Medium-term Outcomes of Bariatric Surgery in Adolescents: The First Reported Multidisciplinary Experience from Quebec, Canada

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BACKGROUND:

Obesity and related comorbidities are rapidly growing health problems among adolescents. Bariatric surgery as the definitive treatment for severe obesity and related conditions is now also accepted for adolescents. However, access to surgery in this population remains a challenge and at times controversial. Our aim is to improve access to surgery in this vulnerable population in a multidisciplinary adolescent bariatric program. Here we report the outcomes of the first group of adolescents with obesity who have undergone bariatric surgery at our center.

METHODS:

This is a retrospective review of adolescent patients who underwent bariatric surgery during 2018-2021. All patients were referred for surgery after a multidisciplinary discussion with members of the Centre of Excellence in Adolescent Severe Obesity (CEASO), which includes a dedicated adolescent medicine physician, pediatric endocrinologist, pediatric dietitian and nurse, pediatric psychologist, and a social worker. Prior to referral, CEASO maximizes non-surgical treatment. CEASO also continues to follow the patients after surgery allowing for a safe transition of care to an adult obesity medicine team. Baseline demographics, body mass index (BMI), comorbidities, and postoperative outcomes were recorded. Descriptive statistics are displayed as count (percentage) or median (range).

RESULTS:

- During 2018-2021, 14 patients were referred for bariatric surgery by CEASO and 13 patients (93%) underwent bariatric surgery.
- All procedures were performed laparoscopically, and the median length of hospital stay was 1 (1-2) day.
- Medium-term weight outcomes are shown in table 2.
- There were no 90-day postoperative complications observed in the entire study cohort.

Table (1): Patients' baseline demographics, BMI, comorbidities and type of bariatric procedure performed

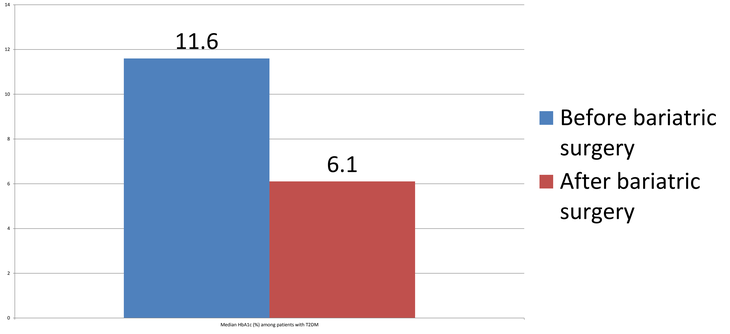
N=13	Median (Range)
Age (years)	17 (15-19)
Baseline BMI (kg/m^2)	49.3 (37.4-74.6)
Gender	Count (%)
Male	4 (31%)
Female	9 (69%)
Comorbidities	
Obstructive sleep apnea	8 (61%)
Non-alcoholic fatty liver disease	8 (61%)
Hypertension	5 (38%)
Type 2 diabetes mellitus	4 (30%)
Dyslipidemia	4 (30%)
Polycystic ovarian syndrome	3 (23%)
Blount's disease	1 (7%)
Bariatric procedure	
RYGB	1 (8%)
SG*	12 (92%)

* One patient underwent a second-stage SADI after a previous SG due to inadequate weight loss (baseline BMI=70.1 kg/m2) and refractory diabetes.

Table (2): Medium-term weight outcomes

N=13	Median (Range)
Follow-up time (months)	24 (3-24)
Postoperative BMI (kg/m^2)	38.3 (26.6-58.3)
%EWL	53.9 (23.4-87.4)
Change in BMI (kg/m^2)	11.2 (6.5-26.8)

Figure (2): Median HbA1C (%) among patients with T2DM



CONCLUSION:

Bariatric surgery in adolescents in the context of a multidisciplinary bariatric program involving adolescent medicine specialists, is safe and effective as evident by our preliminary results. Longer follow-up with a larger volume of patients are needed to consolidate our conclusions.