IDENTIFYING TRENDS AND PREDICTORS OF BARIATRIC SURGERY SELECTION IN ADOLESCENT PATIENTS: AN MBSAQIP ANALYSIS OF 2,140 PATIENTS

Khadija Nasser, Sukhdeep Jatana, Kassondra Pedenko, Kevin Verhoeff, Valentin Mocanu, Noah J. Switzer, Daniel W. Birch, Shahzeer Karmali

UNIVERSITY OF ALBERTA

BACKGROUND AND STUDY DESIGN

- Increasing rates of adolescent obesity and expanding indications for bariatric surgery have provoked significant interest in its efficacy in this population
- Literature on adolescent bariatric surgery is limited by quantity of studies and small sample sizes
- This study aimed to evaluate the largest cohort of adolescent patients undergoing bariatric surgery in regards to current trends, safety of delivery and predictors of procedure choice



- A retrospective cohort study was conducted using data from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database
- Patient population was organized into two adolescent cohorts:

(1) Those who underwent sleeve gastrectomy (SG)

(2) Those who underwent Roux-en-Y gastric bypass (RYGB)

METHODS

Inclusion and Exclusion:

Patients age ≤18 who underwent a primary, minimally invasive (or originally planned MIS) procedure were included

Outcomes:

Primary - Identification of current trends for adolescent bariatric surgery delivery

Secondary - Identify factors associated with procedure choice and compare complication rates between cohorts

Statistical Methods:

Bivariate analysis and multi-variable logistic regression modeling were conducted to characterize differences between the cohorts and identify predictors of procedure choice (RYGB specifically).

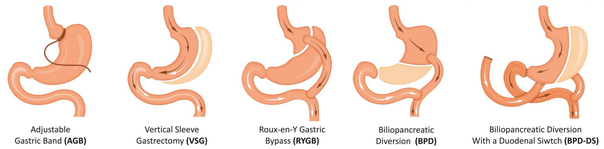
A multivariable logistic regression model was created for factors predictive of 30-day serious complications, including 30 day readmissions.

RESULTS

MBSAQIP
METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM

RYGB and SG in 885 accredited centers in Canada and the USA (n= 2140)

Sleeve Gastrectomy	Roux-en-Y Gastric Bypass
n= 1976 (92.3%)	n=164 (7.7%)



Outcome Results:

Primary outcome analysis demonstrated the following current trends in adolescent bariatric procedures

- Increasing numbers of bariatric procedures from 2020 to 2022 (605 to 809), driven by an increase in SG vs. RYGB
- Patients undergoing RYGB were older (17.3 +/- 1.0 vs. 17.0 +/- 1.2; p<0.0001) and female (81.7% vs 69.6%, p=0.001)
- Factors predictive of undergoing RYGB included being female (aOR 1.93, p=0.002), IDDM (aOR 3.15, p<0.004), GERD (aOR 2.52, p<0.001), older age (aOR 1.31, p<0.001) and more recent operative year (2022 vs 2020, aOR 0.62, p=0.025)

Secondary outcome analysis demonstrated rates of complications were very low for both procedure types and remained similar between groups. A multivariate logistic regression was completed and indicated surgical procedure was not predictive of 30-day serious complications.

CONCLUSIONS

- Sleeve gastrectomy is currently the most common bariatric procedure in adolescent populations and is increasingly being performed
- Complication rates of bariatric procedures in adolescent population remain low overall and there does not seem to be significantly increased risk with RYGB vs. SG despite SG being the procedure of choice in this population
- Predictors of RYGB procedure selection include older age, female sex, IDDM, GERD, and more recent operative year
- A more comprehensive understanding of benefits and risks associated with bariatric procedures in adolescents is needed as obesity continues to rise in this population