. William H. Herman said at the annual scientific sessions of the American Diabetes Association.

To better understand the cost-effectiveness of bariatric surgery in a managed care population, Dr. Herman and his associates



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studied 221 patients who underwent Roux-en-Y procedures in a Southeastern Michigan HMO in May 2001–June 2005. Patients completed the EQ-5D, a tool used to measure health-related quality of life before and after bariatric surgery.

The patients’ mean age was 42 years, 88% were female, and body mass index before surgery was 52 kg/m<sup>2</sup>, reported Dr. Herman, director of the Michigan Diabetes Research and Training Center at the University of Michigan, Ann Arbor. About half (49%) had hypertension, 36% had diabetes, and 49% had obstructive sleep apnea (OSA).

Nearly two-thirds (64%) had open surgical procedures. The remainder had la-

paroscopic procedures. One year after surgery, the mean BMI fell from 51 to 31 in women and from 59 to 35 in men. Overall, patients dropped from a mean weight of 320 pounds to a mean of 192 pounds, a loss of nearly 130 pounds in each person. The average BMI fell from 52 to 31, excess weight fell from 191 pounds to 64 pounds, and patients reported that their comorbidities were improved. For example, 98% reported improvements in hypertension, 100% reported improvements in diabetes, and 92% reported improvements in OSA.

Total per-member costs were about \$600 per month in the 6 months prior to surgery, dropped to about \$400 per month in the 12 months after surgery, then rose to about \$600 per month after 1 year post surgery.

“In the 6 months before bariatric surgery, there was some ramp-up in outpatient pharmacy costs and, not unexpectedly, an increase in clinic costs and diagnostic and laboratory testing likely related to the preoperative period,” Dr. Herman said. “Following bariatric surgery there was a dramatic reduction in outpatient pharmacy costs but some increase in inpatient costs, which seemed to increase the year following surgery.”

When the researchers prospectively assessed presurgical quality of life, they found that the average health utility scores improved by 0.14 1 year after surgery.

In analyses that took a lifetime time horizon, adopted a payer perspective, and discounted costs and health utilities at 3% per year, the cost-utility ratio for bariatric surgery was about \$15,000 per quality-adjusted life-year gained, said Dr. Herman, who is an adviser to Johnson & Johnson and Sanofi-Aventis, and a consultant to Amylin Pharmaceuticals Inc. ■

## Duodenal Switch Can Be More Effective Than Bypass

BY ALICIA AULT

CHICAGO — The duodenal switch procedure resolved comorbidities in “super-obese” patients more effectively than does Roux-en-Y gastric bypass, according to ongoing follow-up of a single-institution case series presented at the annual Digestive Disease Week.

Dr. Vivek N. Prachand of the University of Chicago presented data on 350 patients with a BMI of more than 50 kg/m<sup>2</sup>. The patients underwent either duodenal switch or Roux-en-Y gastric bypass at the university between August 2002 and October 2005.

The super-obese category—those with a BMI of more than 50 and who are at least 200 pounds above ideal body weight—is the fastest-growing obesity group, said Dr. Prachand in a press briefing. Roux-en-Y gastric bypass is performed more often in this group, but in an earlier study of this same patient cohort, Dr. Prachand and his colleagues showed that gastric bypass does not always achieve the greatest weight loss.

Duodenal switch accounts for less than 10% of procedures in the super-obese group, he said, noting that it is technically more difficult and generally results in a greater degree of malabsorption.

In this study, 198 patients underwent duodenal switch and 152 had gastric bypass. At baseline, the incidence and severity of hypertension, dyslipidemia, and gastroesophageal reflux disease (GERD) were similar in the two groups. Diabetes was less common but more severe in the duodenal switch group, affecting 24% (47 patients), compared with 35% (53 patients) in the gastric bypass group. ■

At 36 months after surgery, all of the duodenal switch patients had a resolution of diabetes, which meant they were no longer using insulin and their blood sugar had returned to normal levels, compared with 91 patients (60%) of the bypass group.

