

Gastric Bypass' Metabolic Gains Persist at 6 Years

Rate of diabetes remission was 75% in surgical group, 1% among controls.

BY DIANA MAHONEY

FROM THE ANNUAL MEETING OF THE OBESITY SOCIETY

ORLANDO –Cardiometabolic improvements following gastric bypass surgery persist over time, according to findings from the first prospective, long-term controlled trial to focus on gastric bypass patients.

After 6 years of follow-up, patients in the Utah Obesity Study who underwent the bariatric procedure maintained significant total weight loss and significant improvements in cardiovascular and metabolic measures and other disease end points relative to severely obese patients in the control group who did not undergo the surgery, according to Dr. Ted D. Adams of the University of Utah in Salt Lake City.

Of the 1,156 morbidly obese subjects enrolled in the study, 418 underwent gastric bypass surgery; 417 sought the procedure but were unable to have it, primarily because of lack of health insurance; and 321 were randomly selected as community controls from the Utah Health Family Tree program.

All of the participants underwent physical examinations and health evaluations at baseline, 2 years, and 6 years, including a physician interview and detailed medical history; resting electrocardiograms; a submaximal exercise treadmill test and electrocardiogram; pulmonary function; limited polysomnography; resting metabolic rate; anthropometry; resting and exercise blood pressure; comprehensive blood chemistry; urinalysis; and di-

etary, quality of life, and physical activity questionnaires, Dr. Adams stated, noting that the 6-year follow-up was "excellent," at 97%.

"In the surgical group, nearly all of the clinical measures improved significantly between the baseline and 2-year exams, and they remained significantly improved, compared with baseline at 6 years," Dr. Adams said. In contrast, he noted, "the clinical variables in the combined control groups changed minimally if at all over the 6-year period."

With respect to weight loss, the total weight reduction from baseline in the surgery group was 35% at 2 years and 28% at 6 years, while the average weight loss in the nonsurgical control subjects was negligible, Dr. Adams reported.

Further, the rate of diabetes remission at 6 years was 75% in the surgical group and 1% in the combined controls, and the in-

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Major Finding: Six years after gastric bypass surgery, the rate of diabetes remission in a cohort of morbidly obese patients was 75%, compared with 1% among those who did not undergo the procedure. The average weight loss from baseline was 28%.

Data Source: Longitudinal controlled prospective study evaluating the long-term weight and health outcomes of gastric bypass surgery in 418 morbidly obese patients.

Disclosures: Dr. Adams had no financial conflicts of interest to disclose.

cidence of diabetes in the surgical and control groups at 6 years was 2% and 16%, respectively, he said.

Cardiac morphology measures were also significantly improved at 6 months in the surgical group, Dr. Adams said. Echocardiography showed reduced left atrial volume and left ventricular mass, improvements that could potentially lead to reduction in obesity-related heart failure over time, he pointed out. The left atrial volume increased in the control group. Significant reductions

in waist circumference, systolic blood pressure, heart rate, triglycerides, low-density lipoprotein cholesterol, and insulin resistance were maintained at 6 years in the surgical group, as were higher levels of high-density lipoprotein cholesterol, he said.

The findings complement other cohort studies in bariatric surgery, Dr. Adams stated.

The cohort will continue to be followed to provide additional insight in the long-term durability of the improvements, he said. ■

Bariatric Surgery Recipients' Family Members Slim Down

BY MARY ANN MOON

FROM ARCHIVES OF SURGERY

Bariatric surgery appears to exert a favorable influence on family members of the recipient, leading to weight loss, healthier eating habits, and greater activity levels among adults and children residing with the patient, according to the results of a prospective, longitudinal study.

"Previous studies have shown that obesity may be a social contagion and that by associating with obese individuals, a person is more likely to become obese. Our study may demonstrate that bariatric surgery in selected populations can provide a reverse corollary and induce weight loss and healthy behaviors in people surrounding the patient," according to Dr. Gavitt A. Woodard and her associates at Stanford (Calif.) University.

