ASMBS Annual Meeting
Las Vegas, Nevada
June 25-29, 2023

2023 Abstracts
39th Annual Meeting of the American Society for Metabolic and Bariatric Surgery

June 25th-29th, 2023
Mandalay Bay
Las Vegas, Nevada

About the American Society for Metabolic and Bariatric Surgery

The ASMBS is the largest national society for this specialty. The vision of the Society is to improve public health and well-being by lessening the burden of the disease of obesity and related diseases throughout the world.

Founded in 1983, foremost American surgeons have formed the society's leadership and have established an excellent organization with educational and support programs for surgeons and integrated health professionals. The purpose of the society is to advance the art and science of metabolic and bariatric surgery by continually improving the quality and safety of care and treatment of people with obesity and related diseases by:

- Advancing the science of metabolic and bariatric surgery and increase public understanding of obesity.
- Fostering collaboration between health professionals on obesity and related diseases.
- Providing leadership in metabolic and bariatric surgery the multidisciplinary management of obesity.
- Advocating for health care policy that ensures patient access to prevention and treatment of obesity.
- Serving the educational needs of our members, the public and other professionals.

Educational Overview and Information

Purpose

The American Society for Metabolic and Bariatric Surgery is committed to providing tools for physicians and integrated health professionals as they participate in the Maintenance of Certification program, a lifelong learning process which includes areas of self-assessment and quality improvement of practice performance by physician specialists. Presentations of papers submitted from the most current research, as well as invited lecturers, promote the exchange of information and experiences between those practiced in bariatric surgery and newcomers to the field. The Scientific Session is offered as a culmination to the selection of courses presented in various learning formats designed to meet the needs of the learner. The primary goal is continual

improvement in competence and performance of those in the field of bariatric surgery which will result in improved patient outcomes.

Target Audience

The conference is designed for all clinical and academic surgeons and support staff, including any health professional involved in the care of the patient with obesity, who wish to increase their knowledge of the surgical and perioperative management of the patient with obesity. The conference is also designed for those seeking practical pearls and hands-on experience to modify their practice and thereby achieve more favorable patient outcomes.

Educational Objectives

Upon completion of this conference, physicians and support staff should be able to:

- Define, discuss, and solve specific challenges in the treatment of patients who suffer from obesity and obesity-related metabolic diseases and conditions
- Describe the development and use of new techniques to achieve weight loss by surgery in patients with obesity
- Examine the broad scope of patient care services
- Identify the specific needs of bariatric patients and assist in targeting their care in a coordinated multidisciplinary team effort

Accreditation Statements

The American Society for Metabolic and Bariatric Surgery (ASMBS) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) at the highest honor, Accreditation with Commendation, by providing continuing medical education for physicians. The American Society for Metabolic and Bariatric Surgery designates this live activity for a maximum of 31 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Up to 29.25 hours of self-assessment credits toward Part 2 of the ABS MOC Program requirements are available.

Nursing Credits up to 31 CE contact hours are provided by Taylor College, Los Angeles, California possibly may not be accepted for national certification. Provider is approved by the California Board of Registered Nursing, provider number CEP-3285, for the stated number of contact hours.

In support of improving patient care, this activity has been planned and implemented by Amedco LLC and ASMBS. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education

(ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team. Amedco LLC designates this live activity for a maximum of 28.5 live Psychologist contact hours.
As a Jointly Accredited Organization, Amedco is approved to offer social work continuing education by the Association of Social Work Boards (ASWB) Approved Continuing Education (ACE) program. Organizations, not individual courses, are approved under this program. State and provincial regulatory boards have the final authority to determine whether an individual course may be accepted for continuing education credit. Amedco maintains responsibility for this course. Social Workers completing this course receive 28.5 live GENERAL continuing education credits.

Educational Disclaimer

The primary purpose of this conference is education. Information presented, as well as publications, technologies, products, and/or services discussed, are intended to inform you about the knowledge, techniques, and experiences of bariatric surgeons who are willing to share such information with colleagues. A diversity of professional opinions exists in bariatric surgery, and the views of the conference's faculty are offered solely for educational purposes. Faculty's views neither represent those of the ASMBS nor constitute endorsement by the Society. The ASMBS disclaims any and all liability or damages to any individual attending this conference for all claims, which may result from the use of information, publications, technologies, products, and/or services of the meeting. Faculty disclosure statements have been requested from the speakers and will be presented in the conference materials.

Table of Contents

Top Papers Session I

Tuesday, June 27th, 2023
8:00 AM – 9:30 AM

A001

Adverse Cardiovascular Outcomes in Patients with Moderate to Severe Obstructive Sleep Apnea: Comparison of Metabolic Surgery versus Usual Care

Ali Aminian *Cleveland OH*[1], Lu Wang *Cleveland OH*[1], Abdullah AL Jabri *CLEVELAND OH*[1], Rickesha Wilson *Cleveland OH*[1], Alex Milinovich *Cleveland OH*[1], Nancy Foldvary-Schaefer *Cleveland OH*[1], Steven Nissen *Cleveland OH*[1], Reena Mehra [1]
Cleveland Clinic[1]

Background: Obstructive sleep apnea (OSA) afflicts 1 billion people and is strongly linked with obesity and cardiovascular (CV) disease. Metabolic surgery (MS) is the most effective treatment for obesity and improves CV risk factors. The aim of this study was to investigate the long-term relationship between MS and incident major adverse cardiovascular events (MACE) in patients with moderate-to-severe OSA.

Methods: A total of 13,657 adult patients including 970 patients in the MS group and 12687 patients in the nonsurgical control group met the inclusion criteria including BMI 35-70 kg/m^2 and presence of moderate-to-severe OSA (Apnea Hypopnea Index $\geq$15 diagnosed by sleep study tests) at Cleveland Clinic (2004-2018). A doubly robust estimation combining the overlap weighting and multivariable-adjusted Cox regression was used to compare outcomes in surgical and nonsurgical groups with follow-up through September 2022. The primary outcome was the incidence of extended MACE (composite of coronary artery events, cerebrovascular events, heart failure, atrial fibrillation, and mortality).

Results: Distribution of 15 baseline covariates between the study groups was precisely balanced after overlap weighting. The cumulative incidence of MACE at 10 years was 27.3% (95% CI, 21.8%-32.3%) in the MS group and 34.1% (95% CI, 32.2%-35.9%) in the nonsurgical group; adjusted absolute risk difference, 4.2% (95% CI, 2.0%-11.5%); adjusted HR, 0.63 (95% CI, 0.52-0.77), P<0.001 [Figure 1].

Conclusions: MS is associated with 37% lower risk of MACE in patients with OSA. This is the first study reporting a treatment modality that is associated with decreased risk of MACE in patients with OSA.

A002

Duodenal-Ileal Diversion with Self-Assembling Magnets in Patients with Inadequate Weight Loss or Weight Regain following Sleeve Gastrectomy: Feasibility and Nine-Month Results

Roman Turro Arau *Barcelona* [1], Alberto Diez-Caballero [1], Antonio Ortega Sabater *Barcelona* [1], Jose Saez Hernandez *Barcelona* [1], Alfredo Mata [1], Sterling Feliz *Barcelona* [1], Merce Rosinach [1], Anna Vila *Barcelona* [1], Sandra Andrés *Barcelona* [1], JORGE C ESPINOS *BARCELONA* [1]
Centro Medico Teknon[1]

Background: Sleeve gastrectomy (SG) procedures have become the highest volume procedure worldwide for treatment of obesity. Patients have reported insufficient weight-loss or weight-regain leading to the need for an effective and safe revisional surgery to address their obesity.

Objective: A study to determine the technical feasibility and safety of a minimally invasive, duodenal-ileal side-to-side anastomosis using a Sutureless Neodymium Anastomosis Procedure (SNAP) for patients with weight-regain or inadequate weight-loss following SG.

Methods: Our study is a prospective, single-arm, open label pilot study that enrolled patients with obesity to assist in weight-reduction following a SG performed >12 months prior. For SNAP, self-assembling magnets are deployed into the ileum (laparoscopically) and duodenum (per-oral endoscopy) respectively. Magnets were coupled together under laparoscopic and fluoroscopic guidance, creating a compression anastomosis. Primary endpoints: technical feasibility, effect on weight loss, and safety.

Results: Successful duodenal-ileal diversions were created with SNAP in 27 subjects (mean age: 50.6±9.1, mean BMI: 38.1±4.6 kg/m^2) with no device-related serious adverse events. All magnets were naturally expelled in patients' fecal stream. Upper endoscopy at 3M follow-up (FU) confirmed patent, healthy anastomosis in all patients. Patients with ≥9M FU experienced %TBWL of 13.7±8.3%, 17.0±11.2%, and 21.4±13.5% at 3, 6, and 9 months respectively compared to baseline.

Conclusion: Successful duodenal-ileal diversion was created in all patients with the SNAP procedure, demonstrating feasibility and safety in these patients. Weight reduction is clinically meaningful at reported FU periods with patient reporting very high satisfaction. Early results are encouraging but further study is required.

A003

One Anastomosis Gastric Bypass versus Roux-en-Y Gastric Bypass : 5-year results of the randomized trial YOMEGA (NCT 05549271)

Maud Robert *Lyon* [1], Toufic Saber *Lyon* [1], Tigran Poghosyan *Paris* [2], Alexandre Filippello *Saint Etienne* [3], Adrien Sterkers *Saint Gregoire* [4], Litavan Khamphommala *Rennes* [4], Fabian Reche *Grenoble* [5], Vincent Malherbe *Guilherand Granges* [6], Adriana Torcivia *Paris* [7], Delphine Maucort-Boulch *Lyon* [8], Dominique Delaunay *Lyon* [1], Carole Langlois-Jacques *Lyon* [8], Augustin Suffisseau *Le Kremlin-Bicêtre* [2], Belinda Desimone *Poissy* [9], Robert Caiazzo *Lille* [10], Emmanuel Disse *Lyon* [8], François Pattou *Lille* [10]

Edouard Herriot University Hospital[1] Université De Paris Cité[2] Hôpital Privé De La Loire[3] Centre Hospitalier Privé Saint Grégoire[4] University Hospital Of Grenoble[5] Hôpital Privé Drôme Et Ardèche[6] Hôpital Pitié Salpétrière[7] University Hospital Of Lyon[8] Centre Hospitalier Poissy St Germain[9] University Hospital Of Lille - Huriez[10]

Background: The prospective multicenter randomized trial YOMEGA comparing the OAGB to the RYGB confirmed the non-inferiority of OAGB in terms of weight loss at 24 months: significantly more complications were observed for OAGB with a biliopancreatic limb of 200 cm.

Methods: Data from the YOMEGA trial were analyzed at 5 years. The primary end-point was %EBL; secondary end-points: T2D remission, nutritional status, complications.

Results: 121 OAGB and 127 RYGB were randomized and analyzed. At baseline, mean age was 43.3 (SD 10.9), mean BMI: 44.0 (SD 5.6), T2D:24%. At 5 years, comparing OAGB to RYGB, mean %EBL was -76% (SD 26.2) versus -72.7% (SD 29.9), p =0.46 ; 30.8% achieved T2D remission in both arms and nutritional status did not differ; 11.3% had $\geq$ 4 stools/day for OAGB versus 8.2% for RYGB (p=0.57) ; 38.7% suffered from clinical GERD versus 20.8% respectively, p =0.01, with the use of $\geq$ 20 mg of PPI/ day in 43.6% of OAGB versus 26.9% of RYGB, p = 0.03. 3 patients of the OAGB group were reoperated for an anastomotic ulcer, none in the RYGB group. 11 patients were converted from OAGB to RYGB (8.7%). 18.2% of OAGB required an hospitalization for a serious adverse event versus 10.4% of RYGB, p=0.16. The lost to follow-up rate was 28.6%.

Conclusion: EBL% was not significantly different between groups at 5 years. The nutritional risk and diarrhea rate seemed to improve with time for OAGB but 38.7% suffered from GERD with a conversion rate to RYGB of 8.7%.

A004

Ambulatory Discharge of Patients Undergoing Sleeve Gastrectomy Results in Significantly More Adverse Outcomes

Mark Mahan *Danville PA*[1], Grace Petrick *Danville PA*[2], Benjamin Smith *Danville PA*[3], Hugo Villanueva *Danville PA*[1], James Dove *Danville PA*[1], Benefsha Mohammad *Danville PA*[1], Vladan Obradovic *Danville PA*[1], David Parker *Danville PA*[1], Anthony Petrick *Danville PA*[1]
Geisinger[1] Boston College[2] Geisinger School of Medicine[3]

Introduction: Ambulatory discharge after sleeve gastrectomy (SDSG) has become more common during the COVID pandemic. Several insurance payers have suggested that they would no longer reimburse for planned inpatient hospital stay for patients undergoing SG. The goal of our study was to determine which, if any, patient groups could safely undergo SDSG.

Methods: A retrospective analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Project (MBSAQIP) from 2015-2021 was performed. Multivariable logistic regression analysis was performed using demographics, comorbid disease and PUF year to determine the risk of adverse events within 30 days of SG by postoperative discharge day.

Results: A total of 702,622 SGs were performed during the study period. 31,394 (4.47%) patients were SDSGs and 412,379 (58.7%) postoperative day 1 (POD1). From 2015-2019 the mean percentage of cases that were SDSG was 2.94%. The proportion increased to 6.3% in 2021 and 9.6% in 2021. Compared to those discharged on POD1, SDSG patients were at increased risk for any complication (OR 1.22 95% CI 1.1-1.36), minor complications (OR 1.17 95% CI 1.03-1.32), major complications (OR 1.36 95% CI 1.15-1.61), readmission (OR 1.09 95% CI 1.00-1.18), and reoperation (OR 1.37 95% CI 1.16-1.62). Other interventions within 30 days were not statistically significant.

Conclusion:
Compared to those discharged on POD1, SDSG patients are at significantly increased risk for all adverse events analyzed. With growing pressure to shorten or eliminate the utilization of hospital beds, identification of appropriate candidates for safe SDSG is crucial.

A005

Endoscopic Re-Cellularization via Electroporation Therapy (ReCET) for Improving Glycemic Control in Individuals with Type 2 Diabetes – Interim Report of Prospective Feasibility Trial

Barham Abu Dayyeh *Rochester MN*[1], Howard McCollister *Crosby MN*[2], Paul Severson *Crosby MN*[2], Angelina Ausban *Crosby MN*[2], Melissa Dyrdal *Crosby MN*[2], John Lipham *Los Angeles CA*[3], Andrew Storm *Rochester MN*[1]

Mayo Clinic, Rochester, MN[1] Cuyuna Regional Medical Center[2] University of Southern California[3]

Background: The ReCET is a novel, non-thermal approach for the re-cellularization of the duodenum with regenerated metabolically active cells using a pulsed electric field (PEF) for diabetes.

Methods: This is a multicenter prospective feasibility trial. Eligibility criteria include 22-65 years of age, on 2-3 non-insulin glucose-lowering medications, HbA1c 7.5%-10.0% and BMI 24-40 kg/m². The procedure involves endoscopic placement of the ReCET catheter and delivery of PEF to the duodenum (Figure 1). Patients are followed for 12 months with endoscopy at 4 weeks. The background medications are maintained stable. The primary endpoint is device/procedure-related serious adverse events (SAEs). Secondary endpoints include procedure success and glycemic parameters.

Results: Ten patients enrolled to date, with a mean age of 52.7 ± 9.4 years, 60% male, BMI 30.4 ± 4.1 kg/m², T2D duration 6.4 ± 2.2 years, and baseline HbAlc 8.4 ± 0.6%. Procedure success was 100%, and mean treatment length of the duodenum was 11.4 ± 2.8 cm. All patients were discharged on the same day. No device/procedure-related SAEs occurred. Mild sore throat was the only device/procedure-related AEs reported in 2/10 patients. Complete mucosal healing was observed at 4-week endoscopy with no stricture or other abnormal findings. Five patients have completed the 24-week follow-up, 4/5 had HbAlc ≤7.0%. Mean weight loss was 5.0% ± 3.8% at 24 weeks.

Conclusions: Application of PEF in duodenum using the ReCET device is technically feasible and safe. Observed glycemic improvement is promising and elucidates a novel adjunctive therapy with a unique mechanism of action. ClinicalTrials.gov NCT05014204

Top Papers Session II

Tuesday, June 27, 2023
10:15 AM – 12:00 PM

A011

Robotic vs Laparoscopic Bariatric Surgery: Which Is More Ergonomic Based On Surface Electromyography And The NASA-Tax Load Index?

Kyle Duckett *Toledo OH*[1], Matthew Fourman *Maumee OH*[2]
University of Toledo Medical Center[1] Toledo Promedica Hospital[2]

Background: Evaluate and compare surgeon muscle activity and cognitive stress during bariatric surgeries laparoscopic and robotic: sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB).

Methods: Two surgeons performed a combined total of 42 surgeries, 18 laparoscopic and 24 robotic. Muscle activity was measured by surface electromyography (EMG) and evaluation of cognitive stress pre/post procedure was done by the NASA Task Load Index (NASA-TLX). Investigator self-reported measures of the fatigue, pain/discomfort and general patient demographics were collected. Surgeons ranked their workload using the NASA-TLX self-assessment tool.

Results: Combining surgeries from both surgeons, laparoscopic surgeries required greater work on all domains compared to robotic, with the exception of mental demand. The mean overall workload score for laparoscopic cases was 39 [95% CI 28, 50 $p<.001$] compared to robotic cases mean score 14 [95% CI 11, 18, $p<0.001$]. The EMG data muscle activity was higher using a robotic technique compared to laparoscopic [medium to large effect size with homogenous 95% CI] for both SG and RYGB cases for predominately the lumbar erector spinae groups with exception in activity for the upper trapezius muscle group in which the laparoscopic cases had increase change [95% CI $p=.007$].

Conclusion: The NASA-TLX data indicate robotic procedures have less overall workload and physical demands on the surgeon whereas the EMG data suggests muscle activity trends were higher for robotic cases for lumbar erector spinae muscle groups and for laparoscopic cases an increase change for the upper trapezius muscle groups was noted. Comparative operative times were observed for robotic cases.

A012

Differential outcome among adolescents at 10-years following vertical sleeve gastrectomy or Roux-en-Y gastric bypass

Justin Ryder *Chicago IL*[1], Todd Jenkins *Cincinnati OH*[2], Changchun Xie *Cincinnati OH*[2], Anita Courcoulas *Pittsburgh PA*[3], Carroll Harmon *Buffalo NY*[4], Michael Helmrath *Cincinnati OH*[5], Stephanie Sisley *HOUSTON TX*[6], Marc Michalsky *Columbus OH*[7], Thomas Inge *Chicago IL*[8]
University of Minnesota[1] University of Cincinnati[2] University of Pittsburgh Medical Center[3] SUNY University at Buffalo[4] Cincinnati Children's Hospital[5] Baylor College of Medicine[6] Nationwide Children's Hospital[7] Lurie Children's Hospital[8]

Background: Roux-en-Y gastric bypass (RYGB) has largely been supplanted by vertical sleeve gastrectomy (VSG) as the most commonly performed metabolic and bariatric surgery procedure for adults and adolescents. Data from adults demonstrate differences between the procedures regarding weight loss durability, comorbidity resolution, and safety profile, while outcomes in adolescents are limited and the long-term implications are unknown.

Methods: We compared 10-year outcomes following RYGB (n=161) and VSG (n=99) in a cohort of adolescents who underwent surgery from 2007 through 2012. BMI change, obesity-related comorbidity response, including micronutrient outcomes were examined using propensity score adjusted, linear mixed and Poisson mixed models.

Results: BMI change was similar between RYGB (-20%) and VSG (-18%) at 10 years (p=0.85). Both procedures had high rates of resolution in type 2 diabetes (RYGB=60%; VSG=47%), hypertension (RYGB=62%; VSG=49%), and dyslipidemia (RYGB=65%; VSG=50%) at 10 years. Participants who underwent VSG were less likely to experience resolution of type 2 diabetes (Risk Ratio[RR]: 0.76[0.57,1.02], p=0.07), hypertension (RR: 0.84[0.71,0.98], p=0.03), and dyslipidemia (RR: 0.76[0.63,0.93], p<0.01) compared to those who underwent RYGB. VSG was also less commonly associated with postoperative micronutrient deficiencies: low ferritin (RR: 0.57[0.44,0.73], p<0.01) and low vitamin B12 (RR: 0.41[0.22,0.77], p<0.01) compared to RYGB. During post-operative years 4-10, anemia was less prevalent in those who underwent VSG compared to RYGB (prevalence risk: 0.36[0.25, 0.52], p<0.01).

Conclusion: Both RYGB and VSG were associated with long-term weight loss and co-morbidity resolution benefits. RYGB provided greater reduction of cardiometabolic complications of obesity, while VSG resulted in a more favorable micronutrient outcomes.