A total of 70% (138) of the duodenal switch group had a resolution of hypertension, compared with only 39% (59) of the gastric bypass arm. Lipid levels returned to normal for 72% (142) of the duodenal switch patients, compared with only 26% (39) of the gastric bypass group.

GERD resolved in a greater proportion of the bypass group, which makes sense anatomically, said Dr. Prachand. The percentage with resolution of GERD was 77% (117) in the gastric bypass group, versus 49% (97) of the duodenal switch group.

The amount of weight lost did not seem to be correlated with the resolution of comorbidities, said Dr. Prachand. “It raises some very interesting avenues for investigation in terms of trying to understand the mechanisms of these underlying diseases as well as how these diseases improve with these operations,” he said.

It’s still not clear which procedure is of greatest benefit to which obesity patients, said Dr. Prachand. When choosing a procedure for his patients, he considers three factors: the severity of the obesity; the associated medical problems, as some procedures might be better than others for resolving metabolic issues; and patient preference, because the procedures require motivation and follow-up, he said.

Dr. Prachand reported no conflicts of interest. ■

## Gastric Banding Resolved Metabolic Syndrome in Teens

BY BRUCE JANCIN

FAJARDO, PUERTO RICO — Laparoscopic adjustable gastric banding for morbidly obese adolescents achieves marked improvement or outright resolution of the major obesity-related metabolic abnormalities, according to an interim analysis of a prospective study.

The ongoing study was mandated by the Food and Drug Administration as a condition of the Investigational Device Exemption granted for laparoscopic adjustable gastric banding (LAGB) in adolescents. The proprietary LAP-BAND device (Allergan Inc.) used in the study is approved for use only in patients who are at least 18 years old, Dr. Ai-Xuan L. Holterman said at the annual meeting of the American Pediatric Surgical Association.

Dr. Holterman made it clear she considers LAGB an important element in a comprehensive behavioral treatment program for adolescent morbid obesity. “We think obesity is a chronic, incurable disease,” said Dr. Holterman of Rush University Medical Center, Chicago.

She reported on 20 morbidly obese patients, aged 14–17 years, who underwent LAGB with 18 months of prospective follow-up.

The subjects’ mean baseline body weight was 296 pounds, which was 178 pounds over their ideal weight.

Their mean body mass index was 50 kg/m<sup>2</sup>.

Weight loss averaged 43, 55, and 63 pounds, respectively, at 6, 12, and 18 months post LAGB surgery. Patients lost 26% of their excess weight at 6 months, 34% at 12 months, and 41% at 18 months.

At baseline, 35% of the teens were hypertensive, 80% dyslipidemic, 90% had insulin resistance, 95% met criteria for metabolic syndrome, 90% had histologic evidence of nonalcoholic steatohepatitis, and 75% had poor quality of life as assessed using the Pediatric Quality of Life Inventory. Marked improvements in all areas were documented as early as 6 months post LAGB.

By 12 months 42% of teens with poor quality of life baseline scores had normal-range scores in the domains of social and physical functioning and peer relations, as did 63% by 18 months.

One-third of teens who were hypertensive at baseline were normotensive by 6 months, and all were normotensive at 12 and 18 months. Insulin resistance was normalized in 39% of affected patients at 6 months, 45% at 12 months, and 72% at 18 months. Dyslipidemia

resolved in 37% of affected teens at 6 months, 46% at 12 months, and 67% at 18 months. As a result of these improvements, metabolic syndrome resolved in 37% of affected patients at 6 months, 63% at 12 months, and 82% at 18 months.

LAGB is a minimally invasive, reversible, restrictive procedure that connects a balloon to a band wrapped around the upper part of the stomach. The gastric band’s tightness is adjusted through balloon inflation controlled via a reservoir placed under the skin and accessed through an abdominal port. The amount of weight loss, while typically less than with malabsorptive procedures, is sufficient to

bring about major metabolic and quality of life benefits, as shown in the adolescent follow-up.

Two of the five teens with a loss of less than 20% of their excess body weight at 12 months showed normalization of their dyslipidemia and metabolic syndrome, Dr. Holterman noted.

She reported that neither she nor her coinvestigators have any financial relationships with industry. ■



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DR. HOLTERMAN