Adolescents Benefit from Roux-en-Y Gastric Bypass

BY JANE SALODOF MACNEIL
Southwest Bureau

PHOENIX — Benefits and complications resulting from Roux-en-Y gastric bypass procedures are similar for both adolescents and adults, according to data presented by Mike K. Chen, M.D., at the annual meeting of the American Pediatric Surgical Association.

A multicenter review of 37 adolescents who underwent the procedure showed that average body mass index decreased by 20.7 kg/m^2 at 1 year, said Dr. Chen, a surgeon at the University of Florida, Gainesville. He also reported significant improvements in key metabolic syndrome markers.

"While there are considerable risks with bariatric surgery, early experience suggests that these risks are offset by health benefits in these patients," Dr. Chen said.

Five surgeons performed the operations on adolescents aged 13-21 years at three pediatric centers: Dr. Chen's institution, Children's Hospital of Alabama (University of Alabama, Birmingham), and Cincinnati Children's Hospital Medical Center (University of Cincinnati).

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In 36 cases, the surgeons attempted laparoscopic procedures. Two were converted to open procedures, however, bringing to three the number of open procedures in the sample. Roux limb lengths were reported as 75-150 cm, and gastric pouch size as 30-45 cc.

Average body mass index at baseline was 56.5 kg/m^2 for the first 31 patients. Twelve months later, it was 35.8 kg/m^2 for 30 survivors. A control group of 12-13 adolescents who received nonsurgical care went from 47.2 kg/m^2 at baseline to 46.0 kg/m^2—a decrease of only 1.2 kg/m^2.

Dr. Chen itemized the metabolic data as follows: fasting insulin decreased by 21.3 μU/mL in 14 patients, fasting glucose by 12 g/dL in 10 patients, homeostasis model assessment–insulin resistance (HOMA-IR) by 4.6 in 9 patients, triglycerides by 65.1 mg/dL in 17 patients, and total cholesterol by 29.7 mg/dL in 18 patients.

Because of the small sample size, Dr. Chen and his coauthors did not calculate rates for individual complications but reported adverse events in categories.

They classified a complication as minor if the patient was readmitted to the hospital for less than 7 days of treatment, which could be endoscopy or diagnostic studies. Nine adolescents had minor complications, identified as endoscopy, food obstruction, wound infection, stricture, dumping syndrome secondary to overeating, mild beriberi that responded to outpatient treatment, hypokalemia, and deep vein thrombosis.

The investigators defined a moderate complication as unanticipated admission to an intensive care unit, reoperation, or sequelae lasting 7-30 days. Four patients had moderate complications. Dr. Chen listed these as persistent iron deficiency anemia, peripheral neuropathy secondary to vitamin deficiency, reoperation, shock, or internal hernia. He said the reasons for reoperation were staple line leak, obstruction, and gastrostomy revision.

A severe complication could be a life-threatening event, a major organ system failure, or sequelae lasting more than 30 days. Only two patients had a severe complication: a teenager who died 9 months after surgery from colitis that developed during rehabilitation for osteoarthritis, and one who experienced beriberi with sequelae for 2 months. The rest of the complications were mild to moderate, and 22 patients (61%) had none at all.

Dr. Chen said the surgeons undertook the analysis in response to a call for outcome studies in recently published guidelines for bariatric surgery in patients between the ages of 13 and 21 (Pediatrics 2004;114:217-23).

He cited one previous report of efficacy and complication rates, noting it was limited to 33 adolescents treated over 20 years at a single adult institution (J. Gastrointest. Surg. 2003;7:102-7).

"The vast majority of patients who undergo bariatric surgery are adults in their fifth decade of life," Dr. Chen said, adding that outcome data clearly support the procedure's efficacy in the older population.

About 15.5% of adolescents are overweight, he said, adding that "50%-75% of these obese kids become obese adults." Without a successful intervention, he warned, the consequences can include physical and psychosocial conditions and lost years of life. ■

Gastric Bypass Less Effective for Black Women Than Whites, With Possible Biologic Basis

BY DAMIAN McNAMARA
Miami Bureau

ORLANDO — African American women in general lose less weight after gastric bypass surgery than do white women, but the reasons are unknown. A recent study found that diet, eating behavior, and psychosocial status do not explain the disparity, but changes in fat mass seem to be the key.

"We know that African American women are generally more obese overall," Cynthia K. Buffington, Ph.D., said in an interview at a poster presentation during the annual meeting of the American Society for Bariatric Surgery.

Dr. Buffington and her associates compared morbidly obese African American and white women with no significant differences in preoperative body mass index, ideal body weight, or fat mass.

The study included 39 African American women with a mean BMI of 51 kg/m^2 and 114 white women with a mean BMI of 48.5.

Investigators also compared 39 of the African Americans to a subgroup of 39 whites matched for preoperative weight (a mean 143 kg). One year later, the African American women lost 62% of their excess weight to a mean of 94 kg, whereas the white women lost 80% of excess weight to a mean of 78 kg.

In the full cohort, the investigators determined psychosocial status using the Minnesota Multiphasic Personality Inventory-2 and the Millon Behavioral Medicine Diagnostic instruments. African American women had fewer psychosocial issues than did white women in the study, perhaps because obesity is more culturally accepted in the African American community, Dr. Buffington said.

The African American culture is more accepting of obesity, leaving obese black women feeling less stigmatized.

DR. BUFFINGTON

"African American women are more self-confident and have fewer psychosocial issues related to their obesity," said Dr. Buffington, director of research at U.S. Bariatric in Fort Lauderdale, Fla.

Specifically, African American women demonstrated significantly less depression, emotional instability, introversion, inhibition, and feelings of isolation or dejection; fewer adjustment problems; and better social adjustment than did white women in the study.

Dr. Buffington and her associates assessed patient diet histories and scores on eating-behavior questionnaires.

The reserchers found no significant differences in macronutrient intake or eating behaviors such as binge eating, food cravings, or eating control to explain the reduced effectiveness of surgery in African Americans.

"Both groups were consuming large amounts of calories, but there were no differences in carbohydrates or proteins," Dr. Buffington said.

"Both were consuming high amounts of fat, but there were no differences between groups."

African Americans had a 47% change in fat mass 1 year after surgery that was far less than the 63% change for whites, Dr. Buffington said. "This was strongly correlated to total weight loss."

"We think it means there is a biological basis for surgery not to induce as much fat loss in a morbidly obese population of African Americans versus [whites]," Dr. Buffington said. She said other investigators are finding reduced oxidation of fat in the muscle of African American females. ■