A013

Risk stratification using MRI-derived, personalized visceral-, subcutaneous-, and liver fat z-scores in persons with obesity

Jennifer Linge *Linkoping* [1], Torsten Olbers *Linköping* [2], Alexander Kugelberg [3], Per Widholm *Linköping* [1], Olof Dahlqvist Leinhard *Linkoping* [1]
AMRA Medical AB and Linköping University[1] Linköping University, Norrköping[2] Vrinnevi hospital, Norrköping, Sweden[3]

Objective: A person's fat accumulation pattern (visceral-, subcutaneous-, and/or liver fat) can determine their cardiometabolic risk profile. This study aims to investigate risk stratification using personalized body fat z-scores in persons with BMI 30-40 kg/m^2 from the UK Biobank imaging study.

Methods: Magnetic resonance images of 40174 participants (6-minute neck-to-knee protocol) were analyzed for visceral adipose tissue (VAT), abdominal subcutaneous adipose tissue (aSAT), and liver fat (LF) using AMRA® Researcher. Body fat z-scores (VATz, aSATz, LFz) were calculated for each participant using at least 150 sex- and BMI-matched controls. Associations between z-scores and later incident cardiovascular disease (CVD) and type 2 diabetes (T2D) were investigated using Cox proportional-hazards modelling and Kaplan-Meier curves.

Results: BMI was 25-30/30-40/>40 kg/m^2 in n=16361/6716/412 respectively. VATz was positively associated with CVD (crude hazard ratio (cHR) [95% CI]: 1.30 [1.20-1.40], p<0.001), while aSATz and LFz were negatively associated (cHR: 0.91 [0.85-0.99], p=0.028 and 0.88 [0.82-0.95], p=0.002). All z-scores were significant when models were adjusted for sex, age, BMI, but only VATz when also adding previous CVD. VATz and LFz were positively associated with T2D (cHR: 1.53 [1.40-1.67], p<0.001 and 1.35 [1.23-148], p<0.001) while aSATz was negatively associated (cHR: 0.90 [0.81-0.99], p=0.026). All z-scores were significant when models were adjusted for sex, age, BMI, but not when also adding previous T2D.

Conclusion: Personalized body fat z-scores identifies obesity sub-phenotypes with specific cardiometabolic risk profiles. Individuals with a high risk for CVD or T2D may be recommended intensive obesity treatment such as metabolic surgery.

A014

Type 2 Diabetes Mellitus Remission after Roux-en-Y Gastric Bypass: A Multi-centered Experience with Long Term Follow Up

Karl Hage *Rochester MN*[1], Kayla Ikemiya *Fresno CA*[2], Wissam Ghusn *Rochester MN*[1], Edmund Lee *Stony Brook NY*[3], Kurt Kennel *Rochester MN*[1], Travis McKenzie *Rochester MN*[1], Barham Abu Dayyeh *Rochester MN*[1], Konstantinos Spaniolas *Stony Brook NY*[3], Kelvin Higa [2], Pearl Ma *Fresno CA*[2], Omar Ghanem *Rochester MN*[1]

Mayo Clinic Rochester[1] University of California San Francisco, Fresno, California[2] Stony Brook University Medical Center, Stony Brook, New York[3]

Introduction: Predictive parameters associated with type 2 diabetes mellitus (T2DM) remission following Roux-en-Y gastric bypass (RYGB) have not been well elucidated. We aim to report T2DM resolution rates and identify specific parameters associated with remission following RYGB.

Methods: We performed a multicenter retrospective study of patients who underwent RYGB between 2008-2017. Adult patients with diabetes who underwent RYGB were included. Patient demographics and clinical data were collected annually until 14 years after RYGB. T2DM remission was defined as HbA1c <6.5% and off anti-diabetes medications. Predictors were assessed using a multivariate logistic regression. Patients were divided into four groups based on their quartiles of total body weight loss percentage (%TBWL) to evaluate their T2DM remission rates. Data are summarized as mean± standard deviation.

Results: A total of 705 patients were included (66.5% female, age 52.4± 11.4 years; BMI 45.9± 7.9 kg/m^2) with a mean follow-up period of 6.3± 3.9 years (**Table 1**). T2DM remission at last follow-up visit was demonstrated in 49% of patients (**Figure 1A**). Predictive factors of T2DM remission included pre-operative duration of T2DM ($p<0.01$), baseline HbA1c ($p<0.01$), insulin use prior to surgery ($p<0.01$), number of anti-diabetic medications ($p=0.02$) and total body weight loss percentage ($p=0.01$). Remission rates were proportional to %TBWL [Q1 40.3%, Q2 48.9%, Q3 51.1%, Q4 55.3%] ($p=0.08$) (**Figure 1B**).

Conclusion: Clinical and metabolic diabetes parameters as well as postoperative weight loss were associated with significant and sustained T2DM remission after RYGB. Regardless of weight loss, a significant proportion of patients will still experience diabetes remission.

A015

Fifteen Year Multicenter Comparative Analysis of Sleeve Gastrectomy, Gastric Bypass and Duodenal Switch in Patients with BMI ≥ 70kg/m2

Kamal Abi Mosleh *Rochester MN*[1], Andre Teixeira *Orlando FL*[2], Romulo Lind *Orlando FL*[2], Muhammad Ghanem *Orlando FL*[2], Karl Hage *Rochester MN*[3], Marita Salame *Rochester MN*[3], Barham Abu Dayyeh *Rochester MN*[3], Michael Kendrick *Rochester MN*[3], Omar Ghanem *Rochester MN*[3]
Mayo Clinic, Rochester[1] Orlando Health, FL, USA[2] Mayo Clinic, Rochester, MN, USA[3]

Introduction: The new ASMBS/IFSO guidelines recommend bariatric surgery (MBS) as the preferred method to achieve weight loss in patients with extreme BMI. There are limited safety reports of MBS in patients with BMI≥70kg/m^2. There exists no consensus on the best procedure in this cohort. We aim to compare the safety profiles, early and medium-term outcomes of sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB), and duodenal switch (DS) in patients with BMI≥70kg/m^2.

Methods: A multicenter retrospective review of patients who underwent SG, RYGB or DS as a primary procedure with a BMI≥70kg/m^2 was performed. Patient baseline characteristics, perioperative complications and weight loss outcomes at 6, 12 and 24 months were collected. Kruskal-Wallis and Independent t-tests were used to analyze continuous variables.

Results: 156 patients with BMI≥70kg/m^2 underwent MBS (SG = 40, RYGB=40 and DS=76). Patient demographics and baseline characteristics were similar between all cohorts. Average baseline BMI was 75.5 kg/m^2. %Total weight loss (TWL) at 24 months was highest in the DS group compared to RYGB (40.6% vs. 33.8%, p-value=0.03) and SG (40.6% vs. 28.5%, p-value=0.01). There was no significant difference between RYGB and SG (33.8% vs . 28.5%, p-value=0.20). The 30-day complication rates were similar [SG (7.5%), RYGB (10%), and DS (9.2%) (p-value=1.0)]. There was one reported leak (DS). The 30-day mortality was zero.

Conclusions: MBS is safe and effective in patients with BMI≥70kg/m^2. All procedures had comparable safety profiles and complication rates. DS is the most effective procedure and achieved the highest %TWL at 24 months.

IH Top Oral Abstracts

Tuesday, June 27th, 2023
8:00 AM – 9:30 AM

A006

Does the Distressed Community Index Correlate with Adverse Outcomes After Surgery?

Kathryn Schlosser *Greenville SC*[1], Zeid Keilani *Columbia SC*[1], David Moffat *Columbia SC*[1], Dawn Blackhurst *Greenville SC*[1], Shea Shull *Greenville SC*[1], Shanu Kothari *Greenville SC*[1], John Scott *Greenville SC*[1]
Prisma Health[1]

Introduction: The Distressed Communities Index (DCI) compiles social and economic factors of a zip code into a single numerical score from 0 to 100. High DCI has been associated with decreased access to care and adverse surgical outcomes. We assessed the impact of DCI on outcomes and health care utilization rates after bariatric surgery.

Methods: The MBSAQIP database was queried for patients who underwent bariatric surgery at two surgical centers within a health system from Jan 2020 to June 2022. Patients over 18 who underwent primary bariatric surgery were included. A DCI value was extracted for each patient's ZIP code. Student's t-test, Wilcoxon Rank Sum Test, and Chi-square test were used as appropriate. Pearson's correlation was used to look for adverse outcomes and utilization rates. A p value <0.05 was deemed significant.

Results: A total of 1,576 patients were identified, with 88% female, mean age 43.2 years (SD 11.7). Laparoscopic sleeve gastrectomies accounted for 47.6% of cases, while 52.4% underwent laparoscopic Roux-en-y gastric bypass. Mean DCI was 51.9 (SD 27.8, range 0.4-99.4), from 221 zip codes. There was no correlation between DCI and emergency department visits (12.4% $P>0.2$), postoperative complications (3.9% $P>0.08$), or readmissions (5.6%, $p>0.19$). There was no correlation between DCI and BMI change at 6 months or at 1 year (correlation coefficient -0.060, -0.062 respectively) (Figure 1).

Discussion: No correlation was found between DCI and outcomes after bariatric surgery in this population. Prospective patients seeking bariatric surgery should not be deemed poor candidates based on their socioeconomic status.

A007

Cannabis Use following Bariatric Surgery is Associated with Anxiety and Maladaptive Eating

Lisa Miller-Matero *Detroit MI*[1], Kaitlin Ross *Detroit MI*[2], Camila Arellano *Detroit MI*[2], Logan Zelenak *Detroit MI*[1], Eve DePascale *Detroit MI*[1], Lyubov Gavrilova *Detroit MI*[1], Jordan Braciszewski *Detroit MI*[1], Leah Hecht *Detroit MI*[1], Erin Haley *Detroit MI*[1], Carly Brescacin *Windsor* [1], Jeffrey Friedman *Gainesville FL*[1]
Henry Ford Health[1] Wayne State University[2]

Introduction: There are limited data regarding the impact of cannabis use on outcomes after bariatric surgery. As such, it is challenging to know how to counsel patients using cannabis. The purpose of this study was to examine whether cannabis use was associated with psychiatric symptoms and maladaptive eating among individuals up to 4 years after bariatric surgery.

Methods: All patients who underwent bariatric surgery at a single health system over a four-year period were invited to participate. Participants (N=765) completed questionnaires online regarding cannabis use, psychiatric symptoms, and maladaptive eating.

Results: Any cannabis use after bariatric surgery was associated with increased likelihood of having significant anxiety (OR= 1.88, p= .003; 20.8% vs. 12.3%), increased likelihood of grazing behaviors (OR= 1.77, p= .01; 17.2% vs. 10.5%), and higher scores for eating in response to depression (p= .01; 12.13 vs. 10.75). Those who use cannabis at least once per week were also more likely to engage in loss of control eating (OR= 1.81, p= .04; 11.2% vs. 6.5%), binge eating (OR= 2.16, p= .03; 14.1% vs. 7.1%), and night eating behaviors (OR= 2.11, p= .01; 12.4% vs. 6.3%). Cannabis use was not associated with depression (p> .05).

Conclusions: Cannabis use after bariatric surgery was associated with anxiety and engaging in maladaptive eating behaviors. Frequent cannabis use (i.e., ≥1 per week) was associated with additional types of maladaptive eating. Clinicians involved in pre-surgical and post-surgical care may want to counsel patients currently using cannabis, especially those who are engaging in frequent use.

A008

An Assessment of a Holistic and Multidisciplinary Digital Therapeutic for Bariatric Patient

Sarfraz Khokhar *Raleigh NC*
Rasimo Systems

Background: The objective of this study was to assess the efficacy of digital therapeutics for non-surgical and surgical weight loss. The non-surgical weight loss and weight maintenance assessment has been completed with compelling results, surgical weight loss assessment is in preparation.

Method: This was a nonrandomized study of 391 participants, 59% of the participants were female and 41% were male. A digital therapeutic consisting of a special purpose of scale at the participants' premise, a mobile app to deliver guidance, education, motivation, accountability, and community support, an AI agent, human coaches, and a dashboard to manage the participants was used. The knowledge base of the main guidance and education about nutrition and physical activities. The objective was to achieve 10% of weight loss in 24 weeks for the participants, divided into 6 weight buckets.

Results: For weight bucket 166-181 Kg, the weight loss (wl) was 14.81% with standard deviation, SD, = 7.3**,** for weight bucket 146-165Kg, wl 12.53%, SD = 6.8, for bucket 126-145 Kg, wl 14.50% with SD = 5.9, for bucket 106-125Kg, wl 14.0 % with SD = 5.2, for bucket 86-105Kg, wl 14.20% with SD = 4.4**,** for bucket 65-85 Kg, wl 13.29% with SD = 3.4.

Conclusion. An evidence-based, well-designed digital therapeutic with proper guidance through an AI agent and human coach, motivation, and accountability can achieve more than 10% weight loss. It's a promising technological platform for post-op weight loss and maintenance.

A009

Associations between Socioeconomic Status and Ethnicity on General Nutritional Knowledge and Eating Behaviors in Patients Presenting to Bariatric Surgery Clinic

Darya Herscovici *Worcester MA*[1], Richard Perugini *Worcester MA*[1], Allison Crawford *Worcester MA*[1]
UMass Memorial[1]

Background: Lower socioeconomic status (SES) is a risk factor for obesity and may predict suboptimal weight loss following bariatric surgery (BS). The identification of specific challenges associated with lower SES is critical to developing interventions to address them. We examined how SES and ethnicity impact baseline nutritional knowledge (NK) and eating behaviors among a population presenting to a bariatric surgery clinic (BSC).

Methods: Patients at initial visit to BSC (n=32) completed an online survey comprised of the General Nutritional Knowledge Questionnaire (GNKQ), Adult Eating Behavior Questionnaire (AEBQ), and questions related to SES and ethnicity including highest level of education and yearly income. All patients were English speaking. Significance among groups was determined using ANOVA test.

Results: Lower income, lower education level, and Hispanic ethnicity were significantly associated with lower mean GNKQ scores ($p<0.045$, $p<0.036$, $p<0.034$). Lower income and Hispanic ethnicity were significantly associated with increased Emotional Under Eating (EUE) scores from the AEBQ ($p<0.007$, $p<0.026$).

Conclusions: Our study demonstrates that lower SES and Hispanic ethnicity are associated with lower general NK. This association suggests an explanation as to why obesity is more prevalent in these groups, and affords an opportunity to address disparate outcomes following bariatric surgery. Specifically, bariatric surgery centers should aim to address the deficit in nutrition knowledge with comprehensive nutritional education. The association of lower income and Hispanic ethnicity with EUE, as defined as eating less in response to negative emotions, is novel and suggests another opportunity to improve outcomes in these populations.

A010

Weight Bias Internalization in Patients Seeking Body Contouring after Bariatric Surgery

Ashley Dunford *New Haven CT*[1], Abigail Metzler *New Haven CT*[1], Michael Alperovich *New Haven CT*[1], Valentina Ivezaj *Milford CT*[1]
Yale School of Medicine[1]

Background: Weight bias internalization (WBI), or the internationalization of "anti-fat" attitudes, is associated with greater eating-disorder psychopathology, body image issues, and mental health concerns in non-clinical and clinical samples, including in patients following bariatric surgery. There is currently no research examining WBI in patients seeking body contouring surgery (BCS) after bariatric surgery. This study prospectively examined the relationship between WBI, eating-disorder psychopathology, and depressive symptoms in patients seeking BCS after bariatric surgery.

Method: Participants were 57 adults seeking consultation for BCS after bariatric surgery. Participants completed well-established measures assessing WBI, eating-disorder psychopathology, and depressive symptoms. Measures were completed at baseline following the BCS consultation, then repeated at one-month and three-month follow-ups.

Results: WBI was significantly associated with eating-disorder psychopathology and depressive symptoms at baseline (r=.457, p<.001; r=.420, p=.001), one-month (r=.357, p=.009; r=.364, p=.008), and three-month (r=.455 p<.001; r=.575, p=.001) follow-ups. The groups with and without BCS did not differ significantly in WBI at baseline (p=.323). By the 1-month and 3-month follow-ups, however, the non-BCS group had significantly higher WBI scores than the BCS group (p=.022, p=.021, respectively). Groups did not differ on BMI at any timepoint.

Conclusions: WBI is associated with greater eating-disorder psychopathology and depressive symptoms over time in patients seeking BCS after bariatric surgery. Group differences in WBI at one-month and three-month follow-ups suggest that BCS may help reduce WBI independent of BMI. Bariatric teams should be aware that internalized weight bias may persist for patients unable to obtain BCS. Reducing weight stigma after bariatric surgery is warranted.

Top Videos

Tuesday, June 27th, 2023
1:30 PM- 3:00 PM

A016

MAGDI: Laparoscopic/Endoscopic MAGNETIC Side-to-Side Duodeno-Ileostomy

Michel Gagner *Westmount* [1], Lamees Almutlaq *Westmount* [2]
Wesmount Square Surgical Center[1] Westmount Square Surgical Center[2]

Historically, bariatric anastomoses have been made with sutures and/or metal staples, but have caused significant bleeding and leaks. This video demonstrates compression anastomosis using linear endoluminal magnets to achieve weight loss and remission of co-morbidities.

A 43 y.o. female patient who previously had a laparoscopic sleeve gastrectomy in December 2019 (370 lbs and BMI= 61.6 kg/m2) had Tobacco usage, Joint pains, Depression, Proximal Gastric Polyps, and Non-Alcoholic Fatty Disease. After more than 18 months, the BMI was 43.3 kg/m2 with Depression-Anxiety, mild GERD, Joint pains, and Secondary Hyperparathyroidism. Hence, a revisional bariatric procedure, a second-stage Laparoscopic/Endoscopic MAGNETIC Side-to-Side Duodeno-Ileostomy (MAGDI) was proposed. This is different from SADI, where the anastomosis is end-to-side. MAGDI permits full duodenal access to the ampulla, absorption of minerals and vitamins B+C complex, and is fully reversible with simple stapling.

A linear magnet was delivered by flexible endoscopic catheter to a point 250 cm proximal to the ileocecal valve, and a second magnet was positioned in the first part of the duodenum; the bowel segments containing the magnets were apposed to initiate gradual incision-less compression. Laparoscopic assistance was used to obtain accurate bowel measurements, obviate tissue interposition, and close mesenteric defects. Initial human data have shown that the creation of a side-to-side magnetic compression anastomosis to achieve duodeno-ileostomy diversion in adults with severe obesity appeared to be safe, achieved weight loss, and ameliorated T2D in the short term.

A017

Gastropericardial fistula after gastric bypass: Workup and management of a rare complex complication

Brian Herritt *Columbia MO*[1], Andrew Wheeler *Columbia MO*[1]
University of Missouri[1]

Gastropericardial fistula is a rarely reported complication following Roux-en-Y gastric bypass (RYGB). We present a case involving a step-wise approach of successful management of a gastropericardial fistula by first performing drainage of associated pericardial abscess and fistula exclusion then subsequent definitive management after fistula recurrence involving gastric pouch/fistula resection with esophagojejunostomy and rotational rectus flap for coverage of diaphragmatic defect. Gastropericardial fistula after gastric bypass is a rare complication that can be treated in a step-wise manner with good outcomes at a comprehensive bariatric center specialized in high-risk, complicated procedures.

A018

An Overview of Gastric Bypass Reversal Procedures

Karl Hage *Rochester MN*[1], Pearl Ma *Fresno CA*[2], Marita Salame *Rochester MN*[1], Kamal Abi Mosleh *Rochester MN*[1], Ishna Sharma *Rochester MN*[1], Travis McKenzie *Rochester MN*[1], Barham Abu Dayyeh *Rochester MN*[1], Benjamin Clapp *El Paso TX*[3], Omar Ghanem *Rochester MN*[1]

Mayo Clinic Rochester[1] University of California San Francisco, Fresno, California[2] Texas Tech el Paso, USA[3]

Introduction: Severe malnutrition or recalcitrant marginal ulcers after Roux-en-Y gastric bypass (RYGB) are indications for surgical RYGB reversal. There are multiple surgical options for reversal procedures. We aim to present an overview multimedia video describing different available techniques for RYGB reversal.

Methods: In order to highlight the different bypass reversal techniques, we combined four different procedures done in multiple leading centers and highlighted each procedure individually. Starting with a three anastomosis RYGB reversal, we identified the gastrojejunostomy and transected the gastric pouch. Subsequently, we resected the jejunojejunostomy and re-established intestinal continuity with two bowel anastomoses: the first between the proximal roux limb (RL) and distal bilio-pancreatic (BP) limb, the second between the distal RL and the common channel (CC). For the two-anastomosis reversal, the BP limb was transected from the RL-CC complex without narrowing the bowel. In the third video, we elected to do a one-anastomosis reversal with resection of the patient's very short RL (45 cm). Finally, the last patient suffered from severe malnutrition which led us to do a one-anastomosis reversal, preserve a short portion of his RL and place a feeding tube in the RL to maintain a source of feeding.

Results: Apart from the last patient, all reversals were indicated for recalcitrant marginal ulcers. No immediate or 30-day complications were reported. We noted a resolution of diarrhea and adequate weight gain for the patient with malnutrition.

Conclusion: Multiple feasible techniques are available for reversal of RYGB depending on the patient's clinical status and indication for reversal.

