Weight Loss Sustained After Bariatric Surgery

BY DAMIAN McNAMARA

FROM THE ANNUAL MEETING OF THE PEDIATRIC ACADEMIC SOCIETIES

DENVER – Bariatric surgery resulted in significant weight loss at 1 year in a study of 890 morbidly obese adolescents who had the procedure at a designated center of excellence.

"This is one of the first reports of a national scope … revealing the prevalence estimates of weight loss among adolescent patients," Dr. Nestor de la Cruz-Munoz said at the meeting. "Bariatric surgery has the potential to be a safe and effective treatment option for significant weight loss in U.S. adolescents, irrespective of gender."

Fewer than 1% of bariatric surgery cases in the country are being done on adolescents, and "very little is know about the short-term and long-term outcomes in terms of weight and associated health consequences in these patients," said Dr. de la Cruz-Munoz, a bariatric surgeon at the University of Miami.

To find out more, he and his coworkers evaluated all patients aged 11-19 years old who had bariatric surgery from June 2007 through October 2010 in the prospective BOLD (Bariatric Outcomes Longitudinal Database) registry.

Weight decreased from a mean 138 kg at baseline to 110 kg at 1 year in these 890 patients. Baseline mean *z* score changed from 2.86 to 2.31, and the weight percentile of these adolescents (compared with the general population) decreased from 99.6% to 97.1%. In addition, the body mass index *z* score decreased from 2.6 to 2.11 during this time. Assessments were also done at 6 months post surgery in all patients. "All of those [changes] were statistically significant," Dr. de la Cruz-Munoz said.

"Bariatric surgery results in significant weight loss among morbidly obese multiethnic adolescents at 1 year post surgery, for both boys and girls," he said.

Broken down by sex, the mean baseline weight was 162 kg for boys and 129 for girls. The mean *z* score decreased from 3.52 to 2.77 for boys and from 2.64 to 2.12 for girls. "The weight percentages for boys started at about as high as you can get (99.95%) and ended up at 98.7%," Dr. de la Cruz-Munoz said.

At the same time, weight percentages for girls decreased from 99.46% to 95.97%. The BMI *z* score decreased from a baseline 3.15 in boys to 2.57 at 1 year. For girls, this measure decreased from 2.42 to 1.92. Again, all these changes were statistically significant.

"The most rapid weight loss was in the first 6 months," he said.

One patient died from cardiac failure 5 months after surgery, resulting in a mortality rate of 0.11% in the cohort. In all, 141 postoperative adverse events were reported. Nausea and vomiting were the most common (13%), followed by vitamin D deficiency (8%).

Gastric bypass was the most common type of bariatric surgery in these adolescents, performed in 454 patients (51%). Gastric banding was a close second and was performed in 436 patients (49%). No gastric sleeve procedures were done in this age group during this time.

Consistent with adult data, about 80% were females; mean age was 18 years, and 69% were white, 15% Hispanic, 11% black, and 5% other.

There are now more than 375,000 patients in the BOLD registry, so adolescents represent only 0.7%. The independent, nonprofit Surgical Review Corporation (SRC) administers the American Society for Metabolic and Bariatric Surgery Center of Excellence (BSCOE) program. The SRC developed BOLD in 2007 to help ensure compliance with the BSCOE program. There are 440 facilities currently designated as centers of excellence, with 758 surgeons; approximately 100 additional facilities have provisional status, Dr. de la Cruz-Munoz said.

Dr. de la Cruz-Munoz is a member of the SRC's surgical review committee and a consultant for Ethicon Endo-Surgery Inc. ■

To watch an interview with Dr. de la Cruz-Munoz, scan this QR code with a smartphone.