Bariatric Surgery In Obese Teens Can Help Undiagnosed Cardiovascular Issues

For adolescents who are extremely obese in this country, diet and exercise alone often are not enough to get their weight down. Some of those teens will require weight loss surgery to improve their overall health. According to a recent study published in the January print issue of the *Journal of Pediatric Surgery*, bariatric surgery in extremely obese adolescents also was shown to be beneficial in helping to reverse previously undiagnosed cardiovascular abnormalities believed to be linked to severe obesity.

The study included a retrospective analysis of 10 adolescent patients (nine female) from Nationwide Children's Hospital who underwent weight loss surgery between August and December 2008. High fidelity imaging using cardiac magnetic resonance (CMR) was performed on these patients in the months leading up to bariatric surgery and revealed heart abnormalities (such as increased left ventricular mass, left ventricular dilation, hypertension) in all patients. "What we found was that the cardiac structure and function in these extremely obese adolescents scheduled for bariatric surgery, was much more impaired than one might have thought," said study co-author John Bauer, PhD, principal investigator in the Center for Perinatal Research at The Research Institute at Nationwide Children's Hospital. "In addition, more than half of the patients we looked at had significant cardiac abnormalities that would be on par with a middle-aged person with real cardiovascular disease risk in the short term."

Within the first post-operative year (mean range of 7-13 months), patients were re-evaluated using CMR. Results showed that their previously recorded cardiovascular abnormalities were reversed. "Many of the abnormalities that we documented during the initial baseline study showed significant improvement after the weight loss had been obtained," said the study's co-author Marc Michalsky, MD [1], surgical director of the Center for Healthy Weight and Nutrition at Nationwide Children's Hospital. "This is a small, preliminary study that shows the significance of cardiovascular abnormalities in morbidly obese teens and that additional, more robust investigations are needed to understand how weight loss surgery can help this patient population."

In the Center for Healthy Weight and Nutrition at Nationwide Children's, patients first go through several months of evaluation to see if they are even candidates for weight loss surgery. This includes an introductory information session attended by the adolescent and parent and assessments of the potential candidate by a number of staff in the Center including dieticians, bariatric nurse practitioners, psychologists, physical therapists and surgeons. Candidates for weight loss surgery are those that have gone through several failed attempts at diet and exercise regiments. These teenagers have significant organ damage and their quality of life is poor, Dr. Michalsky said.

“Bariatric surgery in adolescents is never a cosmetic procedure,” explained Dr. Michalsky who is also a faculty member at The Ohio State University College of Medicine. “These teens are very sick, they are suffering and they can truly benefit in overall health from weight loss surgery.”

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[1] http://www.nationwidechildrens.org/marc-p-michalsky