A019

Airport Drama: Afferent Loop Syndrome

Vadim Lyuksemburg *Chicago IL*[1], John Mitko *Chicago IL*[1], Francisco Quinteros *Chicago IL*[1], Rami Lutfi *chicago IL*[1]
Chicago Institute of Advanced Surgery[1]

A 46-year-old female with past medical history of laparoscopic sleeve gastrectomy 5 years ago in Tijuana Mexico and recently underwent what was described by her as a conversion from sleeve to standard gastric bypass in Tijuana Mexico, presents on postoperative day 4 with tachycardia, severe abdominal pain, and bilious emesis. Since surgery she was not able to tolerate any oral intake and had significant abdominal pain which improved after each episode of bilious emesis. She was told to have a postoperative ileus and she was sent back to the United States. She presented to the emergency department straight from the airport. A CT scan demonstrated dilated and decompressed loops of small bowel. The configuration on CT was unusual for a gastric bypass and consistent with single anastomosis gastric bypass. She was taken emergently to the operating room due to the CT scan findings and significant abdominal tenderness on physical examination. In the operating room, she was found to have afferent loop syndrome and the entire afferent segment was back walled during the index case during the creation of the anastomosis. Intraoperative endoscopy was performed and confirmed complete occlusion of the afferent limb. The entire gastrojejunostomy anastomosis was resected and the single anastomosis gastric bypass was converted to a standard roux-en-y gastric bypass. The patient did well postoperatively with an unremarkable upper gastrointestinal series on postoperative day 1. She was started on clear liquids diet without any issues and discharged home on postoperatively day 2.

A020

Laparoscopic Management of Gangrenous Roux Limb Secondary to Adhesive Disease Following Gastric Bypass

William Hope *Pittsburgh PA*[1], Bestoun Ahmed *Pittsburgh PA*[1]
UPMC - Magee Women's Hospital[1]

Small bowel obstruction in patients undergoing laparoscopic Roux-en-Y gastric bypass (RYGB) has an approximate incidence of 3%. Given the high risk for bowel ischemia and perforation prompt surgical intervention is imperative to reduce the risk of morbidity and mortality. Although the risk of adhesive disease has decreased significantly in the laparoscopic era it is still a common cause of obstruction. We present the case of a 34-year-old female patient who presented with a small bowel obstruction 4 months following a RYGB for obesity. The patient presented with acute onset epigastric pain and dark bloody emesis with focal peritonitis. The patient was evaluated with a CT which was suggestive of a possible closed-loop obstruction of the proximal jejunum. The patient was taken emergently to the operating room for laparoscopic exploration and was found to have an adhesive band causing acute ischemia and gangrene of 90% of the patient's roux limb requiring resection. The area of ischemia spared the proximal 5 to 10 cm of the roux limb as well as the jejunojejunostomy. In order to restore the patient's bypass anatomy, their prior jejunojejunostomy was resected and a new roux limb was recreated and anastomosed to the remaining viable jejunum to facilitate a salvage procedure. We explore the technical aspects and challenges of this patient as well as our operative technique. Given the significant morbidity and mortality of bowel obstructions following RYGB it is imperative that these patients are evaluated promptly with a low threshold for surgical intervention.

A021

Conversion of inadvertent Roux-en-O to Roux-en-Y gastric bypass

Jason Samuels *Nashville TN*[1], Wayne English *Nashville TN*[1]
Vanderbilt University Medical Center[1]

This video details the case of a 45-year-old woman with a BMI of 65 who had previously undergone a robotic assisted conversion of sleeve gastrectomy to a roux-en-Y gastric bypass. Her history includes hypothyroidism, warfarin-treated VTE, and depression. She presented with symptoms of PO intolerance, bilious emesis, and abdominal pain. An upper endoscopy performed two weeks prior showed a normal gastric pouch and gastrojejunal anastomosis. A CT scan performed on admission to the emergency department did not reveal any evidence of bowel obstruction, stenosis, or gastrointestinal leak. The patient's workup included an upper GI series which showed severely delayed emptying of the pouch and a hyperdynamic roux limb with significant reflux of contrast back into the pouch. The patient underwent a repeat endoscopy which demonstrated grade C esophagitis, a normal gastric pouch, a small marginal ulcer, and biliary staining within the pouch and proximal roux limb. We thus suspected the presence of a roux-en-O anatomy and elected to perform a diagnostic laparoscopy and revision. Intraoperative findings detailed in the video confirmed our suspicions, and a successful conversion of roux-en-Y was completed. The patient’s post-op course was uneventful initially with minimal oral intake and TPN supplementation, but by post-op day 7, tolerating a bariatric full liquid diet. A lovenox bridge was initiated on post-op day 4, with coumadin started that day. She was discharged on post-op day 10. At the 3 week follow-up, she was doing well tolerating a diet and had achieved 6% total weight loss.

A022

Divided Limb Lengthening after Duodenal Switch: Why, When, and How

Peter Ng *Raleigh NC*[1], Lindsey Sharp *Raleigh NC*[2], Dustin Bermudez *Raleigh NC*[2], Linda Youngwirth *Raleigh NC*[2]
UNC Rex Bariatric Specialist[1] UNC Rex[2]

Duodenal Switch is a proven and effective bariatric operation with excellent weight loss and comorbidity resolution. As an alt-absorptive procedure, this approach carries risk of significant nutritional deficiency, including protein calorie, fat soluble vitamin, and mineral malnutrition. The roux bypass portion of the operation is amenable to revision to address these complications. Revision approaches included divided limb lengthening, kissing anastomotic limb lengthening, as well as complete reversal. This video discusses the indications for limb length revision, demonstrates the divided limb lengthening technique, and reviews the underlying clinical reasoning behind increasing both total alimentary limb length and common channel to recapture absorption.

A023

Robot-Assisted Roux-en-Y Gastric Fistula-Jejunostomy for Chronic Proximal Staple Line Leak/Fistula

Mohamed Elsheikh *Portland OR*[1], Tyler Robinson *Portland OR*[1], Sergio Toledo Valdovinos *Portland OR*[1], Andrea Stroud *Portland OR*[1]
Oregon Health and Science University[1]

Case:

The patient is a 58-year-old with past medical hx of HTN, T2DM, DV/PE, CHF and a sleeve gastrectomy in 2018 that was complicated by recurrent episodes of contained left upper quadrant perforations, leaks, and abscesses adjacent to the proximal staple line. The patient had multiple Emergency Department presentations and admissions requiring bowel rest, IV antibiotics and Total Parenteral Nutrition. Most recently she was admitted to our institution and underwent an esophagogastroduodenoscopy, which showed a proximal gastric fistula 36 cm from incisors with some pustular drainage. The patient was managed with prolonged post-pyloric tube feeds and nothing by mouth to improve nutrition while allowing the tissue to heal in anticipation of surgical intervention. She underwent a Roux-en-Y Gastric Fistula-Jejunostomy as a revision for her chronic staple line leaks and infections. The procedure is presented and described as shown in the attached video. Post-operatively, the patient did well without any immediate complications. She underwent an upper GI study that did not show a leak. She reported no ongoing abdominal pain in her one-month post-op follow up while tolerating a full liquid diet.

Abstract Palooza Session I – Complications

Wednesday, June 28th, 2023
8:00 AM – 9:30 AM

A025

Rare case of laparoscopic redo Roux-en-Y gastric bypass with near esophagojejunostomy for gastroparesis.

Nicole Takeda *Fresno CA*
Advanced Laparoscopic Surgery Associates

The patient is a 57-year-old woman with long-standing diabetes and chronic narcotic use who had undergone an open Roux-en-Y gastric bypass (RYGB) reversal for an enlarging marginal ulcer, and presented 11 years later with symptoms of severe bile reflux and regurgitation related to ongoing gastroparesis evident on preoperative esophagogastroduodenoscopy (showing copious food debris proximal to the gastrogastrostomy) and gastric emptying study (with gastric retention of 72% at 4 hours).

Since she was experiencing bile reflux with pooling of contents proximal to her gastrogastrostomy, we proceeded with a laparoscopic redo RYGB with a near esophagojejunostomy. The patient's reversal had included retention of the Roux limb with anastomosis to the biliopancreatic limb. Staple loads were used to divide this anastomosis and the stomach distal to the gastrogastrostomy. The Roux limb was then brought up in a retrocolic, retrogastric fashion with completion of a handsewn, end-to-end anastomosis, leaving a small cuff of stomach beyond the z-line. A paraesophageal hernia was repaired, internal hernia spaces were closed, and drains were placed for early detection of a leak.

Her hospital course was complicated by a small bowel obstruction related to adhesions from a surgical drain. A gastric remnant drain was placed on postoperative day 3 for decompression, and the patient returned to the operating room on postoperative day 7 for laparoscopic lysis of adhesions and g-tube formalization. Following this, her symptoms of bile reflux and regurgitation resolved. She tolerated g-tube clamping, was advanced to a bariatric soft diet, and was discharged on postoperative day 16.

A037

Does perioperative COVID-19 infection increase risk of 30-day mortality and adverse outcomes following metabolic and bariatric surgery?

Kristina Kuklova *Farmington CT*[1], Yin Wu *Hartford CT*[1], Richard Seip *Hartford CT*[1], Connie Santana *Glastonbury CT*[1], Tara McLaughlin *Hartford CT*[1], Edward Hannoush *Hartford CT*[1], Devika Umashanker *Glastonbury CT*[1], Dale Bond *Hartford CT*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1]

Background: Perioperative COVID-19 diagnosis may increase the risks associated with elective surgery, including bariatric surgery.

Objective: To evaluate the association between COVID-19 diagnosis and 30-day outcomes following primary sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB).

Methods: We queried the MBSAQIP database for patients undergoing primary laparoscopic SG (CPT 43775) or RYGB (CPT 43644) in 2021 and compared 30-day outcomes between patients with and without a confirmed COVID-19 diagnosis within 14 days before surgery. We also compared patients with and without a confirmed COVID-19 diagnosis within 30 days after surgery. Logistic regression analyses controlling for age, sex, and race were performed for postoperative outcomes.

Results: COVID-19 infection before surgery was associated with a higher mortality risk (0.68% vs. 0.05%; OR: 6.01) for RYGB but not for SG (Table 1). COVID-19 infection after SG was associated with higher risks of mortality (0.39% vs. 0.05%; OR: 8.19), sepsis (OR: 6.89), acute renal failure (OR: 9.76), blood transfusion (OR: 2.07), reoperation (OR: 2.97), readmission (OR: 6.24), intervention (OR: 2.25), and ED visit (OR: 5.22). For RYGB, postoperative COVID-19 infection was associated with higher risks of sepsis (OR: 6.70), ventilator support > 48hours (OR: 9.54), readmission (OR: 5.24), intervention (OR: 2.38), and ED visit (OR: 4.73) (Table 2).

Conclusion: Laboratory-confirmed COVID-19 diagnosis either up to 14 days before or up to 30 days following primary bariatric surgery is associated with significantly higher mortality in the 30 days following surgery.

A027

Perforated Gastric Remnant After RYGB Secondary to Incarcerated Paraesophageal Hernia

Saeed Arefanian *Columbia MO*[1], Rama Ganga *Columbia MO*[1]
University of Missouri-Columbia[1]

In this video we present a rare complication of paraoesophageal hernia with gastric remnant perforation after roux en y gastric bypass. A 64 year female presented several years after index procedure with worsening abdominal pain, dysphagia and imaging concerning for perforated viscous. Laparoscopic reduction, proximal remnant resection and primary repair were performed for incarcerated type 4 PEH with herniation of pouch, remnant, and transverse colon and omentum.

A028

Duodenal injury and repair during a laparoscopic biliopancreatic diversion with duodenal switch

Konstantinos Economopoulos *Durham NC*[1], Dana Portenier *Durham NC*[1]
Duke University Health System[1]

Introduction: This is a video presentation of a 53-years-old male with history of morbid obesity (BMI=50 kg/m^2), and several obesity-related comorbidities who underwent preoperative workup and was cleared for a biliopancreatic diversion with duodenal switch (BPDDS) but suffered a duodenal injury intraoperatively.

Case: The abdomen was entered with an insufflation needle, pneumoperitoneum was established, and four laparoscopic ports and a liver retractor were placed. Extensive adhesions were noted making the mobilization of the duodenum and the gallbladder very difficult. The greater curvature of the stomach was stapled off after passing down a 50 Fr Bougie to size the sleeve. The gallbladder was then removed after achieving the critical view of safety but during its dissection an enterotomy was identified at the transition of the 1st to 2nd portion of the duodenum. The duodenum was then divided distal to the duodenotomy. The part of the duodenum with the duodenotomy was wedged out with a stapler. The small bowel was measured from the ileocecal valve and at the 300 cm mark it was anastomosed to the duodenum. After the duodenoileostomy was performed the biliary limb was divided and anastomosed to the ileum at the 100 cm mark downstream from the duodenoileostomy. Mesenteric defects were closed. Upper endoscopy revealed even caliber of the gastric sleeve, intact staple line and intact and open duodenoileal anastomosis. Leak test of the duodenoileostomy was negative.

Conclusion: Duodenotomy is a feared complication during a BPDDS. Caution should be taken to prevent them especially in reoperative surgical fields.

A029

Bariatric Surgery is Safer than Other Common Operations: Analysis of the ACS-NSQIP

Benjamin Clapp *El Paso TX*[1], Kamal Abi Mosleh *Rochester MN*[2], Amy Glasgow *Rochester MN*[2], Marita Salame *Rochester MN*[2], Karl Hage *Rochester MN*[2], Maria Ahmad [3], Elizabeth Habermann *Rochester MN*[2], Barham Abu Dayyeh *Rochester MN*[2], Michael Kendrick [2], Omar Ghanem *Rochester MN*[2]

Texas Tech HSC Paul Foster School of Med[1] Mayo Clinic, Rochester[2] Texas Tech, El Paso[3]

Introduction: Metabolic and Bariatric Surgery (MBS) is a safe, effective and sustainable method for weight loss in patients with obesity. Nonetheless, there exists reluctance from the different specialties to refer patients for MBS due to safety concerns. We compared the safety profiles and complication rates of patients who underwent MBS to other common surgeries.

Methods: Data on ~1.69 million patients who underwent sleeve gastrectomy (SG), Roux-en-Y bypass (RYGB) and 11 other common abdominal, gastrointestinal, gynecologic and orthopedic procedures between 2012 and 2020 was obtained using the American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP). Patient demographics and post-operative complications were compared to assess MBS safety profile. Continuous variables were analyzed using Kruskal-Wallis and reported as mean ± SD. Categorical variables were analyzed using Chi-squared test.

Results: The 30-day mortality rates of MBS (SG=0.1% and RYGB=0.1%) was equal to that of laparoscopic appendectomy (0.1%) and lower than laparoscopic cholecystectomy (0.2%), laparoscopic incisional hernia (0.2%), hip arthroplasty (0.2%), Nissen fundoplication (0.3%) and laparoscopic partial colectomy (0.8%) ($p<0.0001$). MBS showed significantly lower incidence of sepsis or septic shock (SG=0.3% and RYGB=0.6%) than Nissen fundoplication (0.7%), laparoscopic cholecystectomy (1.0%), open total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAHBSO) (1.1%), laparoscopic partial colectomy (2.9%) and laparoscopic appendectomy (3.7%) ($p<0.0001$). The bleeding, reoperation, readmission and unplanned intubation rates and comparisons are displayed in Figure 1.

Conclusion: Minimally invasive MBS has an excellent safety profile and compares favorably to other common procedures. All patients with indications for MBS should be encouraged to pursue these procedures.

A030

Diagnostic Laparoscopy for Internal Hernia Following Single-Anastomosis Duodeno-Ileostomy

Brian Herritt *Columbia MO*[1], Rama Ganga *Columbia MO*[1]
University of Missouri[1]

Internal hernia is a known complication of enteric surgery with the creation of a roux limb. The risk of internal hernia is thought to be substantially lower following single anastomosis bariatric surgery. It is infrequently described in the literature but can be treated with the same surgical principles that apply to all internal hernia defects. As is the case with all internal hernias, a high level of clinical suspcion is necessary for the expeditious diagnosis and treatment of this malady.

A031

Endoluminal Vac Therapy for Contained Sleeve Leak

Emily Goddard *Tiverton RI*[1], Andrew Luhrs *Providence RI*[1], Marcoandrea Giorgi *Providence RI*[1]
The Warren Alpert Medical School of Brown University[1]

This is a 32 yo M who presented with epigastric pain on POD14 from an elective laparoscopic sleeve gastrectomy performed at an outside hospital. He was found to have a contained sleeve leak along the proximal staple line measuring approximately 5cm in diameter. He was taken to the operating room for upper endoscopy and an endoscopic wound vac was placed. After serial exchanges over a few weeks, the cavity healed well. At the final vac removal, a stent was placed. His stent was soon removed, the leak and cavity had completely resolved, and he advanced to a normal diet.

A032

Use of a Mobility Device is Associated with Significantly Higher Complications in Patients Undergoing Gastric Bypass Compared to Sleeve Gastrectomy

Jack Coorts *Columbia MO*[1], Samuel Perez *Columbia MO*[1], Andrew Wheeler *Columbia MO*[1]
University Of Missouri-Columbia[1]

Introduction: Patients suffering from limited mobility may benefit from weight loss with increased weight loss and relief of comorbidities more significantly impacting long-term mobility. Although gastric bypass (RYGB) is thought to lead to more sustainable weight loss, sleeve gastrectomy (VSG) is often associated with fewer complications. We aim to determine rates of complications in patients undergoing RYGB versus VSG in patients requiring preoperative mobility device.

Methods: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) was analyzed for years 2015 through 2019. Patients who required a mobility device prior to surgery underwent propensity score matching (PSM) using 19 covariates to achieve two well-balanced groups, RYGB and VSG. E-analysis was utilized to assess unmeasured confounding. Data is presented as odds ratio with 95% confidence interval and E values. Significance considered at $p<0.05$.

Results: 3571 matched pairs of patients undergoing VSG and RYGB were identified who required a preoperative mobility device. The following complications were found to most significantly associated with RYGB compared to a VSG: acute renal failure (10.556 (2.474,45.035); p=0.0015, E=4.384), deep surgical site infection (6.52 (1.472,28.871); p=0.0135, E=2.307), pneumonia (5.185 (2.304,11.667); p=0.0001, E=4.038), postoperative ventilator requirement (3.852 (1.567,9.466); p=0.0033, E=2.51), postoperative sepsis (3.683 (1.493,9.089); p=0.0047, E=2.35), c. diff infection (3.51 (1.155,10.664); p=0.0268, E=1.579), and death within 30 days (2.79 (1.301,5.982); p=0.0084, E=1.928). See figure.

Conclusions: Patients undergoing RYGB had markedly higher rates of certain complications compared to VSG. These higher risk patients may benefit from prehabilitation, especially if the patient has associated comorbidities better treated by RYGB.

Abstract Palooza Session II- General Interest

Wednesday, June 28th, 2023
1:30 PM – 3:00 PM

A033

Changes in renal blood flow (RBF) in the severely obese a potentially reversible form of renal injury and a possible emerging mechanism for bariatric surgery on chronic kidney disease (CKD).

David Romero Funes *Weston FL*[1], David Gutierrez Blanco *Davie FL*[1], Lisandro Montorfano *Weston FL*[1], Emanuele Lo Menzo *Weston FL*[1], Samuel Szomstein *North Miami Beach FL*[1], Raul Rosenthal *Weston FL*[1]
Cleveland Clinic Florida[1]

BACKGROUND: We previously demonstrated how kidney-injury in patients with severe-obesity can be reversed following bariatric surgery (BaS). Based on our experience, we hypothesize that this reversible kidney-injury might be secondary to post-operative changes improving RBF.

METHODS*:* We conducted a retrospective analysis of patients who underwent BaS at our institution from 2002-2019. We assessed the BUN/Creatinine (Cr) ratio pre and post-operatively to determine a pre-renal (decreased RBF) vs. intrinsic-component as a causative agent in patients with baseline-CKD. Decreased RBF was defined as BUN/Cr >20. To determine kidney-function the estimated glomerular filtration rate (eGFR) from the CKD Epidemiology Collaboration Study (CKD-EPI) classification system was utilized.

RESULTS*:* Our analysis included N=2,924 patients of which 11% (N=325) presented decreased RBF. From our original sample only N=228 patients had the complete data necessary to assess both eGFR and RBF (BUN/Cr). The pre-operatively Systolic-blood pressure was134 ± 16 mmHg and HbA1c 5.7±0.8%. Patients with baseline CKD stage-2 demonstrated a pre-operative BUN/Cr 20.85±10.23 decreasing to 14.99±9.10 at 12-months follow-up ($p<0.001$). Patients with baseline CKD stage-3 presented with a pre-operative BUN/Cr 23.88±8.75, after 12 months follow-up BUN/Cr ratio decreased to 16.38±9.27 ($p<0.001$). Patients with CKD stage-4 and ESRD (eGFR<30) did not demonstrate statistically significant difference for pre and post-operative BUN/Cr 21.71±9.28 and 19.21±14.58 respectively

CONCLUSIONS: According to our findings, the improvement in kidney-function in CKD stages 2-3 could be secondary to changes in RBF following BaS, introducing an unstudied reversible mechanism of Kidney-injury in the bariatric population. These findings require confirmation with larger retrospective and prospective trials.