The investigators assessed weight and lifestyle changes in spouses, parents, and children who were residing with patients during the year after the patients underwent Roux-en-Y gastric bypass surgery. They enrolled 35 families, including 35 patients, 26 spouses, 3 grandparents, 6 adult children, and 15 children younger than age 18 years during a 2-year period.

Both patients and family members were required to attend three preoperative educational sessions and five postoperative visits in which lifestyle modification was emphasized.

A high-protein, high-fiber, low-fat, low-sugar diet was recommended for the patients, which advised six small daily meals comprising 200-300 calories

and including 4-6 ounces of protein.

Lifestyle modification included daily goals of increased physical activity (10,000 steps per day), 8 hours of sleep, moderation of alcohol intake, and avoidance of watching more than 2 hours of television.

VITALS

Major Finding: Obese adults and children residing with bariatric surgery patients showed significant reductions in weight, BMI, and waist circumference; improved eating habits; and increased physical activity during the year following the procedure.

Data Source: A prospective, 1-year study of weight and lifestyle changes among 35 bariatric surgery patients, 26 spouses, 3 grandparents, 6 adult children, and 15 children younger than age 18 years.

Disclosures: This study was supported by the Medical Scholars Program at Stanford University. No financial conflicts of interest were reported.

After 1 year, the study subjects were evaluated by a physical examination as well as a battery of validated questionnaires assessing overall health, physical activity, sleep, risk behaviors, television viewing, alcohol consumption, and quality of life.

The gastric bypass patients lost weight as expected.

The mean weight of adult family members declined from 220 to 198 pounds, which was not statistically significant. However, when the family members were categorized by their own baseline weight, significant differences emerged.

Obese adult family members showed significant weight loss, from a mean of 234 to 226 pounds. Nonobese adult fam-

ily members showed a nonsignificant weight loss from 180 to 176 pounds. This pattern held true for decreases in body mass index as well, Dr. Woodard and her associates wrote.

The pattern also was the same for waist circumference, with obese adult family members showing a significant decrease from a mean of 119 cm to 111 cm and nonobese adult family members showing no change in waist circumference.

According to these findings, obese adult family members lost 3% of their total weight in 1 year, which falls within the range of a 2%-5% weight loss reported for people following the Atkins, Zone, Ornish, or LEARN diets. "Living with a gastric bypass patient and undertaking a structured diet plan along with the patient may have an equivalent effect on weight," the investigators said (Arch. Surg. 2011;146:1185-90).

Children were analyzed separately because of the expectation that their weight and waist circumference would increase because of natural growth.

Given the growth trajectories documented in their medical charts, obese children actually showed a smaller increase in BMI (29.6) than was expected (31.2). Nonobese children showed a slightly larger increase in BMI (19.8) than was expected (18.8).

As with the adult family members, children who were obese showed a sig-

nificant reduction in waist circumference, from 119 cm to 111 cm, but nonobese children did not show any change in waist circumference.

Patients and their adult family members showed significant changes in their eating habits. Both groups had marked decreases in "uncontrolled eating" and in "emotional eating." In addition, patients, but not their relatives, showed significantly increased "cognitive control of eating," Dr. Woodard and her associates said.

However, children showed no changes in these measures. And neither adult family members nor children changed their food choices or decreased their intake of carbohydrates or junk food, while patients did achieve these goals, they reported.

Yet there was a significant increase in the percentage of children who reported that they were "on a diet," from 25% at baseline to 50% at 1 year.

Patients and their adult family members reported significant declines in alcohol consumption, from 5 to 0.2 drinks per month among patients and from 11 to 0.8 drinks per month among adult family members.

Patients, adult relatives, and children all showed significant gains in daily activity levels. Children also decreased the amount of time they spent watching TV or using a computer every day, although this reduction did not reach statistical significance.

Overall, the study findings indicate that "bariatric surgery provides an opportunity for intervention for many individuals beyond the patient," Dr. Woodard and her associates said. ■