

Weight loss surgery offers new hope to children and adolescents with Prader-Willi Syndrome

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Obesity is a leading cause of complications and death in children suffering from Prader-Willi syndrome (PWS), yet there are few effective treatment options for these patients. In a new study published in *Surgery for Obesity and Related Disease* researchers found that bariatric surgery, specifically laparoscopic sleeve gastrectomy (LSG), resulted in substantial weight loss with no apparent adverse effect on growth in a small group of severely overweight patients with PWS. While bariatric surgery is considered controversial for PWS, the research team is encouraged by their positive results.

PWS is a rare genetic condition that causes a wide range of problems including a constant desire to consume food, which is driven by a permanent feeling of hunger. This can easily lead to dangerous weight gain, and in fact, in PWS obesity is a leading cause of death and related problems such as obstructive sleep apnea, dyslipidemia (abnormally high cholesterol or fats in the blood), hypertension, and diabetes mellitus.

"Questions are raised regarding the safety of [bariatric surgery](#) in PWS [patients](#), the degree and sustainability of [weight loss](#) and resolution of related health problems, long term results, as well as the effect on growth and skeletal maturity. These concerns stem from the fact that the pathophysiology of obesity in those patients is unique and differs from what is observed in the general population," explained lead investigator Aayed R. Alqahtani, MD, RCSCS, FACS, of the Department of Surgery

at King Saud University College of Medicine, Riyadh, Saudi Arabia.

The study was carried out at King Saud University College of Medicine, which is an academic center with a standardized care pathway for pediatric bariatric surgery. Dr. Alqahtani and co-investigators examined weight loss and growth after LSG in 24 children and adolescents with PWS aged between five and 18 years old and compared the results with patients without the syndrome, who were matched for age, gender, and body mass index (BMI).

"Our study indicates that bariatric surgery should be recommended for pediatric PWS patients; our results are unmatched by any other treatment. All of our patients experienced significant weight loss following LSG. There were no deaths or major complications, no significant morbidity, and no slowing of growth," reported Dr. Alqahtani. "Most of the weight loss occurred within the first two years after surgery and patients successfully reduced food intake and felt satiated by smaller amounts of food due to reduced stomach capacity." Data for up to five years follow-up were analyzed, during which time few complications occurred.

The PWS patients had a mean BMI of 46.2 (\pm 12.2) before surgery. All PWS patients had [obstructive sleep apnea](#), 62% had dyslipidemia, 43% had hypertension, and 29% had diabetes mellitus. The change in BMI at the first, second, third, fourth and fifth annual visits was -14.7 (22 patients), -15.0 (18 patients), -12.2 (13 patients), -12.7 (11 patients), and -10.7 (7 patients), in the PWS group; while the non-PWS group had a BMI change of -15.9 (67 patients), -18.0 (50 patients), -18.4 (47 patients), -18.9 (26 patients), and -19.0 (20 patients), respectively.

Others may have a somewhat different take on the interpretation of these results. "Although the use of surgery in pre-adolescents with special needs is uncharted territory, the results are of interest,

particularly since there has been very limited experience with modern bariatric procedures in this patient population," commented Dr. Thomas Inge, professor of surgery and pediatrics from Cincinnati Children's Hospital Medical Center. "While it is clearly not possible to make treatment recommendations for use of [surgery](#) in this complex population without further research to examine the physiologic impact, these initial findings should at least prompt a new conversation about prospective and more comprehensive studies to examine safety and efficacy of modern weight loss procedures and newer medications in patients with PWS."

More information: "Laparoscopic Sleeve Gastrectomy in Children and Adolescents with Prader-Willi Syndrome: A Matched Control Study," by Aayed R. Alqahtani, MD, RCSCS, FACS, Mohamed O. Elahmedi, MBBS, Awadh R. Al Qahtani, MD, MSc, FRCSC, Jaehoon Lee, PhD, and Merlin G. Butler, MD PhD, FFACMG (DOI: [dx.doi.org/10.1016/j.soard.2015.07.014](https://doi.org/10.1016/j.soard.2015.07.014)). It appears online in *Surgery for Obesity and Related Diseases*.

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