A034

Robotic Conversion of Billroth II with Braun Enteroenterostomy Anatomy to Roux-en-Y Gastric Bypass

Andrew Harner *Houston TX*[1], Francisco Guerra *Houston TX*[1], Shinil Shah *Houston TX*[1], Peter Walker *Houston TX*[1], Kulvinder Bajwa *Houston TX*[1], Melissa Felinski *Houston TX*[1], Erik Wilson *Houston TX*[1]
University of Texas, Houston[1]

This video demonstrates the conversion of Billroth II with Braun enteroenterostomy anatomy to a Roux-en-Y gastric bypass for treatment of refractory reflux disease in a 59-year-old female. The patient had a remote history of a partial gastrectomy (antrectomy) for ulcerative disease. Her medical history consisted of hypertension, diabetes mellitus, hyperlipidemia, and gastroesophageal reflux. Her preoperative BMI was 30.4. Additional prior surgical history included two C-sections.

On initial outpatient evaluation, she complained primarily of reflux symptoms. Outpatient workup consisting of upper endoscopy, upper GI, and NM gastric emptying study. The findings of this workup were consistent with esophageal dysmotility, small hiatal hernia, and gastroparesis.Given this constellation of symptoms and findings on workup, we discussed the possibility of converting her Billroth II with Braun enteroenterostomy anatomy to a Roux-en-Y gastric bypass.

The patient successfully underwent the procedure and had an uneventful postoperative course. She has been seen most recently for her 8-month follow up evaluation, and was recovering very well at that time. She is no longer on proton pump inhibitors and has no complaints of reflux. Her BMI is 21 and she has increased energy.

A035

Long Term Outcomes Following Bariatric Surgery in Cardiac and Lung Transplant Recipients

Laxmi Dongur *League City TX*[1], Yara Samman *Galveston TX*[1], Sarah Samreen *Galveston TX*[1]
UTMB[1]

Background: Bariatric surgery (BS) in thoracic transplant patients with obesity can potentially improve long term outcomes. However, there are no outcomes data after BS in cardiac and lung transplant recipients. We aimed to evaluate both peri-operative and long-term outcomes up to 2 years after BS in post thoracic transplant patients.

Methods: A retrospective, multi-institutional study was conducted using the TriNetX database. A total of 36 cardirac transplant recipients (CTR) and 12 lung transplant recipients (LTR), who underwent BS, were compared to a cohort of 21,911 CTR and 14,712 LTR, without BS. The cohorts were propensity matched to BMI over 35 kg/m2.

Results: Maintenance immunosuppression was similar in both CTR and LTR. None of the CTR developed DVT or PE within 2 years of BS. There were no CTR diagnosed with graft loss up to 2 years following BS. None of them developed surgical site infections or sepsis within 1 year. There was significantly higher incidence of hypertension up to 2 years following BS ($p<0.05$). None of them had abnormal cholesterol levels within 2 years. None of them developed acute coronary syndromes within 6-months.

There were no LTR diagnosed with SSI, DVT or PE after BS up to 2-years. No LTR developed heart failure or graft loss. None of the LTR were using CPAP at the 6-month mark. None of the LTR developed acute coronary syndromes2-years.

Conclusion: Bariatric surgery for treatment of obesity following cardiac and lung transplantation is a safe procedure without significant risk of perioperative and long-term complications.

A036

Common Channel Lengthening Procedure After a Single Anastomosis Duodenal Switch due to Protein Calorie Malnutrition

Lucas Fair *Dallas TX*[1], Daniel Davis *Dallas TX*[1]
Baylor University Medical Center[1]

Background: A possible cause for nutritional complications after duodenal switch may be due to the variability in total bowel length (TBL). Most surgeons performing this procedure use a pre-determined standard length for all patients without measuring TBL. In recent years, we began performing TBL measurements in all patients with 40% of the TBL used as the length for the common channel. At our institution, we have seen a significant decrease in reoperation and nutritional complications since implementing this practice. Thus, we present the practice of using TBL measurements to evaluate the common channel length during a reoperative single anastomosis duodenal switch.

Methods: A case study is presented of a 56-year-old male with who underwent a single anastomosis duodenal switch in 2020. Postoperatively, he lost over 140 pounds and was suffering from severe diarrhea and protein calorie malnutrition. We returned to the operating room approximately 1 year later for a robotic small bowel resection with lengthening procedure.

Results: A video of a small bowel resection with common channel lengthening procedure is presented. The patient tolerated the procedure well and there were no complications. His symptoms significantly improved, and his protein calorie malnutrition has resolved.

Conclusion: Since becoming our standard practice, reoperations and nutritional complications have substantially decreased by using TBL measurements to calculate the common channel length. Surgeons should consider using TBL measurements to calculate common channel length in single anastomosis duodenal switches.

A038

Recurrent, Refractory GERD and Dysphagia after Roux-en-y Gastric Bypass with Preserved Nissen Fundoplication: A Demonstration of Fundoplication Reversal, Hiatal Hernia Repair, and Revision Gastrojejunostomy

Rachel Simpson *Durham NC*[1], Edmund Chen *Plano TX*[1], Dana Portenier *Durham NC*[1], Richard Wood *Durham NC*[1], Keri Seymour *Durham NC*[1]
Duke University[1]

INTRODUCTION: Gastroesophageal reflux disease (GERD) and hiatal hernia (HH) are pervasive in the population with obesity; recurrence after fundoplication occurs in up to 15% of patients and poses a clinical challenge. Roux-en-Y gastric bypass (RYGB) is highly effective treatment for GERD in patients with obesity. In the setting of prior fundoplication, preservation of anti-reflux anatomy is safe while reversal is associated with increased complications. We present a patient with obesity and recurrent, refractory reflux after several revisional anti-reflux surgeries.

CASE: A 50-year-old woman with body mass index (BMI) of 33kg/m^2 presented with progressive dysphagia and regurgitation while supine. Her surgical history included laparoscopic Nissen fundoplication 17-years prior, revisional fundoplication with HH repair 15-years ago complicated by posterior esophageal perforation. She underwent RYGB with preservation of fundoplication 7-years prior. High-resolution manometry reported absent peristalsis with normotensive lower esophageal sphincter while cross-sectional imaging revealed migration of the fundoplication. Endoscopy revealed esophagitis, intact fundoplication, and 9cm gastric pouch. Concomitant pH studies confirmed 17% acid exposure time while supine. She underwent revision HH repair, fundoplication reversal, anterior truncal vagotomy, and revision of the gastric pouch and gastrojejunostomy. Operative time was <4 hours with no postoperative complications beyond 4-day length of stay. At 3-months, she denied dysphagia or reflux, and lost 21 pounds (BMI 29kg/m^2).

CONCLUSION: Refractory reflux and recurrent HH is a challenging problem in patients with obesity and prior revisional surgeries. Re-operative anti-reflux surgery with fundoplication reversal and parietal cell separation was safe and effective.

A039

Efficacy of Bariatric Intervention as a Bridge to Cardiac Transplant

Theo Sher *Tampa FL*[1], Madison Noom *Tampa FL*[1], Abdul-Rahman Diab *Tampa FL*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida, Morsani College of Medicine[1]

Many congestive heart failure (CHF) patients are denied cardiac transplants due to inability to meet transplantation BMI criteria. Bariatric intervention, including surgery, medication, and weight-loss guidance, may help patients lose weight and become eligible for transplantation. One major concern is the ability to safely operate on this population due to reduced cardiac function, increased BMI, and other comorbidities. Our prospective cohort study examined the efficacy of bariatric intervention for 18 patients with CHF and BMI >30 as a bridge to cardiac transplantation. Interventions included Sleeve Gastrectomy (n=6), Roux-en-Y Gastric Bypass (n=1), or medical/lifestyle weight loss (n=11). Patients studied were ACCF stages B-D and NYHA class 2-4 with most patients at stage C and class 3. Average patient weight before bariatric intervention was 292.5 lbs and average BMI was 42.5 (Table 1). At six months post-intervention, patients lost an average of 19.3 lbs and decreased their BMI by 2.8 points. The average left ventricular ejection fraction (LVEF) before bariatric intervention was 20.9%, which increased to an average of 26.1% approximately six months after intervention. One patient received a cardiac transplant. Initial results of our study suggest that bariatric intervention among this cohort may be beneficial as bridge therapy to cardiac transplantation. This study is ongoing, and future direction may include additional patient recruitment, further tracking of weight loss and cardiac function, and analysis surrounding eventual cardiac transplantation.

A040

Conversion of failed endoscopic sleeve gastroplasty to robotic-assisted laparoscopic gastric bypass

Tristan Seton *Wilkes Barre PA*[1], Jessica Becker *Wilkes Barre PA*[1], Mark Mahan *Danville PA*[1], Alexandra Falvo *Scranton PA*[1], Ryan Horsley [1]
Geisinger[1]

Endoscopic sleeve gastroplasty (ESG) is a relatively new weight loss procedure that has been increasing in prevalence in the past decade since its inception. Literature shows slightly lower weight loss but improved safety profile associated with the procedure as compared with operative interventions; however, long-term data is limited due to its recency. Reports on post-procedural revisions of ESG describe conversion to sleeve gastrectomy but none so far document single-stage conversion to a Roux-en-Y gastric bypass (RYGB). Here we report the case of a 22-year-old female patient who presented to our clinic after undergoing an ESG at an outside facility 18 months prior. She endorsed significant symptoms associated with gastroesophageal reflux disease (GERD) since her initial procedure and was found to have dehiscence of the ESG on upper endoscopy. She was taken to the operating room for robotic-assisted laparoscopic conversion to a RYGB. She tolerated the operation well and recovered well post-operatively with improvement in symptoms. An upper GI study performed on post-op day 1 demonstrated no leak. She was discharged home on post-op day 2 and was found to be recovering well at her initial post-operative evaluation.

A041

Outcomes of Resleeve for Weight Recurrence After Vertical Sleeve Gastrectomy

Kayla Ikemiya *Fresno CA*[1], Morgan McGrath [1], Kelvin Higa [2], Pearl Ma *Fresno CA*[2]
Fresno Heart and Surgical Hospital[1] UCSF Fresno/ALSA, Community Health Partners[2]

Introduction: Vertical sleeve gastrectomy (VSG) is one of the most widely performed procedures in metabolic and bariatric surgery. However, some experience weight recurrence due to sleeve dilation or insufficient primary gastric pouch reduction. Resleeve gastrectomy (ReSG) has been shown to be an effective revisional procedure in achieving sufficient weight loss results. The purpose of this study is to assess weight loss from pre-VSG up to 3 years post-ReSG to provide a comprehensive understanding of weight loss maintenance.

Methods: A retrospective review of patients who underwent a ReSG at a single center from 2017-2022 was performed. Exclusion criteria included those with Roux-en-Y gastric bypass to ReSG, ReSG after duodenal switch (DS), or VSG to ReSG to DS in under 1 year.

Results: Forty-seven patients (79% female, 45.7 years of age) underwent ReSG with an average weight of 266.4 lbs and BMI of 43.6 kg/m2 **(Table 1)**. The average weight at 1, 2, and 3 years postoperative were 212.8 lbs, 201.0 lbs, and 214.5 lbs, respectively **(Figure 1)**. The average BMI at 1, 2, and 3 years postoperative was reduced to 34.7 kg/m2, 31.1 kg/m2, and 34.6 kg/m2, respectively. There was a significant difference in weight ($p = 0.017$) and BMI ($p = 0.021$) at 1 year postoperative compared to lowest post-VSG. The 30-day complication rate was 8.5% (n=4).

Conclusion: ReSG demonstrated significant short-intermediate-term weight loss as a revision for weight recurrence after VSG.

A042

Utilizing Neoadjuvant Anti-Obesity Medications for Patients Undergoing Bariatric Surgery Improves Outcomes

Kevin Brown *New Haven CT*[1], Lee Ying *New Haven CT*[1], Michael Limosani *New Haven CT*[1], Evans Simmons *New Haven CT*[1], Lina Starovoitova *New haven CT*[1], John Morton *MADISON CT*[2]

Yale[1] Yale University[2]

Background: Bariatric surgery remains the gold standard treatment for severe obesity. Recently, several Anti-Obesity Medications (AOM) demonstrate significant weight-loss. Here, we investigate the synergistic effect of AOMs in patients undergoing bariatric surgery.

Methods: This is a single-surgeon retrospective study from a large academic center. Analyzed variables included age, race/ethnicity, diabetes status, insurance, type of medication, operation, revision status, length of stay, weight loss and adverse events.

Results: 281 patients were included, of which 95 (34%) received adjunct anti-obesity medication therapy ("With"), and 186 (66%) did not ("Without"). There was no significant difference in the age, race/ethnicity, diabetes status, or insurance status between the two groups (Table 1). Patients who received medication had a higher average preoperative weight (Without: 115.5±1.4kg, With: 125.0±2.5kg $p<0.001$), and were more likely to have a bypass procedure (Without: 11%, With: 21%, $p<0.05$). Patients who received medication lost more weight in the preoperative period (Without: 5±0.3, With: 7.6±0.6, $p<0.0001$; Figure 1A), as well as by 1-month after surgery (Without: 10.6±0.3kg, With: 12.3±0.5kg, $p<0.05$; Figure 1B). The average duration of medication use was 41.7±4.3 weeks (range 1-250 weeks). Semaglutide use was associated with the greatest 1-month weight loss (13.4±0.8kg; Figure 1B).

Conclusions: Enhanced outcomes through combined therapies represented here is the largest reported case series for combined AOMs preoperatively with surgery. There are large variations in the duration of adjuvant anti-obesity medication use, but overall, there does appear to be an added weight-loss benefit. Semaglutide use is associated with the greatest improvement in early weight-loss after bariatric surgery.

Abstract Palooza Session III- Emerging Med Tech and Adjustable Banding

Wednesday, June 28th, 2023
3:45 PM- 5:15 PM

A043

Side-to-Side Magnetic Duodeno-Ileostomy in Adults with Severe Obesity with or without Type-2 Diabetes

Michel Gagner *Westmount* [1], Guy-Bernard Cadiere [2], Andres Sanchez-Pernaute [3], David Abuladze *Tbilisi* [4], Lamees Almutlaq *Westmount* [5], Antonio Torres *Madrid* [3]
Wesmount Square Surgical Center[1] CHU St-Pierre, Brussels[2] Hospital Clinico San Carlos,Madrid[3] Innova Medical Center, Tbilisi[4] Westmount Square Surgical Center[5]

Background: Bariatric/Metabolic GI anastomoses have been made with staples and/or sutures, but have generated troublesome leaks, fistulas, bleeding and deaths. The study aim was to evaluate the effectiveness and safety of anastomosis using linear magnets to achieve weight loss and remission of type 2 diabetes (T2D).

Method: Patients with severe obesity BMI ≥35 kg/m2 with or without T2D underwent duodeno-ileostomy (DI) diversion. A linear magnet was delivered by endoscopy 250 cm proximal to the ileocecal valve, and a second magnet was positioned in the first duodenum; the intestines containing the magnets were apposed to initiate incision-less compression. Laparoscopic assistance was used to obtain bowel measurements, prevent other tissue interposition, and close Petersen's mesenteric defect.

Results: Ongoing from November 18, 2021 in four centres, 40 patients were enrolled and underwent magnetic compression DI, 24 had a sleeve+ DI, 16 had DI post sleeve. Mean weight (kg) and BMI (kg/m2) at baseline were 117.6±15.8 and 44.4±4.9; at 6 months, 85.8±5.9 and 31.9±3.3. Total weight loss of 31.8±9.5 and BMI reduction of 12.5±3.3 corresponded to 62.0% EWL (range 55.0-77.0%). Mean HbA1C (%) dropped from 6.82±1.76 to 4.74+0.61 at 6 months; glucose (mg/ dL), from 134.3±40.0 to 85.64±12.37 (mean reduction, 48.7±44.7). No anastomotic bleeding or leakage at the magnetic DI was observed. Most had mild adverse events. Serious adverse events encountered: Choledocholithiasis, bowel occlusion, pelvic collections and sleeve fistula/hematoma, related to staples/sutures.

Conclusion: Side-to-side magnetic DI in adults with severe obesity appeared to be safe, achieved dramatic weight loss, and ameliorated T2D in the short term.

A044

Performance of a Robotic Assisted Laparoscopic Sleeve Gastrectomy in a Patient With Prior Pylorus Sparing Pancreaticoduodenectomy

Ellen Pekar *York PA*[1], James Ryan *York PA*[2], Molly Russo *York PA*[2], Claire Wilson *York PA*[2]
York Hospital[1] Wellspan York Hospital[2]

Introduction: From a literature search of PUBMED there is no prior report of a gastric sleeve being performed on a patient with history of pancreaticoduodenectomy. We present a method to perform a robotic assisted laparoscopic sleeve gastrectomy in a patient with prior pylorus sparing pancreaticoduodenectomy. The patient is a 40 year old female with a BMI of 42.05 with prior pylorus sparing pancreaticoduodenectomy with an antecolic duodenojejunostomy for a T3N0 pancreatic head neuroendocrine tumor.

Video Description: Intrabdominal access is obtained via 5mm Optiview port placed in the right lateral abdomen. Numerous adhesions are encountered with omental adhesions in the lower mid-abdomen and transverse colon adhesions to the upper abdomen. Adhesions are taken down allowing placement of a 8 mm left lateral port, 12 mm right periumbilical port, and 8 mm left periumbilical port. The Davinci robot is docked. Adhesiolysis is continued until access is obtained to the upper abdomen and the space above the colon and duodenojejunostomy. An endoscopy is performed identifying the duodenojejunostomy. 6 cm from the pylorus is measured out and a vessel sealer is used to take down the greater curve attachments. The endoscope is replaced with a 40 Fr bougie. A blue load in a sureform stapler is used to hug the bougie and begin the sleeve gastrectomy. Several white loads are subsequently used to transect the stomach until the angle of his is reached. Postoperatively the patient does well. She tolerates a regular diet and endorses a 32 lb weight loss on postoperative day 42.

A045

Weight loss among severely obese individuals using nutritional plans generated by a digital, fully automated, web-based software application or by a physician. A proof-of-concept and first of its kind study.

Yannis Raftopoulos *Holyoke MA*[1], Manos Economakis [2]
Holyoke Medical Center[1] CEO[2]

Introduction: Obesity is a chronic disease associated with significant recidivism regardless of treatment method. Although intensive follow-up reduces recidivism, is unattainable due to the unmet need for specialized human resources. This is the first study to assess weight loss using a fully automated digital nutritional plan generator (FADNPG).

Methods: A total of 275 patients who received nutritional plans (NP) for weight loss prior to bariatric surgery from their surgeon (P) (n=117) or a FADNPG (n=158) during a 7-month period were included. All NPs included protein supplements and one food-based meal. Data regarding weight, sleep habits, protein supplement and milk type preferences and pre-program meal and snack habits were entered by the physician into the FADNPG software, which generated an individualized NP that included a patient-specific daily protein intake and meal number, meal start time and duration, protein shake scoop portions, milk volume and food-based meal and protein bar portions. Patients sent body composition measurements weekly.

Results: P and FADNPG groups were similar in gender (86.3% vs. 88.6%), age (41.6$\pm$11 vs. 40.1$\pm$10.3) and BMI (43.1$\pm$4.8 vs. 42.5$\pm$5.9). FADNPG patients achieved greater mean %TBWL (6.07$\pm$4.5 vs. 7.61$\pm$5.1, p=0.015) at a shorter mean follow-up (14.1$\pm$8.4 vs. 13.4$\pm$11.4 weeks, p<0.0001). One-week minimum participation (91.6% vs. 95.6%) and transition to bariatric surgery were similar (54.7% vs. 48.7%).

Conclusions: Weight loss using software-generated NPs without human intervention is feasible and could facilitate obesity treatment in a global scale. Assessing weight loss when patients use the FADNPG initially and at follow-up independently is the next step.

A046

Sleeve Gastrectomy in the Difficult Abdomen: A Recipe for Disaster?

Kamal Abi Mosleh *Rochester MN*[1], Karl Hage *Rochester MN*[1], Marita Salame *Rochester MN*[1], Travis McKenzie *Rochester MN*[1], Andrew Storm *Rochester MN*[1], Barham Abu Dayyeh *Rochester MN*[1], Omar Ghanem *Rochester MN*[1]
Mayo Clinic, Rochester[1]

Background: The simple nature of sleeve gastrectomy as well as its confinement to the upper abdomen makes it a favorable bariatric surgery choice in patients with multiple prior abdominal surgeries. We report on a case of sleeve gastrectomy performed on a patient with severely complex abdominal anatomy.

Methods: A 45-year-old female with medically complicated obesity (BMI=44 kg/m^2), a history of 52 prior abdominal procedures (fistula takedowns, open abdomens, intestinal resection, washouts), and a wide abdominal hernia (~20cm) presented for sleeve gastrectomy as a bridge to hernia repair. Optiview access at Palmer's point was complicated by colonic injury. Hasson entry in the right upper quadrant was performed and careful lysis of adhesions followed. The colotomy was repaired and the sleeve was tailored over a 40 F bougie.

Results: The patient had an uneventful hospital stay and was discharged on postoperative day 3. On 30-day follow-up, the patient had no complaints, was progressing with diet as tolerated, and was found to have a BMI=35.48 kg/m^2.

