
Long-Term Outcomes after Adolescent Bariatric Surgery

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Metabolic and bariatric surgery (MBS) is a safe and effective treatment option for adolescents with severe obesity, but no long-term studies are available with more than 10 years of follow-up data to document sustained improved outcomes.

obesity are at increased risk for developing chronic diseases including cardiometabolic disorders² and cancers,³ which may result in long-term disability and premature death.⁴

Metabolic and bariatric surgery (MBS) has emerged as a safe and effective treatment modality for adolescents with severe obesity with similar perioperative complication rates as for adults who have undergone MBS.⁵⁻⁸ The American Academy of Pediatrics (AAP) recently released a policy statement that recommended early referral to multi-disciplinary pediatric-focused MBS programs for adolescents with severe obesity.⁹ MBS in adolescents has been an underused treatment modality, owing to barriers including referral, access,^{10,11} and a lack of long-term evidence of MBS outcomes for adolescents. Recent reviews stress the urgent need for longitudinal studies demonstrating durable and sustainable weight loss.¹²⁻¹⁴

MBS patients are routinely lost-to-follow-up, thus limiting the availability of weight, comorbidities, and other outcomes. Recent studies have shown that 0.059 kg /GS0 3rs,

Study Procedures

mean (\pm SD) pre-MBS age was 18.8 (\pm 1.6) years (median age 19 years, range 15–21 years). The majority (83.3%, $n = 80$) were female, and 73.9% ($n = 71$) were Hispanic followed by NHW (16.7%, $n = 16$) and NHB (9.4%, $n = 9$). Most patients (90.6%, $n = 87$) completed RYGB. Of the 8 band patients, 2 underwent band removal for reflux and slippage, 1 underwent repositioning for slippage, and 1 had a spontaneous band de-attachment that has been left in place. The other 4 patients still have their bands intact but they have not been adjusted in more than 10 years. There was

A sustained TBWL% of 31.3% and a mean decrease in BMI from 45.4 mg/m² to 31.7 mg/m² at 10 to 18 years after MBS is remarkable, especially given that this was not a controlled research study. Pre-MBS preparation included completing extensive psychological, nutritional, and medical evaluations as part of a rigorous screening process because of their age. We stressed that successful outcomes require a lifelong commitment to significant changes in diet and vitamin supplementation. Most patients are currently taking at least 1 of the recommended supplements, with many patients taking all of them. Most admitted to being poorly compliant in their early 20s, consistent with the history of anemia that many experienced. Even with a lack of formal postsurgical follow-up, the absence of significant long-term complications is reassuring.

It should be noted that about half (52.1%) of the sample reported regular alcohol consumption, and almost 10%

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the medium-term data were, however, reported in the PCORnet bariatric study showing a decrease of 21% and 24% of BMI in sleeve gastrectomy and Roux-en-Y gastric bypass, respectively, at a 5-year follow-up period (n = 544).⁴ Cruz-Munoz and colleagues, in this publication, undoubtedly managed to portray MBS as a definitive treatment for adolescent patients suffering from obesity. That said, level 1 evidence regarding procedure selection is still missing awaiting the results of randomized control trial (TEEN-BEST) to be published in the near future.⁵

The challenges of MBS in adolescents go beyond the safety and weight loss effectiveness because it can affect essential physiologic and nutritional measures including derangements to the gonadal axis as well as bone health.⁶ Moreover, the quality of life after MBS is yet to be properly studied in this population. Adolescents after MBS often relocate for college or work and might lose the supportive environment they had when undergoing the surgery. Change in food quality, peer pressure, and exposure to illicit drugs might also affect compliance and impose further risks. Therefore, a thorough psychological support is mandatory both for the patient and the family before and after the operation.

With the increased prevalence of obesity in adolescents in the US and the absence of actual prevention measures for this disease at both the governmental and societal levels, more patients will be seeking this effective modality for weight loss. The questions that will continue to resurface are the following: Who is a candidate? When should the

candidate be referred? At what age do we offer surgery? How informed is the patient? Who gives the consent? Who performs the surgery? Most importantly, are the patients ready for an anatomy-altering lifetime procedure in the earlier stages of their lives? With the advancements of endoscopic bariatric surgery, organ-preserving anatomy-altering endoscopic options might present an early bridge before definitive surgical options. Only data and time will tell.

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