Conclusion: Sleeve gastrectomy remains the ideal bariatric surgery option in patients with a difficult abdomen unless otherwise contraindicated.

A047

Impact of Glucagon-Like Peptide-1 Receptor Agonists in the 'Neoadjuvant' and 'Adjuvant' setting of bariatric surgery.

Jason Samuels *Nashville TN*[1], Gitanjali Srivastava *Nashville TN*[1], Matthew Spann *Nashville TN*[1]
Vanderbilt University Medical Center[1]

Background: Glucagon-like peptide-1 receptor agonists (GLP1RA) are significant advancements in obesity treatment with studies finding 10-20% total body weight loss (%TBWL). The effectiveness of GLP1RA in both the preoperative and postoperative bariatric surgery setting remains unknown.

Methods: Retrospective study (n = 74) evaluating patients following bariatric surgery (sleeve gastrectomy or gastric bypass) prescribed preoperative or postoperative GLP1RA therapy. Patients lacking 1 year of data after either therapy were excluded. Primary outcome of interest: %TBWL from day of surgery weight and % weight loss(%WL) from day of initiation of GLP1RA therapy.

Results: Patient demographics: median age 55 years; 78% were female; 35% underwent SG. Common comorbidities included diabetes (69%), reflux (82%), and hypertension (81%). Fifty-one patients (69%) received postoperative therapy, 18 (24%) preoperative therapy, and 5 (7%) received both. 44% received semaglutide, 48% liraglutide, 5% dulaglutide, and 3% exenatide. In the postoperative cohort (n = 51), %TBWL at 1 year and 5 years was 25.3% and 20%, respectively (85% with 5-year follow-up). GLP1RA therapy began a median of 5 years post-operatively; %TWL 1-year following GLP1RA was 7.7% (n= 49); %WL at 2 years following GLP1RA was 6.1% (54% had follow-up data).

In the preoperative cohort (n = 18), median length of therapy pre-op was 23 months. Median %WL at 1-year post-GLP1RA therapy was 1.5% with five patients experiencing weight *gain*. Excluding those, %WL was 2.6%.

Conclusion: Postoperative, not preoperative, GLP1RA therapy appears effective. Further research is needed to elucidate its role and effectiveness in this cohort.

A048

Managing Post-fundoplication Dysphagia: Role of Intraoperative LES Pressure Measurements with EndoFLIP

Bethany Briggs *Baltimore MD*[1], Kanika Trehan [1], Kuldeep Singh *HIghland MD*[1]
Maryland Bariatric Center at Mercy[1]

Post-fundoplication dysphagia is a complex pathology for which accurate diagnosis and effective treatment is often confusing and difficult. Sometimes Achalasia can masquerade as reflux preoperatively and then presents as post-fundoplication dysphagia. Unless there is obvious stricture or slipped fundoplication, tests are often confusing or unhelpful. Our case demonstrates that intraoperative assessment of lower esophageal sphincter (LES) function with Endoflip can help diagnose and treat patients with more precision. Our patient is a 59-year-old female who presented with worsening dysphagia following Toupet fundoplication and hiatal hernia repair. Dysphagia was refractory to balloon dilations and botox injections. Barium swallow and esophagogastroduodenoscopy (EGD) suggested a tight wrap. Endoflip suggested tight LES with poor relaxation and esophageal dysmotility. A diagnostic laparoscopy with intraoperative EGD with EndoFLIP was performed. Intraoperatively, the patient was noted to have a loose hiatus and wrap without slippage of the wrap. EndoFLIP measurements suggested persistent tightness of the LES and a Heller Myotomy was performed to the standard extent. EndoFLIP measurements showed incomplete improvement, however, so the myotomy was extended further onto the stomach. Repeat EndoFLIP findings were improved, indicating the myotomy was now adequate. The patient experienced complete resolution of her symptoms postoperatively. Through intraoperative Endoflip, the appropriate diagnosis was recognized, the appropriate surgery performed, and the appropriate extent of the surgery was ensured, with effective results.

A049

Prevention and management of nausea and vomiting after swallowable intragastric balloon placement

Luciano Poggi *LIMA* [1], Arianna Portmann-Baracco *lima* [2], Andrea Davila Luna *Lima* [2], Grazia Bernui Vigo *Lima* [2]

British American Hospital[1] Cayetano Heredia University[2]

Introduction: The Allurion (formerly Elipse) intragastric balloon (IGB) is a newly developed swallowable balloon for the treatment of obesity. Most studies that evaluate the incidence of nausea and vomiting after balloon placement use Aprepitant for prevention of these side effects. We aimed to compare the use of aprepitant versus alternative antiemetic medication for prevention and treatment of symptoms after Allurion balloon placement.

Methods: We included 295 adult patients who underwent Allurion Balloon insertion. We compare data of post-procedural symptoms of nausea and vomiting, and tolerability of Allurion IGB between patients who received Aprepitant and those who receive alternative medication such as dimenhydrinate or ondansetron.

Results: The mean age was 39.6 and 67% of patients were female. 46.5% of patients in the aprepitant group required stylet assistance compared to 38.4% in the non-aprepitant group ($p=0.214$). There was a significant difference between the Rhodes Index of Nausea, Vomiting and Retching (RINVR) mean score between the aprepitant group and the non-aprepitant group (7.8 vs. 11.2, $p<0.001$). A significantly higher percentage of patients who received Aprepitant had none or mild symptoms compared to the patients who did not receive aprepitant (17.8% and 45.5% vs. 3% and 41.8%, $p=0.001$). There were no significant differences in the percentage of patients who required IV hydration or endoscopic balloon extraction between those groups.

Conclusion: Aprepitant significantly decreases the incidence of symptoms after balloon placement compared to alternative anti-emetic medication. However, it is not associated with decrease in the requirement of IV hydration or removal due to intolerance.

A050

Laparoscopic Adjustable Gastric Band Erosion Presenting as a Port Site Abscess

Eric Stevens *Orlando FL*[1], Carlos Delgado *Orlando FL*[1], Daniel Farinas *Orlando FL*[1], Megan Bernier *Orlando FL*[2], Elizabeth Dovec *Orlando FL*[1]
AdventHealth Orlando[1] University of Central Florida[2]

Introduction: Laparoscopic adjustable gastric banding (LAGB) has declined in popularity since its peak around 2008. Erosion of the band into nearby structures is a well-known complication with incidence in one study of 301 patients reported as 1.66%. However, in another report of 950 patients, band erosion developed in only 0.31% of patients by 6-8 months. Despite variation in reported incidence, it is clear that this complication is uncommon. There has been documentation of band erosion into the stomach, the esophagus, and the colon with variations in clinical presentation. While patients have been reported to present with port site cellulitis/abscess and abdominal pain, there are very few documented cases of erosion of the gastric band into the stomach presenting as an abdominal wall abscess.

Case Presentation: Here, we present a case of LAGB erosion presenting as an abdominal wall abscess. The patient is a 51-year-old male who presented to the emergency department with a complaint of a non-healing wound in the left upper quadrant. Prior to presentation, he completed a 10-day course of PO Augmentin followed by 14 days of PO Doxycycline. The patient initially "felt a pop" at the port site, followed by drainage. CT imaging showed fat stranding surrounding the port site, as well as extension into the perigastric fat, suggestive of direct extension of infectious process into the peritoneum. The patient was subsequently taken to the operating room for laparoscopic band removal and partial gastrectomy.

Discussion: This case illustrates prompt diagnosis and treatment of occult gastric band erosion.

A051

Procedureless Gastric Balloon Experience: A Focused Comparative Analysis on BMI < vs. ≥ 40 Subgroups

Yannis Raftopoulos *Holyoke MA*[1], Shruthi Rajkumar *Holyoke MA*[1]
Holyoke Medical Center[1]

Background: Initial mean BMI in previous studies with Allurion® Gastric balloon (GB) ranges from 30.6 to 36.2kg/m^2. Outcomes in patients with BMI ≥ 40kg/m^2 are not well investigated. We aim to compare the weight loss outcomes in patients with BMI < or ≥ 40kg/m^2.

Methods: Data on demographics, baseline weight, and BMI were collected from 232 patients at a single center between 2016 and 2022. Outcomes included weight loss (kg) and total body weight loss (%TBWL) at 4, 8, 12, 16, 24, 52 weeks, premature extraction, inability to place balloon and follow-up rates.

Results: Mean age and BMI were 42.6±10.3 years, and 37.6±7.2kg/m^2 respectively. Mean time to balloon passage was 119.6±12.1 days. Premature extraction was noted in 3.4% and inability to place balloon in 0.4% of patients respectively. Mean %TBWL at 4−,8−,12−,16−,20−,24−, and 52−week were 8.2%, 11.5%, 13.9%, 15.9%, 18.1%, 18.4%, and 17%, respectively. On subgroup analysis, the follow−up rates were 83.2% and 88.5% at 16 weeks and 48.9% and 40% at 52 weeks in BMI<40 and BMI≥40 groups, respectively. Mean weight loss (kg) was greater in patients with BMI≥40 at 4− (8.1±2.8 vs.11.7±3.7, p<0.0001), 8− (10.9±4 vs.16.6±5.9, p<0.0001), 12− (13.2±4.8 vs.20.1±7.1, p<0.0001), 16− (15.2±5.5 vs.23.4±8.6, p<0.0001), 24− (17.3±6.3 vs.27.7±8.5, p<0.0001) and 52 weeks (15.9±8.0 vs.29.4±23.3, p=0.002). Mean %TBWL was greater in patients with BMI≥40 at 12− (13.3±4.1 vs.15.0±4.3), 16− (15.4±4.9 vs.17.1±5.1) and 24 weeks (17.7±5.3 vs.20.5±4.8, p=0.0014).

Conclusions: This is the first study to analyze outcomes within BMI subgroups. Allurion® GB is very effective for patients with BMI ≥40kg/m^2.

Abstract Palooza Session IV- Revisional Procedures

Thursday, June 29th, 2023
8:00 AM – 9:30 AM

A052

Creation of esophagojejunostomy after chronic enterocutaneous fistula from sleeve gastrectomy leak

Katrina Tulla *Annapolis MD*[1], Elise Snyder *Annapolis MD*[1], Sara Parmiter *Annapolis MD*[1], Jilian Nicholas *Lanham MD*[1], Alex Gandsas *Annapolis MD*[1]
Anne Arundel Medical Center[1]

46-year-old female with past medical history of diabetes, hypertension, anemia, GERD, and obesity with a BMI of 31 had laparoscopic sleeve gastrectomy at an outside hospital, complicated by staple line leak. This was treated with stents and endo-clips, and then ultimately a drain by interventional radiology. She presented to our institution months later with reflux, and the drain in place. Preoperatively an upper GI study revealed no obvious stricture, no pooling of contrast near the catheter, but there was a contour deformity at the gastric cardia. An esophagogastroduodenoscopy demonstrated a fistula where the pigtail catheter eroded into the gastric wall with a stricture at the incisura angularis. The patient was scheduled to undergo a revision of the sleeve gastrectomy. Due to the previous leak and erosion of the catheter, a significant portion of the sleeve was compromised. The decision was made to perform a total gastrectomy and proceed with an esophagojejunostomy reconfiguration. The stomach was resected, small bowel was run 150 cm distal from the ligament of Treitz to be utilized for the Roux limb, then a jejunojejunostomy anastomosis was created 150 cm distal to the small bowel transection. Both anastomoses were closed with white staple loads while the esophagojejunostomy was created with a blue load, and the common enterotomy was closed with a suture. The hiatus was then closed with silk sutures, and a blake drain was placed posterior to the EJ anastomosis. The drain was removed at 2-week visit, patient progressed on her diet and denies reflux symptoms.

A053

The Safety of Roux-en-Y Limb Lengthening: An Analysis of the MBSAQIP Database

Jerry Dang *Cleveland OH*[1], Juan Barajas-Gamboa [2], Valentin Mocanu [3], Thomas Shin *Cleveland OH*[1], Gustavo Romero-Velez *Cleveland OH*[1], Yung Lee *Hamilton* [4], Salvador Navarrete *Cleveland OH*[1], John Rodriguez [2], Matthew Kroh *Cleveland OH*[1]
Cleveland Clinic[1] Cleveland Clinic Abu Dhabi[2] University of Alberta[3] McMaster University[4]

Introduction: Roux-en-Y gastric bypass (RYGB) is the gold standard procedure for treating severe obesity. However, despite its durability, a subset of patients will need revisional surgery for weight regain. A potential intervention after RYGB is Roux-en-Y limb lengthening (RYLL), although current evidence understanding the safety of RYLL is scarce. The objective of this study was to compare the 30-day rate of serious complications and mortality of RYLL to primary RYGB.

Methods: Patients undergoing RYLL and RYGB were identified from the 2020 and 2021 MBSAQIP databases. Baseline characteristics, 30-day rate of serious complications and mortality were analyzed.

Results: A total of 86,990 (99.5%) patients underwent RYGB and 455 (0.5%) RYLL. Patients undergoing RYGB were younger (44.4 vs 49.8 years, $p<0.001$) but had higher body mass index at the time of surgery (45.5 vs 41.8 kg/m^2, $p<0.001$) and higher rates of comorbidities including diabetes (30.0 vs 13.6%, $p<0.001$). RYGB and RYLL had similar operative times (125.3 vs 123.2 minutes, $p=0.5$). There were no statistical differences between cohorts for length of stay (1.6 RYGB vs 1.6 RYLL days, $p=0.6$). After RYLL, there were higher 30-day rates of reoperation (3.3 vs 1.9%, $p=0.03$) and deep surgical site infections (1.3 vs 0.5%, $p=0.03$) compared to RYGB. There were no differences between cohorts for overall serious complications (5.1 RYLL vs 5.0% RYGB, $p=1.0$) and mortality (0.2 RYLL vs 0.1% RYGB, $p=0.5$).

Conclusions: When compared to primary RYGB, Roux-en-Y limb lengthening has a favorable safety profile with similar 30-day rates of serious complication and mortality.

A054

Robotic Reversal of SADI due to Intractable Diarrhea Francisco Guerra Houston TX, Andrew Harner Houston TX, Erik Wilson Houston TX

Francisco Guerra *Houston TX*[1], Andrew Harner *Houston TX*[2], Erik Wilson *Houston TX*[3]UT Health[1] Fellow[2] Attending[3]

We present a 51-year-old woman with a history of diabetes mellitus type 2, gastroesophageal reflux disease, and obstructive sleep apnea who had undergone adjustable gastric band placement in 2006 and lost 120 pounds. Due to pregnancy, she had her band emptied, and she subsequently regained her weight to her previous BMI of 47. As a result of a band leak, the patient had it removed and was converted to a sleeve gastrectomy in 2016. She then lost and regained her weight and was eventually converted to a single anastomosis duodenal ileal bypass in 2020. Her post operative course was complicated by severe diarrhea refractory to medical management, with frequency amounting to 13 times daily, in addition to chronic bloating and abdominal discomfort; she presented to our clinic as a result. Preoperative endoscopy showed normal anatomy with no signs of bile reflux. A discussion was had with the patient about the risks of reversal, including further weight regain and the patient agreed to proceed with reversal. Preoperative EGD showed normal SADI anatomy. The patient was taken to the operating room and the SADI was reversed with no complication. A post-operative UGI was done showing now normal sleeve anatomy with no obstruction, and the patient was discharged. Within 1 week the patient was seen in clinic with significant improvement in her diarrhea and quality of life.

A055

Conversion of Roux-en-Y Gastric Bypass to Biliopancreatic Diversion with Duodenal Switch is a Safe and Reliable Method to Achieve Significant Weight Loss

Dustin Bermudez *Raleigh NC*[1], Peter Ng *Raleigh NC*[1], Lindsey Sharp *Raleigh NC*[1], Linda Youngwirth *Raleigh NC*[1], Tracy Greenberg *Raleigh NC*[1], Hannah Garehan *Raleigh NC*[1]
UNC Rex Hospital[1]

Introduction: Many consider the Roux-en-Y gastric bypass (RYGB) the gold standard in bariatric surgery. Many patients, however, experience weight regain or never achieve their ideal weight following surgery. The biliopancreatic diversion with duodenal switch (BPD-DS) is a more malabsorptive procedure than the RYGB and has been shown to have a more robust weight loss and better long-term results when compared to the RYGB. We retrospectively evaluated our experience of conversion from RYGB to BPD-DS over the last 5 years

Methods: Four surgeons performed elective conversion of RYGB to BPD-DS on 183 patients at our institution from 2015 to 2021. Electronic health records were reviewed retrospectively for preoperative comorbidities, weight and outcomes at the time of surgery and at one year postoperatively.

Results: Of the 183 patients who underwent a one stage conversion of a RYGB to a BPD-DS, 169 were followed for a year. In the first 30 days, 16 patients had one or more complications. This includes: 6 with a GI bleed, 3 Small bowel obstructions, 3 with leaks, 6 with a wound infection or abscess. The average weight loss at one year was 71.7 pounds and the average BMI point change was 11.7 k/gm^2.

Conclusions: For those patients who have had RYGB and postoperatively develop weight recidivism or do not achieve adequate weight loss a conversion to a duodenal switch may be a viable option. Outcomes with weight loss were considerable at a year. This is the largest cohort of RYGB revision to BPD-DS to date.

A056

Conversion of Sleeve Gastrectomy to SADI-S in Patient with LVAD awaiting Heart Transplant

Karl Hage *Rochester MN*[1], Fazal Khan *Rochester MN*[1], Nizamuddin (Nizam) Shaikh *Rochester MN*[1], Marita Salame *Rochester MN*[1], Kamal Abi Mosleh *Rochester MN*[1], Ishna Sharma *Rochester MN*[1], Barham Abu Dayyeh *Rochester MN*[1], Alfredo Clavell *Rochester MN*[1], Omar Ghanem *Rochester MN*[1]
Mayo Clinic Rochester[1]

Background: Patients with severe end-stage heart failure (ESHF) may require left ventricular assist device (LVAD) placement before definite heart transplant. To undergo heart transplant, patients need to have a BMI < 35 kg/m^2. Bariatric surgery is an effective tool for weight loss in patients with obesity and ESHF before transplant. Revisional bariatric surgery for this specific subset of patients is not well elucidated.

Methods: A 38-year-old male with ESHF (ejection fraction <16%), a history of sleeve gastrectomy (SG) and a BMI of 46.3 kg/m^2 presented for revisional bariatric surgery evaluation in order to reduce his BMI to less than 35 kg/m^2 to be eligible for transplantation. We proceeded with a SG to single anastomosis duodeno-ileostomy (SADI-S) conversion. Preoperative workup including optimization of his anticoagulation was completed. His warfarin was stopped, and he was bridged to heparin until 6 hours prior to surgery. Intraoperatively, an LVAD alarm reflecting hypoperfusion was managed. No other intraoperative complications were noted.

Results: The patient was started on heparin drip and bridged to warfarin on postoperative day (POD) 1. He was discharged on POD 4 with an INR of 1.9. No complications were reported at 30-day follow-up and his BMI was 41 kg/m^2.

Conclusion: Revisional bariatric surgery is a feasible option in patients with LVAD awaiting heart transplant.

A057

Revision of Roux-en-Y Gastric Bypass with Laparoscopic Limb-Lengthening with and without Concurrent Endoscopic Revision of the Gastrojejunostomy

Claire Terez *Somerset NJ*[1], Lora Melman *Somerset NJ*[1], Michael Donaire *Somerset NJ*[1], Chris Buchholz *Somerset NJ*[1], Keith King *Somerset NJ*[1], Ragui Sadek *Somerset NJ*[1]Advanced Surgical and Bariatrics of NJ[1]

Background: There are numerous revisional surgery options following inadequate weight loss or weight regain following roux-en-Y gastric bypass. We report our experience with laparoscopic biliopancreatic (BP) limb-lengthening both with and without additional endoscopic revision of the gastrojejunostomy (GJ).

Methods: Thirty-one patients from 2020-2022 were included and retrospectively reviewed. Twelve underwent both laparoscopic and endoscopic revision and seventeen underwent laparoscopic limb-lengthening only. Minimum follow up time was 6 months, with median follow up of 11 months. In all patients the BP limb was lengthened to allow for a total alimentary limb length of about 450 cm. In those that also underwent GJ revision, endoscopic suturing was used to bring the diameter to less than 1 cm.

Results: The average preoperative BMI was 42 with average excess body weight of 102 pounds. The BP limb was lengthened by an average of 137cm (150cm median). In those that underwent laparoscopic limb-lengthening only, the average %EWL was 26.2% with average BMI change of 4.4 and average %TWL of 10.26% at a median follow-up of 11 months. In those that underwent both laparoscopic and endoscopic revision, the average %EWL was 35.4% with average BMI change of 5.5 and average %TWL of 13.7% at a median follow-up of 13 months.

Conclusions: While there is better weight loss with a combined laparoscopic BP limb-lengthening and endoscopic revision of the GJ, there is more that should be considered and studied when treating revisional roux-en-Y gastric bypass patients to maximize weight loss.

A058

Intra-operative Discovery of a Gastro-gastric Fistula During Robotic Conversion of Vertical Banded Gastroplasty to Roux-En-Y Gastric Bypass

John Perrone *Lebanon NJ*[1], Maher El Chaar [1]
St. Luke's University Health Network[1]

This is the case of a 58 year old male with who presented to our office as a consult for weight regain twenty years after a history of an open vertical banded gastroplasty. He had an initial weight of 343 lbs and was able to reach a nadir of 275 Ibs. Unfortunately, he had regained approximately 40 lbs to a weight of 312 lbs. He denied any other symptoms, such as reflux, dysphagia, or regurgitation. He did complete a trial of Medical Weight Management but without much of any success. He had a pre-operative endoscopy and upper GI series. The endoscopy showed a small hiatal hernia with no evidence of band or mesh erosion and no evidence of gastrogastric fistula. The upper GI series showed the expected postoperative changes of prior bariatric surgery. During the procedure, as we were making the gastrojejunal anastomosis, we made the intra-operative diagnosis of a gastrogastric fistula. We discovered this after an endoscope was passed into what we thought was an entirely excluded gastric remnant. We proceeded to completely divide the remnant from the pouch. There were no major complications with the procedure. He left on post-operative day 2 after a negative UGIS and he was able to tolerate some liquids by mouth. The patient was seen in clinic about a week postoperatively. He was without any major issues and was tolerating a liquid diet well. The blake drain was removed and continued to follow up with the office regularly.

A059

Social determinants of health and revisional bariatric surgery: does county health ranking impact short-term outcomes?

Spencer Trooboff *Jacksonville FL*[1], Abigail Pohl *Jacksonville FL*[1], Aaron Spaulding *Jacksonville FL*[1], Launia White *Jacksonville FL*[1], Michael Edwards *Ponte Vedra Beach FL*[1]
Mayo Clinic Florida[1]

Introduction: We sought to evaluate whether social determinants of health as measured by county health ranking (CHR) was associated with 30-day outcomes following revisional bariatric surgery.

Methods: Bariatric revision/conversion cases were abstracted from the 2010—2021 Mayo Clinic Metabolic and Bariatric Surgery Accreditation and Quality Improvement Project databases. Demographic variables, pre-existing medical conditions, procedural data, and 30-day outcomes were extracted. Health factor CHR was determined from residential zip code and categorized into terciles. Our primary outcome was composite 30-day occurrence. Logistic regression assessed independent association between CHR and morbidity.

Results: The analytic cohort comprised 370 revisional bariatric procedures (n=179 Roux-en-Y gastric bypass, n=122 other open revision, n=46 duodenal switch, n=23 sleeve gastrectomy). Most patients resided in the best or middle tercile of CHR (48.4% best vs. 38.6% middle vs. 13.0% worst). Patient characteristics were similar across CHR terciles, except for a higher proportion of non-White patients in the middle/worst CHR terciles. The worst CHR tercile were more likely to have surgery performed by a general surgeon (33.3% vs. 12.2% (middle) vs. 2.3% (best tercile), $p<0.001$) and robotic-assisted surgery (39.6% vs. 23.4% (middle) vs. 2.8% (best tercile), $p<0.001$). Length of stay, disposition, 30-day complications and mortality were comparable across CHR tercile. On logistic regression, CHR was not independently associated with 30-day postoperative occurrence.

Conclusions: Patients requiring revisional bariatric surgery exhibited similar comorbidities regardless of CHR. While specialist training and procedural approach varied, 30-day outcomes were similar across CHR. Further studies are needed to evaluate the impact of CHR on long-term outcomes.

A060

Laparoscopic Conversion of Gastric Bypass to Distal Gastric Bypass for Inadequate Weight Loss

Saeed Arefanian *Columbia MO*[1], Samuel Perez *Columbia MO*[1], Andrew Wheeler *Columbia MO*[1]
University Of Missouri-Columbia[1]

Although uncommon, significant weight regain after gastric bypass can occur. Options are somewhat limited to help patients achieve additional weight loss and improved techniques for revisional surgery are needed. Although limited data exists regarding distalization of the Roux limb to achieve improved malabsorption through lengthened biliopancreatic limb and increased malabsorption, we have seen good results in patients undergoing this procedure. We present a video describing our technique for increasing malabsorption after prior gastric bypass through distalization of the Roux limb to achieve improved weight loss. We highlight technical pearls to maximize effectiveness and minimize long term complications and side effects.

Abstract Palooza Session V- Revisional Procedures

Thursday, June 29th, 2023
10:15 AM – 12:00 PM

A061

BE-CALM: A Clinical Score to Predict Weight Loss After Conversion from Sleeve Gastrectomy to Roux-en-Y Gastric Bypass

Dylan Cuva *New York NY*[1], manish parikh *ny NY*[1], Eduardo Somoza *New York NY*[1], John Saunders *NYC NY*[1], Julia Park *New York NY*[1], Jeffrey Lipman *New York NY*[1], Peter Einersen *Mount Kisco NY*[1], Patricia Chui *New York NY*[1]
NYU Langone, Bellevue Hospital[1]

Introduction: Conversion from LSG to RYGB may be indicated for patients due to insufficient weight loss, weight regain, or GERD. Our aim was to assess weight loss outcomes and factors predictive of improved weight loss in patients undergoing RYGB after LSG, and to create an algorithm to estimate postoperative weight loss in these patients.

Methods: A single-center retrospective review of patients who underwent conversion from LSG to RYGB from 2015 to 2022 was performed, assessing pre- and post-operative weights for each procedure.

Results: 130 patients were included (84% female, pre-LSG BMI 49.3 ± 10.2). Post-LSG, patients achieved a maximum %TBWL of 31.2% ([6.6-58.2]±10.1%), %EWL of 56.8%([13.3-97.3]±16.4%), and total body weight regain of 53.9%([0.0-144.4]±31.3%). Conversion to RYGB resulted in peak %TBWL of 18.8% at 8 months, leveling off at 13.5% thereafter. Factors predictive of greater weight loss post-conversion included higher BMI at time of LSG (each 5 kg/m^2 increase yielded 0.8% greater %TBWL [95% CI=0.5%−1%, p<0.0001]) and peak %EWL ≥40% after LSG (yielding 5.5% more %TBWL, 95%CI=3.9−7.1%, p<0.0001). Conversely, patients with GERD had 3.7% less %TBWL (95%CI=2.4−5.7%, p<0.0001), and those who had ≥20% weight regain after LSG had 4.1% less %TBWL (95%CI=2.5−5.7%, p<0.0001) after conversion. These factors were used to create BE−CALM, an algorithm to predict %TBWL one year after conversion to RYGB.

Conclusion: Conversion from LSG to RYGB is effective for further weight loss. Patients who have higher starting BMI, ≥40% %EWL or <20% weight regain after LSG demonstrate the most effective weight loss post−conversion.

A062

Robotic Conversion of Vertical Banded Gastroplasty to Roux-en-Y Gastric Bypass

Stacey Kubovec *Indianpolis IN*[1], Dimitrios Stefanidis *Indianapolis IN*[1]
Indiana Univeristy[1]

We present a 56-year-old female with class III obesity, BMI 45, who presented to our bariatric clinic for surgical weight loss evaluation. Her comorbidities include gastroesophageal reflux disease, hypertension, and high cholesterol. In 1996 she underwent an open vertical banded gastroplasty. She initially lost 90 kilograms and maintained that weight loss for several years. In the years prior to her revisional surgery she regained the majority of that weight and developed significant gastroesophageal reflux disease. A preoperative upper endoscopy was significant for a 16 cm gastric pouch proximal to the band and short segment Barrett's esophagus, negative for dysplasia. We performed a robotic conversion of vertical banded gastroplasty to gastric bypass. She had an unremarkable post-operative course and was discharged on post-operative day 1. She was progressing well at her first post-operative appointment.

A063

Characteristics, predictors, and outcomes among patients undergoing sleeve gastrectomy to gastric bypass conversion

Ryan Soheim *Detroit MI*[1], Lucy Ching Chau *Detroit MI*[1], Aaron Bonham *Ann Arbor MI*[2], Jonathan Finks *Ann Arbor MI*[2], Anne Ehlers *Ann Arbor MI*[2], Amir Ghaferi *Milwaukee WI*[2], Jeffrey Friedman *Gainesville FL*[1], Oliver Varban *Detroit MI*[1]
Henry Ford Hospital[1] University of Michigan[2]

Introduction: Patients undergoing sleeve gastrectomy (SG) may undergo conversion to Roux-en-Y gastric bypass (RYGB) for gastroesophageal reflux (GERD) or unsatisfactory weight loss. However, characteristics and predictors among patients requiring conversion surgery are unclear.

Methods: Data from the Michigan Bariatric Surgery Collaborative registry was used to identify all patients who underwent SG from 2006-2022 (n=67,476) with subsequent conversion to RYGB (n=971). Multivariable stepwise logistic regression was performed to identify risk factors predictive for SG to RYGB conversion. Postoperative outcomes were compared between patients who underwent RYGB conversion and a propensity score-matched cohort of patients undergoing primary RYGB.

Results: Conversion patients had a mean age of 42.7 years, 91.1% were female, mean body mass index was 48.4 kg/m2 and 60.4% were diagnosed with GERD at the time of SG. Concurrent hiatal hernia repair occurred in 33.7% of cases, and mean total body weight loss at 1 year was 27.8%. Mean time from primary SG to RYGB conversion was 3.5 years. Independent predictors of patients undergoing SG to RYGB conversion include GERD and asthma (Figure). SG to RYGB cases had higher rates of surgical complications (12.1% vs. 7%, $p = 0.02$) with less total body weight loss (27.6%, vs. 33.6%, $p < 0.001$) and similar GERD outcomes when compared to matched primary RYGB cases alone.

Conclusions: Patients and providers should be informed of factors that may increase the need for revisional surgery after SG. Conversion to RYGB incurs more risk and less weight loss than undergoing a primary RYGB.

A064

Robotic Takedown of Nissen Fundoplication with Reduction and Repair of Large Incarcerated Hiatal Hernia, and Roux-en-Y Gastric Bypass

Dennis Smith *Celebration FL*[1], Catherine Santos *Celebration FL*[2], Lauren Lapp *Kissimmee FL*[2]
AdventHealth[1] AdventHealth Celebration Hospital[2]

Background: Bariatric surgery operations are made more complicated and challenging when previous gastric surgery has been done. Taking down a fundoplication during a bariatric operation can be one of the more challenging operations we do in bariatric surgery, especially when a recurrent hiatal hernia repair is done as well. The robotic platform affords stable 3-D vision, multi-arm control, enhanced dexterity and ergonomics that can improve the surgeon's performance, reduce surgeon fatigue and increase surgeon stamina.

Methods: This is a 55 yo F s/p Laparoscopic Nissen Fundoplication with Hiatal Hernia Repair in 2015, with BMI of 48.8. EGD and Upper GI demonstrated a large recurrent and incarcerated hiatal hernia containing a significant portion of her stomach. A robotic platform was used to take down the fundoplication, reduce and repair the hiatal hernia, and perform a Roux-en-Y gastric bypass.

Results: The fundoplication was successfully taken down, the incarcerated recurrent hiatal hernia reduced and repaired, and the Roux-en-Y gastric bypass completed. The patient tolerated the procedure well and recovered well. She was readmitted briefly for shortness of breath and bilateral pleural effusions on POD 16.

Conclusion: A Roux-en-Y gastric bypass together with taking down a fundoplication and reducing a large incarcerated recurrent hiatal hernia is a complex and challenging bariatric operation. This video demonstrates technique as well as some of the advantages of a robotic platform in the performance of complex and challenging bariatric surgery.

A065

Safety of Sleeve Gastrectomy Conversion to Roux-en-Y Gastric Bypass Versus Single Anastomosis Duodeno-ileal Bypass for Inadequate Weight Loss or Weight Gain

Vincent Cheng *Sacramento CA*[1], Gary Grinberg *Sacramento CA*[1], Kamran Samakar *Los Angeles CA*[2], Luke Putnam *Los Angeles CA*[2], Paul Wisniowski *Los Angeles CA*[2], Matthew Ashbrook *Los Angeles CA*[2], Panduranga Yenumula *Sacramento CA*[1]
Kaiser Permanente South Sacramento[1] University of Southern California[2]

Background: Conversion bariatric surgery for inadequate weight loss or weight gain remains controversial. Sleeve gastrectomy is most commonly converted to Roux-en-Y gastric bypass (RNYGB). However, conversion to single anastomosis duodeno-ileal bypass (SADI) has become increasingly popular. This study compares the safety of sleeve gastrectomy conversion to RNYGB versus SADI.

Methods: The 2020 MBSAQIP database was queried for patients who underwent conversion from sleeve gastrectomy to RNYGB or SADI. Only patients who underwent conversion for inadequate weight loss or weight gain were included. Multivariable regression analyses examined the association of conversion surgery choice on clinical outcomes.

Results: Overall 2,385 patients were included; 2,114 patients underwent conversion to RNYGB while 271 underwent conversion to SADI. The median age was 44, and the median body mass index was 42. There were 311 (13%) male patients. Multivariable linear regression showed that SADI was significantly associated with longer operative times (regression coefficient 12.266, p=0.007). Multivariable logistic regression showed that SADI was significantly associated with higher rates of postoperative leak compared to RNYGB (odds ratio [OR] 3.835, p=0.019). Compared to RNYGB, SADI was not significantly associated with higher rates of bleeding (OR 0.753, p=0.648) or 30-day bowel obstruction (OR 0.734, p=0.561). No significant difference in postoperative intervention (OR 1.050, p=0.909) or reoperation (OR 1.761, p=0.136) was observed.

Conclusions: Compared to RNYGB, conversion from sleeve gastrectomy to SADI was significantly associated with higher leak rates but neither readmission nor reoperation. Additional research is required to determine whether increased familiarity with SADI conversion can improve its outcomes.

A066

Laparoscopic Reversal of Gastric Bypass with Preservation of the Roux Limb

Jeffrey Friedman *Gainesville FL*[1], Jeffrey Friedman *Gainesville FL*[2]
jeffrey.friedman@surgery.ufl.edu[1] University of Florida[2]

Laparoscopic Reversal of Gastric Bypass with Preservation of the Roux Limb
Benjamin Kaplan, Julia Fortier, Pavel Mazirka, Perez Agaba, Jeffrey Friedman
48-year-old female with a past medical history of gastroesophageal reflux disease, hypertension, hyperlipidemia, obstructive sleep apnea, hiatal hernia, deep vein thromboses and pulmonary embolism on apixaban underwent an uneventful laparoscopic Roux-en-Y gastric bypass in July 2018. She had a BMI of 38 kg/m^2. Her past surgical history was notable for cholecystectomy. Two weeks post-op she developed nausea, vomiting, dehydration, and dysphagia, which persisted despite consultation with a dietician, psychologist, and treatment with Pancrelipase and Metoclopramide. Ten months post-op she had lost 105 pounds and her BMI decreased to less than 20 kg/m^2. She underwent esophagogastroduodenoscopy, which did not show strictures or ulcers, and CT scan, which was unrevealing. Despite close follow-up, at three years post-op her BMI had decreased to 18 kg/m^2 and the patient continued to report nausea and vomiting, prompting her to request reversal of her bypass. Bypass reversal was done laparoscopically with the roux limb preserved due to the patient's malnutrition. She recovered well post-op and was discharged to home one week later, without complications. Three months following her bypass reversal, her nausea and vomiting had resolved, and her weight had increased to 140 pounds with a BMI of 24.2 kg/m^2. This case demonstrates that laparoscopic reversal of a gastric bypass is a treatment of last resort but can be done safely. Preservation of the roux limb should be considered in cases of malnutrition.

A067

Outcomes of Reoperative Robotic Versus Laparoscopic Bariatric Surgery: An MBSAQIP Analysis

Mauricio Sarmiento-Cobos *Boca Raton FL*[1], Roberto Valera *Weston FL*[1], Kaylee Watson *Weston FL*[1], Lisandro Montorfano *Weston FL*[1], Emanuele Lo Menzo *Weston FL*[1], Samuel Szomstein *North Miami Beach FL*[1], Raul Rosenthal *Weston FL*[1]
Cleveland Clinic Florida[1]

BACKGROUND: The increasing number of primary Bariatric Surgeries (BaS), has led to a rise in the number of reoperations, which carry high perioperative complications. Comparison of Robotic and Laparoscopic approaches is fundamental to determine the best surgical option based on outcomes.

METHODS: A retrospective analysis of the MBSAQIP data registry of patients undergoing reoperative BaS from 2015 to 2019 was done. Demographics, comorbidities, perioperative variables and surgical approach were collected. Outcomes for both approaches were major perioperative complications and mortality. Univariate analysis was performed to assess differences between the approaches. Multivariate logistic regression was used to adjust confounding variables and to evaluate the outcomes.

RESULTS: A total of 126,490 revisions were identified; 93% (n=117,714) of the cases were Laparoscopic and 7%(n=8,776) Robotic. Majority of the patients were female (83.6%), with a mean age of 49.53 years. Univariate analysis revealed that Laparoscopic surgery is associated with a lower length of stay (LOS), 1.89±3.2 vs 2.22±3.25 days in robotic (p≤0.001). Major comorbidities were higher in robotic cases. Postoperative analysis showed higher readmission rates in the robotic group 8.2% (722) vs 5.31% (6,259) (p≤0.001). Operative time was longer in robotic cases (170.59±85.61 vs 104.73±69.62, p≤0.001). Multivariate analysis showed that the length of stay is significantly associated with the outcomes (OR= 0.930, CI: 0.920 – 0.941, p=0.001)

CONCLUSION: Robotic reoperative BaS seems to be associated with longer operative times, increased LOS, readmission rates and postop-complications. Our findings suggest that laparoscopic approach may be safer than robotic. Further studies are needed to asses these findings.

A068

Robotic Revision of a Retro-colic, Retro-gastric Roux-en-Y Gastric Bypass

Benjamin Crisp *New Orleans LA*[1], Michael Caposole *New Orleans LA*[1], Jonathan Allotey *New Orleans LA*[1], Erin Coonan *New Orleans LA*[1], Shauna Levy [1], John Baker *New Orleans LA*[1], Carlos Galvani *New Orleans LA*[1]
Tulane University School of Medicine[1]

Revisional bariatric surgery is complex and is performed at a much lower rate than primary bariatric surgery. Indications for revisional surgery include failure in weight reduction/weight regain, marginal ulcer, stricture, and reflux. Preoperative workup should include review of prior operative reports, upper endoscopy, and an upper GI series. This workup is more in-depth than what may needed for primary bariatric surgery.

Roux-en-Y gastric Bypass (RYGB) revision techniques include puch revision, Type I: distalization of the roux limb[1], and Type II: distalization of the biliopancreatic limb[2]. The curve of weight loss is steeper with a Type I revision[2]. In either case, patients must be monitored postoperative for nutritional deficiencies.

We present the case of a 54-year-old female who presented to our clinic for evaluation for revisional bariatric/metabolic surgery. She had a surgical history of open RYGB (2002), laparoscopic adjustable band (2007), and exploratory laparotomy for trauma following a motor vehicle collision, during which her gastric band was removed (2017). She had experienced weight regain and reflux.

A robotic assisted lysis of adhesions, gastric pouch trimming and revision of gastrojejunostomy, conversion from retro-colic retro-gastric bypass to ante-colic ante-gastric gastric bypass, distalization of bypass, hiatal hernia repair and upper endoscopy were successfully completed.

1. Sugerman HJ, Kellum JM, DeMaria EJ. Conversion of proximal to distal gastric bypass for failed gastric bypass for superobesity. *J Gastrointest Surg.* 1997;1(6):517–24. doi: 10.1016/s1091-255x(97)80067-4. discussion 524-6.

2. Brolin RE, Cody RP. Adding malabsorption for weight loss failure after gastric bypass. *Surg Endosc.* 2007;21(11):1924–1926. doi: 10.1007/s00464-007-9542-z.

A069

Single Anastomosis Procedures as Revisional For Weight Recidivism Post SG (SADI Vs OAGB)

ASAAD SALAMA *Doha*
Hamad Medical Corporation

Background: Single Anastomosis Duodeno-Ileostomy (SADI-S) Versus One Anastomosis Gastric Bypass (OAGB/MGB) as Revisional Procedures for Patients with Weight Recidivism after Sleeve Gastrectomy: a Comparative Evaluation of the Efficacy and Outcomes in 91 Patients at a Single Center

Methods: A retrospective analysis of a prospective collected data base of patients who underwent SADI or OAGB/MGB as a revisional procedure for weight recidivism after primary LSG and followed for a minimum of one year was conducted. Patients in both study groups were compared in terms of weight loss, comorbidities resolution, nutritional deficiencies and complication rates.

Results: Ninety-one patients were included in the study (42 underwent SADI and 49 OAGB/MGB). A slight advantage in weight loss (total weight loss percentage, TWL %) at one year follow-up was observed for SADI when compared to OAGB/MGB (23.7±5.7 vs. 18.7±8.5, p=0.02). However, this was comparable at 18 months follow-up (26.4±7.3 vs. 21.2±11.0, p=0.25).
Remission of comorbidities (diabetes and hypertension) and vitamin deficiency were similar in both study groups. Although OAGB/MGB had higher complication rate than SADI, the difference was not statistically significant (27% vs. 19%, p = 0.39). No mortality was reported in either of the study groups. Conclusions:
Both SADI-S and OAGB/MGB were effective revisional procedures to deal with weight regain post LSG with comparable outcomes in short term follow up. SADI-S procedure appears to cause less upper gastrointestinal complications and even looks a good option for patients suffering from GERD post primary LSG

A070

Treatment of Hiatal Hernia, Reflux, and Weight Regain in Patients with Previous Sleeve Gastrectomy

Benjamin Crisp *New Orleans LA*[1], Michael Caposole *New Orleans LA*[1], John Baker *New Orleans LA*[1], Shauna Levy *New Orleans LA*[1], Carlos Galvani *New Orleans LA*[1]
Tulane University School of Medicine[1]

The incidence of hiatal hernia discovered postoperative in patients who have undergone prior sleeve gastrectomy ranges from 3-45% in the literature[1,2]. Presence of a hiatal hernia may contribute the development or worsening of gastroesophageal reflux disease (GERD), which may lead to the development of Barrett's esophagus, prolonged need for medical therapies, or further surgical interventions.

In our practice, we have encountered multiple patients with a history of sleeve gastrectomy performed at outside institutions who later presented with worsening GERD and weight regain. Given these symptoms, they were considered for revisional surgery. During the preoperative workup of these patients, they were found to have hiatal hernias which, along with a history of sleeve gastrectomy, likely contributed to the development of GERD.

While revisional surgery that combines sleeve gastrectomy conversion to Roux-en-Y gastric bypass with concomitant hiatal hernia repair can be complex and challenging, we demonstrate our operative technique for a successful approach. Adequate crural exposure and mediastinal dissection are instrumental to the hiatal hernia repair.

In our patients who have undergone this revisional procedure, they have demonstrated successful weight loss and resolution of their GERD symptoms in the postoperative setting.

1. Almutairi B F, Aldulami A B, Yamani N M (March 10, 2022) Gastroesophageal Reflux Disease and Hiatal Hernia After Laparoscopic Sleeve Gastrectomy: A Retrospective Cohort Study . Cureus 14(3): e23024. doi:10.7759/cureus.23024

2. Felsenreich, D.M., Kefurt, R., Schermann, M. *et al.* Reflux, Sleeve Dilation, and Barrett's Esophagus after Laparoscopic Sleeve Gastrectomy: Long-Term Follow-Up. *OBES SURG* **27**, 3092–3101 (2017). https://doi.org/10.1007/s11695-017-2748-9

A071

Subjective Improvement of Gastro-Esophageal Reflux After Conversion of Sleeve Gastrectomy (SG) to Roux-en-Y Gastric Bypass (RYGB)

Luke Umana *Tampa FL*[1], Michel Murr *Tampa FL*[1], John Dietrick *Tampa FL*[1], John Paul Gonzalvo *Tampa FL*[1], Jenalee Corsello *Tampa FL*[1], Thomas Mason Grist *Tampa FL*[1]
AdventHealth Tampa[1]

Background: De-novo gastro-esophageal reflux after SG can be refractory to non-operative treatment. We report a large cohort of patients who underwent conversion from SG to RYGB for refractory reflux symptoms.

Methods: Data from all consecutive patients (2018-21) who underwent conversion from SG to RYGB for refractory reflux as the primary indication were reviewed; concomitant hiatal hernias were diagnosed endoscopically or radiographically. Demographic data, time from index SG, percent total body weight loss (%TBWL), BMI and 30-day MBSAQIP complications were recorded. Post-op PPI use and improvement of reflux, nausea, vomiting, dysphagia, or abdominal pain were compared with McNemar statistical test. Data are mean± standard deviation.

Results: 64 patients (92% female; 48±10 years) underwent conversion to RYGB and repair of concomitant hiatal hernias 4±3 years after the index SG. At 7±4 months post-conversion to RYGB, TBWL% was 14±10% and BMI decreased from 37±7 to 32±6 Kg/m^2. Reflux symptoms and PPI use declined by 77% ($p<0.0001$) and 49% ($p<0.001$), respectively. Nausea, vomiting, dysphagia, and abdominal pain decreased by 13%, 23%, 19% and 11%, respectively (Table). Post-op complications were wound infection, port site hernia, SBO, dislodged feeding tube (n=1, each) and bleeding (n=3).

Conclusion: Conversion of SG to RYGB and repair of concomitant hiatal hernia significantly improves reflux symptoms, reduces PPI use, and confers additional weight loss. Nausea, vomiting and dysphagia could persist due to underlying esophageal dysmotility.

A072

Robotic Takedown of Open Nissen Fundoplication with Conversion to Roux-En-Y Bypass

John Perrone *Lebanon NJ*[1], Maher El Chaar [1]
St. Luke's University Health Network[1]

This is the case of a 28 year old female who presented to clinic with acid reflux, nausea, vomiting, and food regurgitation. She had a who was laparoscopic converted to open Nissen Fundoplication ten years prior for severe reflux and heartburn. She had been following with gastroenterology, who referred her for a surgical consultation. She was on maximum medical therapy of a PPI twice daily, a H2 antagonist nightly, and calcium carbonate as needed. Her workup included esophageal manometry, 24 hour pH testing, and an endoscopy. Manometry showed normal esophageal motility with 4 cm hiatal hernia. The pH study was overall borderline positive for acid reflux. The endoscopy showed the hiatal hernia as well. The patient was deemed an operative candidate and underwent a takedown of her previous Nissen fundoplication with conversion to a roux-en-y bypass, performed with the robotic platform. The procedure went well without complication and the patient left on post-operative day 2 after she was able to tolerate some liquids by mouth. The patient was seen in clinic 10 days postoperatively. Her symptoms of reflux, regurgitation and nausea had greatly improved and she was tolerating a liquid diet well.

Presidential Grand Rounds I

Tuesday, June 27th, 2023
9:30 AM – 10:15 AM

A073

Duodenal Switch versus Roux-en-Y Gastric Bypass in Patients with Super Obesity: MBSAQIP Propensity Score Matching Analysis

Samuel Perez *Columbia MO*[1], Andrew Wheeler *Columbia MO*[2]
University of Missouri School of Medicine[1] University of Missouri SOM[2]

Introduction: Super obesity (BMI ³ 50) is a complex medical condition often requiring more aggressive surgical options to achieve significant lasting weight loss. Biliopancreatic diversion with duodenal switch (BPD/DS) leads to greater weight loss but is less commonly performed compared to the Roux-en-Y gastric bypass (RYGB), in part due to perceived increased complication rates. This study aimed to analyze perioperative complications in patients with SO undergoing BPD/DS and RYGB procedures.

Methods: Patient data for years 2015 through 2019 of the MBSAQIP database were used. BPD/DS and RYGB procedures were compared using nearest neighbor 1:1 propensity score matching (PSM) with a 0.2 caliper width to create a balanced matched cohort.

Results: Patients receiving either the BPD/DS or RYGB procedure numbered 2,977 and 37,973 respectively. Patients having the BPD/DS procedure were more likely to be of Hispanic ethnicity (13.5% vs 11.5%;p=0.001), require a mobility device (4.5% vs 2.9%;p<0.001), have a smoking history (10.7% vs 9.0%;p=0.003), and higher BMI (58.4 vs 56.6; p<0.001). After matching, most complications did not differ significantly: intervention (2.2% vs 1.9%;p=0.497), readmission (6.4% vs 5.6%;p=0.306), reoperation (2.9% vs 2.0%;p=0.061) or death (0.3% vs 0.2%;p=0.547). Patients undergoing the BPD/DS experienced higher rates of postoperative organ space infection (0.9% vs 0.3%;p=0.004), sepsis (0.6% vs 0.2%;p=0.022), and postoperative leak (1.6% vs 0.6%;p=0.001).

Conclusion: Patients with SO undergoing the BPD/DS procedure are higher risk for infectious complications but the BPD/DS procedure has shown to be as safe as the RYGB for most complications in the short-term for these higher risk patients.

A074

Surgical Management of Malnutrition and Liver Failure after Duodenal Switch

Romulo Lind *Orlando FL*[1], Marita Salame *Rochester MN*[2], Omar Ghanem *Rochester MN*[2], Andre Teixeira *Orlando FL*[1], Muhammad Ghanem *Orlando FL*[1], Muhammad Jawad *Orlando FL*[1]

Orlando Health[1] Mayo Clinic[2]

Background: Malnutrition and liver failure after Duodenal switch (DS) are possible and undesired complications, often conservatively treated. However, in specific cases, surgical revision may be necessary. This study aims to describe outcomes achieved by two bariatric surgery centers and initially address effectiveness and safety of revisional surgical procedures to resolve these complications.

Methods: A retrospective chart review was performed in two bariatric surgery centers from 2008 to 2021. Patients who required revisional surgery to treat malnutrition and/or liver failure refractory to nutritional and total parenteral nutrition intervention after duodenal switch were included. No comparisons were performed due to the descriptive nature of this study.

Results: Thirteen patients underwent revisional surgery, mean age was 44.7, 53.8% were females, mean preoperative BMI was 53.7; mean time between DS and revisional procedure was 26.5 months, 69.1% of patients underwent TPN, 7% (1 patient) developed hepatic encephalopathy, 1 patient presented with ascites, pleural effusion, renal insufficiency, undergoing reoperation after revisional procedure due to a perforated ileal loop. Mortality rate was 0%; all patients regained weight after the revisional procedure and mean total protein and albumin blood levels 12 months after surgery were 6.3 and 3.6 g/dl.

Conclusions: While refractory malnutrition and/or liver failure are rare among patients post DS, if underdiagnosed and untreated can lead to irreversible outcomes and death. All revisional procedures included in this study resulted in improvement of the nutritional status and reversal of liver failure, with low complication rates.

A076

Splenic rupture after initiation of treatment for splenic vein thrombus following robotic sleeve gastrectomy

Matthew Madion *knoxville TN*[1], Kyle Kleppe *Knoxville TN*[2]
University of Tennessee[1] University of Tennessee Knoxville[2]

We report the case of splenic rupture after initiation of anticoagulation for splenic vein thrombus. A 57-year-old female with multiple medical problems not limited to a history of depression, irritable bowel syndrome, mixed connective tissue disease, osteoarthritis and obesity with BMI of 55 underwent an uncomplicated robotic-assisted sleeve gastrectomy. She was re-admitted on post-operative day seventeen with diarrhea, chest and abdominal pain, and poor tolerance of her diet. CT scan with IV contrast showed a splenic vein thrombus causing a large splenic infarct. She was started on therapeutic low molecular weight heparin and was monitored for improvement in her symptoms. Four days later she had an acute change in mental status with associated hypotension and tachycardia requiring transfer to the intensive care unit. Repeat cross-sectional imaging showed concern for large volume hemoperitoneum with extravasation of contrast from the spleen. She was taking urgently for exploration and underwent laparotomy with splenectomy. Intraoperatively the spleen was noted to be ruptured into multiple pieces. Evaluation of the gastric sleeve via upper endoscopy and leak test was negative for any pathology. A surgical drain was left in the splenic bed and a post-pyloric dobhoff feeding tube was placed. Portal-splenic-mesenteric vein thrombus is a known rare complication after sleeve gastrectomy, however spontaneous splenic rupture after initiation of therapeutic anticoagulation has not been reported in the bariatric literature.

A077

How Gender, Race/Ethnicity, and Procedure Type Affect Postoperative Complications in Bariatric Surgery Patients: A 7-Year Analysis of Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) Database (2015 – 2021)

Ahmad Omid Rahimi *Tucson AZ*[1], Yazan Ashouri *Tucson AZ*[1], Robert King *Tucson AZ*[1], Chiu-Hsieh Hsu *Tucson AZ*[1], Iman Ghaderi [1]
University of Arizona[1]

INTRODUCTION: The rates of postoperative complications can vary among specific patient populations. The aim of this study is to examine how gender, race and ethnicity can affect short-term postoperative complications in bariatric surgery patients.

METHODS: Patients who underwent bariatric surgery between the years 2015–2021 were included and stratified based on gender, race/ethnicity, and procedure type. The 30-day outcomes were assessed using Clavien-Dindo (CD) classification of III-V. Wilcoxon rank-sum test was performed to compare continuous variables among groups and Chi-squared test for categorical variables. Logistic regression was carried out to identify predictors of CD classification ≥ III complications.

RESULTS: A total of 1,346,468 bariatric surgery patients were included. Analysis showed that CD≥III complications were higher among African Americans and lowest in Hispanic patients regardless of their gender. Male patients had a higher risk of complications than females. Sleeve gastrectomy showed the lowest complication rates followed by gastric bypass and duodenal switch in all groups (Table 1). In logistic regression, African Americans had higher odds of postoperative complications compared to Whites in sleeve gastrectomy ($p < 0.0001$) and gastric bypass ($p < 0.002$).

CONCLUSIONS: Our findings validate previous studies that gender, race/ethnicity, and procedure type are important determinants of postoperative outcomes in bariatric surgery. Male gender increases risk of serious postoperative complications. African Americans had the worst outcomes while Hispanic patients had the lowest rate of CD ≥ III complications regardless of gender or procedure type. Sleeve

gastrectomy is the safest among common bariatric surgery procedures.

Presidential Grand Rounds II

Tuesday, June 27th, 2023
12:00 PM- 12:45 PM 3

A078

History of Metabolic Surgery is Associated with a Decrease in Admission Rates for Cardiovascular Disease and Their Cost, Length of Stay, and Mortality in Patients with Type 2 Diabetic Mellitus

Jonathan Jenkins *Tulsa OK*[1], Joseph Edmonds *Tulsa OK*[1], Nasir Mushtaq *Tulsa OK*[1], Robert Lim *Tulsa OK*[1], Geoffrey Chow *Tulsa OK*[1], Zhamak Khorgami *Tulsa OK*[1]
University of Oklahoma - Tulsa[1]

Introduction: The United States spends billions annually on diabetic care, but there are significant hidden costs such as the increased burden of cardiovascular disease. Metabolic surgery is known to provide remission in 50-80% of Type 2 Diabetes Mellitus (T2DM). This study aimed to assess the impact of metabolic surgery on the cardiovascular outcomes of patients with T2DM.

Methods: Using the National Inpatient Samples (2016-19), we performed a 1:5 case-match analysis on patients with T2DM. We compared patients with or without history of bariatric surgery, matched for age, gender, race, socioeconomic status, and Charlson comorbidity index. Logistic regression analysis was performed to examine occurrence, estimated cost, length of stay, and mortality controlling for matched variable and BMI. Additionally, estimates of annual reduction in occurrence and cost savings were calculated if obese patients were T2DM undergo metabolic surgery.

Results: Receiving metabolic surgery were associated with a significantly reduced risk of developing myocardial infarction, congestive heart failure, cerebrovascular accident and requiring coronary bypass, coronary angioplasty, and lower limb amputation. Metabolic surgery was associated with reduced mortality, length of stay, and cost of admission of these diseases

and procedures (Table). Projecting these results to all obese patients with T2DM anticipates > 2 billion dollar saving annually.

Conclusion: History of metabolic surgery in patients with T2DM is associated with fewer cardiovascular events and improved related outcomes. Metabolic surgery in obese patients with T2DM may prevent a significant number of cardiovascular events, disease burden, and mortality with millions of dollars annual national saving.

A079

Fasting Lactate Levels as a Potential Marker for the Metabolic Syndrome

Walter Pories *Greenville NC*[1], Nicholas Broskey [1], Terry Jones [1], Eric DeMaria [1], Joe Houmard *Greenville NC*[1], Lynis Dohm *Greenville NC*[1], ahmed Ali [1]
East Carolina University[1]

Background: Our previous studies indicate that patients with metabolic disease have elevated fasting lactate, which is reduced with bariatric surgery or weight loss. However, it is not clear if lactate can be used as a biomarker for early metabolic disease risk. The purpose of this study was to associate fasting plasma lactate with markers of the metabolic syndrome in a young, healthy overweight cohort.

Methods: Fifty-four, young (28 ± 8 years), male (n=24) and female (n=30) subjects were recruited. Subjects arrived after a 12-hour fast for measures of weight, blood pressure, and a blood draw. Body composition by DXA was measured in a subset. Regression analyses were conducted with lactate and factors of the metabolic syndrome. Data is presented as mean ± SD.

Results: The average BMI was 27.0 ± 2.31 kg/m2 with 30.6 ± 8.0% body fat. Fasting plasma lactate was 0.9 ± 0.31mmol/L with a range from 0.2-1.66. Subjects had normal plasma lipids (triglycerides 91.4 ± 57.1, LDL 105.1 ± 35.3, and HDL 53.5 ± 14.0 mg/dL), were non-hypertensive, and insulin sensitive (HOMA-IR 2.3 ± 1.7). Lactate did not associate with BMI (p=0.16) or percent fat (0.64), but positively associated with visceral adiposity (R^2=0.38, p=0.0007), triglycerides (R2=0.24, p=0.0002) and negatively with HDL (R2=0.1, p=0.02). Lactate positively associated with HOMA-IR (R2=0.2, p=0.0007) and systolic blood pressure (R2=0.08, p=0.05).

Conclusion: Fasting plasma lactate levels are associated with increased dyslipidemia, hypertension, visceral adiposity, and insulin resistance. Fasting lactate may be a useful biomarker to detect early metabolic syndrome in healthy populations.

A080

Use and efficacy of pre-operative aprepitant as an anti-emetic in laparoscopic sleeve gastrectomy

Wesley Thorne *Providence RI*[1], Denis Snegovskikh *Providence RI*[2], Marcoandrea Giorgi *Providence RI*[3], Andrew Luhrs *Providence RI*[3], Todd Stafford *Providence RI*[3], Kellie Armstrong *Providence RI*[4], Beth Ryder *Providence RI*[3]

Brown University, Rhode Island Hospital[1] Lifespan Physician Group[2] Brown Surgical Associates[3] The Miriam Hospital[4]

Introduction:

Post-operative nausea is common following bariatric surgery, particularly laparoscopic sleeve gastrectomy, despite the use of enhanced recovery protocols for perioperative care. In our study we assessed the efficacy of pre-operative aprepitant as an anti-emetic agent for patients undergoing laparoscopic sleeve gastrectomy.

Methods: A single-center retrospective study was conducted. Beginning September 2022, 80 mg of oral aprepitant was added to a standard prophylactic antiemetic regimen, which included scopolamine, dexamethasone, and ondansetron. Utilizing an existing database at our institution, we reviewed the records of patients who underwent laparoscopic sleeve gastrectomy before and after the addition of aprepitant to the standard prophylactic antiemetic regimen. We assessed the severity and frequency of post-operative nausea and vomiting qualitatively (endorsed in postoperative-day-one house-staff note) and quantitatively (number of post-operative antiemetic doses administered beyond standard protocol).

Results: One-hundred-and-thirty-five laparoscopic sleeve gastrectomies were performed between March and November 2022. Sixty-five patients received aprepitant preoperatively, while seventy did not. Groups were similar in age, BMI, and ASA class. In the aprepitant group, we noted a 41.60% reduction in nausea reported on post-operative-day-one (29.20% vs 50.00%, P=0.0133) and a 30.36% reduction in absolute number of additional antiemetic doses (2.98 vs 4.29, P= 0.042). Additional antiemetics included ondansetron, metoclopramide, prochlorperazine, diphenhydramine, haloperidol, and lorazepam. Length of stay was not significantly different (1.32 vs 1.41 days, P=0.416).

Discussion: The addition of pre-operative aprepitant to a multimodal protocol can reduce nausea after laparoscopic sleeve gastrectomy. Further study will focus on refining such protocol and addressing those who remain significantly nauseated post-operatively.

A081

Long Term effects on Calcium Metabolism in Renal Allograft Recipients with Obesity Following Bariatric Surgery

Yara Samman *Galveston TX*[1], Laxmi Dongur *League City TX*[1], Sarah Samreen *Galveston TX*[2]
University of Texas Medical Branch[1] University of Texas Medical Branch, Galv[2]

Renal allograft recipients (RAR) may develop tertiary hyperparathyroidism despite adequate renal function. Secondary hyperparathyroidism is a common metabolic complication after bariatric surgery (BS) with a prevalence of 35.4% at 1-year mark. However, the long-term effect on calcium metabolism in RAR undergoing BS is not completely clear. In this study, we evaluate the changes to calcium and parathyroid hormone (PTH) homeostasis following BS in RAR.

Methods: A retrospective, multi-institutional study was conducted using the TriNetX database. There were 69 RAR who underwent BS compared to a control group of 27,593 RAR alone. These groups were propensity matched, including a BMI of over 35 kg/m2.

Results: There were no significant differences in normocalcemia and hypercalcemia in RAR with or without BS up to 2-years. However, there was significantly lower incidence of hypocalcemia in RAR after BS ($p<0.05$). Significantly fewer RAR after BS took calcium supplements up to 1-year mark ($p<0.02$). Cinacalcet intake was not significantly different between the two groups ($P>0.05$) at 2-years. Significantly more RAR after BS had low PTH levels ($P<0.001$), while normal and high PTH levels were not significant ($p>0.05$) at 2-years. None of the RAR underwent parathyroidectomy within 2-years with or without BS. No RAR had Vitamin-D deficiency, osteoporosis, or stress-fractures up to 2-years following BS. Osteopenia in RAR following BS was insignificant ($p=0.695$).

Conclusion: Bariatric surgery in renal allograft recipients does not increase hypocalcemia, Vitamin D deficiency, stress fractures, and osteoporosis up to 2 years. Further studies are needed to confirm these findings.

A082

Sociodemographic Factors Leading to Preventable Emergency Department Visits after Bariatric Surgery: A Single Institution Analysis

Michael Josephson *Milwaukee WI*[1], Mia Turbati *Milwaukee WI*[1], Jon Gould *Fox Point WI*[1], Tammy Kindel *Milwaukee WI*[1], Rana Higgins *Milwaukee WI*[1]
Medical College of Wisconsin[1]

Introduction: An important quality benchmark after bariatric surgery is 30-day Emergency Department visits. We aimed to identify risk factors for preventable Emergency Department (ED) visits after bariatric surgery.

Methods: Patients who underwent a minimally invasive sleeve gastrectomy between 2017 and 2022 at a single institution were identified. Patients who presented to the ED within 30 days after surgery were matched 1:3 to controls. Sociodemographic and clinical variables were collected from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program database and the electronic medical record. Univariate conditional logistic regression analysis was applied to determine predictive factors of ED visits.

Results: Overall, 648 patients underwent sleeve gastrectomy, of which 53 (8.2%) presented to the ED within 30 days post-operatively. Patients that presented to the ED were more likely to be unemployed (42% vs 24%, p=0.04) and have government insurance (68% vs 41%, p=0.001). Significant risk factors included a lower versus upper socioeconomic bracket (OR 3.6, p=0.042), having a primary care physician (PCP) outside the health system versus within (OR 2.15, p=0.032), greater number of PCP visits within the past year (OR 1.27, p<0.001), and a greater number of post-operative clinic phone calls (OR 2.04, p<0.001). The number of ED visits within one year before surgery was also a significant risk factor, an odds ratio (OR) of 1.44 for each visit (p<0.001).

Conclusion: Both modifiable and unmodifiable risk factors contribute to Emergency Department visits after bariatric surgery. Identifying these risk factors can aid in the development of quality improvement initiatives.

Presidential Grand Rounds III

Tuesday, June 27th, 2023
12:45 PM- 1:30 PM

A083

The Effects of Gastric Bypass on the Brain-Liver Axis as Studied by Total-body Dynamic PET Imaging: A Pilot Study

Victoria Lyo *Sacramento CA*[1], Sean Romeo *Sacramento CA*[2], Zilan Zheng *Santa Clara CA*[2], Dingning Liu *Davis CA*[2], Quyen Tran *Sacramento CA*[2], Emmanuel Zamora *Sacramento CA*[2], Shuai Chen *Davis CA*[2], Karen Matsukuma *Sacramento CA*[2], Michael Corwin *Sacramento CA*[2], Valentina Medici *Sacramento CA*[2], Souvik Sarkar *Lakewood Ranch FL*[3], Guobao Wang *Saramento CA*[2], Mohamed Ali *Sacramento CA*[2]
UC DAVIS HEALTH[1] University of California Davis[2] Florida Research Institute[3]

Obesity is associated with neuroinflammation and non-alcoholic steatohepatitis (NASH). While bariatric surgery is known to improve NASH and cognitive impairment, the linkage between liver-brain inflammatory axis and weight loss is understudied. Inflammation can alter glucose transport and metabolism. We used glucose analogue ^{18}F-fluorodeoxyglucose (FDG) and total-body, dynamic positron emission tomography (PET) to study the effect of weight loss from RYGB on the liver-brain axis.

Patients undergoing RYGB with liver biopsies had pre- and 6-month post-operative labs, dynamic FDG-PET, and MR-Elastography (MRE, fibrosis) and Proton Density Fat Fraction (MR-PDFF, steatosis) imaging studies performed. Liver biopsies were scored according to established NASH-CRN criteria. Tracer kinetic modeling was used to provide quantitative measures of the rate of FDG transport from blood to tissue (K_1) and FDG net influx rate (K_i) that assesses glucose metabolism. Pre/post-operative mean values were compared by paired t-tests and Pearson's correlation coefficients between parameters were calculated.

Three of four patients had NASH based on pathology scores. Significant changes in BMI, HDL, insulin, HOMA-IR for insulin resistance, and hepatic steatosis were found at 6-months postoperatively (Table 1). Worse baseline NAS scores correlated with greater reduction in fibrosis. Though liver K_1 (previously found to be associated with NASH severity) did not markedly change postoperatively, brain K_i significantly increased, suggesting RYGB induced increases in brain glucose metabolism.

Non-invasive imaging detected post-RYGB steatosis improvement. Patients with NASH trended to have post-RYGB changes in brain glucose metabolism, possibly representing altered neuroinflammation. Further studies are needed to correlate imaging findings with cognitive clinical relevance.

A084

Variation in Patient Characteristics and Preoperative Weight Loss Among Patients using Glucagon-Like Peptide-1 Receptor Agonists Prior to Bariatric Surgery

Ahmad Hider *Ann Arbor MI*[1], Aaron Bonham *Ann Arbor MI*[2], Amir Ghaferi *Milwaukee WI*[3], Jonathan Finks *Ann Arbor MI*[2], Anne Ehlers *Ann Arbor MI*[2], Jeffrey Friedman *Gainesville FL*[4], Oliver Varban *Detroit MI*[4]
University of Michigan Medical School[1] University of Michigan[2] Medical College of Wisconsin[3] Henry Ford Health System[4]

Introduction: Glucagon-like-peptide-1 receptor agonists (GLP1RA) can induce weight loss, however, there is little data on their use prior to bariatric surgery and whether variation exists.

Methods: Using a state-wide bariatric specific data registry, we identified all patients who were prescribed a GLP1RA and underwent bariatric surgery between 2015 and 2022 (n=1,247). We compared preoperative total body weight loss (TBWL%) between patients who used a GLP1RA preoperatively to a matched cohort who did not. In addition, we compared patient characteristics among GLP1RA users who were in the top and bottom tercile for preoperative TBWL%.

Results: Among GLP1RA users, the mean age was 49.6 years and mean body mass index (BMI) was 47.0 kg/m^2. Patients were more likely to be female (72.0%), Caucasian (67.3%) and undergo sleeve gastrectomy (72.7%). Mean TBWL% prior to surgery was similar between GLP1RA users and non-users (3.7% vs. 3.5%, p=0.0687) over similar time frames (48.3 days vs. 53.9 days, p=0.5621). GLP1RA patients who were in the top tercile for preoperative weight loss (8.8% TBWL) were more likely to have a higher preoperative body mass index BMI (48.8 kg/m^2 vs. 45.4 kg/m^2, p<0.0001) and less likely to be insulin dependent (29.4% vs. 37.2%, p=0.0188) when compared to patients in the lowest tercile (-2.3% TBWL).

Conclusions: GLP1RA use prior to surgery yielded similar weight loss when compared to a matched cohort. However, variation in preoperative weight loss among GLP1RA users exists, with maximal weight loss occurring among patients with a higher preoperative BMI and lower diabetes severity.

A085

Effect of Sclerostin on Bone Health and Glucose Homeostasis after Roux-en-Y Gastric Bypass in Mice

Katrien Corbeels [1], Brittany Wilson [1], Makena Parker *Chicago IL*[1], Sai Rama Krishna Meka [1], Pranav Mishra [1], Michael Kluppel *Chicago IL*[1], Philip Omotosho *Chicago IL*[1], Alfonso Torquati *Chicago IL*[1], Anna Spagnoli *Chicago IL*[1]
Rush University[1]

Background: Roux-en-Y Gastric Bypass (RYGB) surgery has proven a valuable treatment option for morbid obesity, but also leads to metabolic bone disease. Sclerostin is a bone-secreted protein that has effects on both bone and glucose homeostasis. The effect of sclerostin antibody was assessed in a post-menopausal RYGB mouse model.

Methods: C57BL/6J female mice were fed a high-fat diet throughout the experiment. At age 17 weeks an ovariectomy was performed. At age 22 weeks, mice underwent either a sham or RYGB surgery. Then, mice received SostAb or Saline injections twice a week until sacrifice. Sham mice were body weight matched to RYGB mice. Glucose tolerance was assessed by intraperitoneal glucose tolerance test (IPGTT). Bone characteristics were analyzed 8 weeks after surgery.

Results: Fasting blood glucose levels were unchanged between groups. Glucose intolerance improved with SostAb in RYGB compared to saline injected mice, evidenced by a lower area under the curve (AUC) of blood glucose levels during IPGTT (-14000±3688mg/dL*120min, $p<0.0001$, n=7-9per group, mean±SEM). In contrast, it only slightly improved in Sham mice. µCT analysis of the tibia showed that SostAb in Sham mice lead to increased trabecular bone volume (BV/TV) (+3.8±0.6%, $p<0.001$) and cortical thickness (+0.05±0.003mm, $p<0.0001$), however after RYGB no increase was observed. Additionally, cortical porosity was increased strongly with SostAb after RYGB (+5±1%, $p<0.001$), while it did not increase with SostAb in Sham mice.

Conclusion: SostAb treatment after RYGB in postmenopausal mice led to an increased porosity. On the other hand, the treatment improved glucose tolerance.

A086

Association between Surgical Video Review and Surgeons' Willingness to Change Their Technique

Hollis Hutchings *Detrioit MI*[1], Ahmad Hider *Ann Arbor MI*[2], Aaron Bonham *Ann Arbor MI*[3], Amir Ghaferi *Milwaukee WI*[4], Jonathan Finks *Ann Arbor MI*[3], Anne Ehlers *Ann Arbor MI*[3], Jeffrey Friedman *Gainesville FL*[1], Oliver Varban *Detroit MI*[1]
Henry Ford Health System[1] University of Michigan Medical School[2] University of Michigan[3] Medical College of Wisconsin[4]

Introduction: Surgical video review provides a unique opportunity to identify and potentially adopt new techniques. However, it is unclear whether participating in a video review is associated with making technique-specific changes within a surgeon's own practice.

Methods: Surgeons participating in a statewide quality collaborative were asked to respond to a survey on the technical components of a typical laparoscopic sleeve gastrectomy (LSG) in 2011 and again in 2021. Surgeons were also asked to perform peer-reviewed video assessment of LSG between 2015 and 2016. Surgeon characteristics and number of technical changes were compared among those who performed video review (n=19) to those who did not (n=10).

Results: Surgeons who participated in video review had a similar median number of changes in survey answer choices than those who did not (8.0 vs. 7.6, p=0.1425). There were no significant differences in age (55.6 years vs. 52.3 years, p=0.1410), number of years in practice (19.3 years vs. 19.7 years, p=0.7964) and type of practice (Teaching hospital: 57.9% vs. 60.0%, p=0.9129) between those who did and did not participate in video review. However, surgeons who participated in video review were more likely to submit their own video for review (84.2% vs. 10.0%, p<0.0002) as well as participate in coaching (89.5% vs. 10.0%, p<0.0001).

Conclusion: Participating in a statewide quality collaborative resulted in numerous technique changes for LSG. Although video review did not appear to increase the number of technical changes, surgeons who performed video review were more likely to engage in a surgical coaching program.

A087

Transversus Abdominus Plane Block for Laparoscopic Sleeve Gastrectomy – Does Timing Matter?

Ana Lozano *Clinton Township MI*[1], Sarah Diaz *Midland MI*[2], Arthur Carlin [1]
Henry Ford Health[1] MyMichigan Health[2]

Introduction: Transversus abdominus plane (TAP) blocks are regional anesthesia adjuncts utilized in surgery to optimize analgesia. The ideal timing of administration of TAP blocks in laparoscopic sleeve gastrectomy has not been established.

Methods: A total of 200 patients undergoing LSG were prospectively randomized and divided into two equal groups having a TAP block at the beginning (Early) or at the end (Late) of the operation. The primary outcome measure was numerical pain assessment upon arrival to the post-anesthesia care unit and at 4, 8, 12, 16, 20, and 24 hours postoperatively.

Results: The entire study population had a mean age of 43 and mean BMI of 46. The majority were female (89.5%) and identified as White (60%). The two groups were well matched in nearly all baseline characteristics. No differences in non-opioid analgesic use or hospital length of stay were observed. There was a similar reduction in pain scores for both groups the longer time elapsed from surgery. No significant differences in pain scores between groups were identified at any time point however there was a trend for lower pain scores 24 hours postoperatively in the Late group (1.35 ± 3.5 vs. 1.91 ± 2.5; $p = 0.08$). More patients in the Early group received intravenous morphine for analgesia than in the Late group (7% vs 1%; $p = 0.032$) however there was no difference in overall morphine milligram equivalents used.

Conclusion: The timing of administration of TAP blocks does not appear to impact post-operative pain for LSG.

Presidential Grand Rounds IV

Tuesday, June 27th, 2023
3:00 PM – 3:45 PM

A088

Comparison of bariatric surgery metabolic, nutritional and weight loss outcomes: Single Anastomosis Duodeno-ileostomy (SADI) vs Sleeve Duodenojejunal bypass (SDJB) vs Sleeve gastrectomy (SG) alone. A single institution five-year retrospective study

Joanne Ehemann *Southport* [1], Jason Free *Gold Coast MC Queensland* [2], Lachlan Free *Gold Coast* [3], Sharnie Dwyer *Gold Coast* [4]
Gold Coast University Hospital[1] Gold Coast Univeristy Hospital[2] Bond University[3] Pindara private hospital[4]

Introduction: The SADI procedure was introduced to avoid complications associated with the Roux-en-Y gastric bypass including; dumping syndrome, internal hernias and anastomotic ulcers. SADI involves a sleeve gastrectomy and a duodeno-ileostomy with a common channel of 250-300cm. Optimal length for the common channel (CC) and biliary-pancreatic (BP) limb remains contested. Our study aims to perform a retrospective study of patients whom have undergone a SADI and compare outcomes with its modification; the SDJB procedure. The SDJB is similar to the SADI other than the BP limb is shortened to 150cm. The aim was to confirm reduction in malabsorptive complications whilst maintaining weight loss targets.

Methods: A retrospective analysis of a prospective database was performed. Single institution and surgeon data. 78 SADI, 37 SDJB patients and a BMI propensity matched cohort of 116 SG patients were identified. Inclusion criteria: BMI 35-70, operations between December 2015 – December 2021. Exclusion criteria: revisional and Minimizer ring procedures. Data was collected pre and post operative. Outcomes were EWL% at 5 years, Biochemistry at 1,3,5 year post operative, complications including readmissions, reoperations and resolution of metabolic disease.

Results: Shortening limb length proved non inferior to traditional SADI in regards to EWL% at 5 years. (p=0.137) with both SADI and SDJB proving superior to SG alone at 5 years (p=<0.001 and p=0.033 respectively). SDJB proved non inferior to SADI at resolution of T2DM with both groups significantly reducing HBA1C greater than SG group alone post operatively (p=0.006, p=0.009 respectively). All three groups significantly reduced use of CPAP, Statins and antihypertensive medication post operative however there was no significant difference between groups. SDJB group notably significantly improved post operative stool count per day and Bristol stool classification post-op compared to SADI group (p=0.03 and p=0.001 respectively).

Conclusion: Overall shortening limb length proved non inferior to traditional SADI in regard to EWL over 5 years. With SADI /SDJB groups proving superior to SG alone for long term EWL%. SDJB was significantly better then SADI at reducing bowel motions per day and improving stool consistency. SDJB proved overall non inferior to SADI and improved GIT symptoms whilst maintaining long term EWL%.

A089

Post operative aspirin for low-risk patients may not reduce venous thromboembolism risk following vertical sleeve gastrectomy

Briana Britton *Denver CO*[1], Deborah Davis-Merritt [2]
St. Joseph's Hospital[1] St. Joseph's Hospital, Denver[2]

Background: Both obesity and surgical intervention are risk factors for venous thromboembolism (VTE). Vertical sleeve gastrectomy (VSG) patients have a 1% risk for VTE, but this can increase mortality by 28-fold. Aiming to decrease VTE, we used the Cleveland Clinic Bariatric and Metabolic Surgery Decision-Making Calculator to develop a discharge protocol. High/moderate risk patients were sent on 28/14 days of 40mg Lovenox BID and low risk patients on 30 days of ASA 81mg. We conducted this retrospective review to determine the efficacy of this strategy to decrease VTE in our population.

Methods: 484 VSG patients from July 2021-September 2022 were reviewed retrospectively using MBSAQIP data for perioperative and discharge VTE prophylaxis received, VTE events and bleeding incidents for 30-days postoperatively.

Results: 484 patients received perioperative heparin. 373 (77%) were discharged on ASA, 86 (18%) on Lovenox, 8 (2%) on other chronic regimens, and 17 (3%) on none (2 due to ASA allergy and 1 due to a bleed). 5 of the 484 (1%) patients had VTE events, 3 of which were mesenteric, portal or SMV, and 2 patients were discharged on ASA. The VTE event rate prior to this new protocol was 6/448 (1.3%): 4 mesenteric, 2 PE. Using a Fischer's exact test, we found no significant difference in VTE rate ($p=0.76$) before or after the protocol.

Conclusion: The addition of discharge ASA in low-risk patients has not improved the incidence of VTE. Further analysis, including the impact of hormonal treatment and adjustment of our discharge protocol is warranted.

A090

Staple Line Omentopexy/Gastropexy Decreases the Incidence of Denovo GERD and Gastric Twist Following Sleeve Gastrectomy: Evidence from Randomized Controlled Trials.

Abdul-rahman Diab *Tampa FL*[1], Sarah Alfieri *Tampa FL*[1], Salvatore Docimo *Coram NY*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida[1]

Introduction: Staple line reinforcement can be divided into 4 categories: Oversewing, gluing, buttressing, and omentopexy/gastropexy (OP/GP). The aim of this study is to compare the outcomes of sleeve gastrectomy (SG) with versus without OP/GP.

Methods: Literature search was done according to the PRISMA guidelines. Meta-analysis was done using the RevMen 5.4.1 software. Statistical method used was Mantel-Haenszel. Analysis model used was random effects regardless of the heterogeneity (I^2).

Results: Meta-analysis of randomized controlled trials comparing between SG with versus without OP/GP revealed statistically significant decrease in denovo GERD (OR 0.33, CI 0.15, 0.73) and gastric twist (OR 0.18, CI 0.04, 0.85), and increase in operative time (MD 7.29, CI 2.20, 12.37). In addition, analysis revealed statistically insignificant decrease in leaks (OR 0.37, CI 0.10, 1.42), postoperative bleeding (OR 0.32, CI 0.10, 1.03), readmissions (OR 0.91, CI 0.04, 18.48), and total weight loss % at 1 year (MD -0.43, CI -1.59, 0.74), and statistically insignificant increase in length of stay (MD 0.06, CI -0.16, 0.29).

Conclusion: OP/GP decreases the risks of gastric twist and denovo GERD following SG. The significant decrease in denovo GERD is a very important finding, and more studies are warranted to confirm this. Although insignificant, the decreases in postoperative bleeding and leaks were very close to the significance cutoff, studies with larger sample size might prove that these decreases are statistically significant.

A091

Outcomes of Redo Sleeve Gastrectomy as a Primary Revisional Procedure: A MBSAQIP Review

Paul Wisniowski *Los Angeles CA*[1], Kamran Samakar *Los Angeles CA*[1], Vincent Cheng *Sacramento CA*[1], Lauren Hawley *Los Angeles CA*[1], Stuart Abel *Los Angeles CA*[1], James Nguyen *Los Angeles CA*[1], Adrian Dobrowolsky [1], Matthew Martin *Los Angeles CA*[1]
University of Southern California[1]

Purpose: Insufficient weight loss or anatomic complications following laparoscopic sleeve gastrectomy (LSG) occasionally leads to revisional surgery. Few single institution studies have examined the efficacy and safety of redo-LSG, with mixed results. The purpose of this study is to evaluate the 30-day outcomes of redo-LSG.

Methods: The 2020 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) Registry was used to evaluate patients undergoing redo-LSG. 30-day outcomes including anastomotic leaks and gastric stricture were evaluated using univariate analysis and multivariable logistic regression.

Results: A total of 104,440 patients were reviewed; 658(0.6%) underwent redo LSG and 103,782(99.4%) underwent initial LSG. Redo-LSG patients were older (45.4±10.9 vs 43.1±11.9), predominantly female (86.2% vs 80.5%), with lower BMI (kg/m^2) 407.7 vs 44.97.7, and fewer comorbidities. Univariate outcomes demonstrated higher complications and reinterventions for Redo-LSG (Figure 1, all $p<0.001$). On multivariable analysis, Redo-LSG was independently associated with increased risk of anastomotic leak (OR 11.26, $p<0.001$) and stenosis (OR 4.43, $p=0.012$), more reinterventions (OR 3.14, $p=0.001$), and more reoperations (OR 1.95, $p=0.044$). There was no difference in 30-day mortality.

Conclusions: In this national database study, redo laparoscopic sleeve gastrectomy is associated with increased rates of anastomotic leak, gastric stricture, reinterventions, and reoperations compared to primary LSG. While these results are concerning further studies are required to examine long term outcomes.

A092

Wernicke's encephalopathy in patients after bariatric surgery: a retrospective study of the National Inpatient Sample (NIS) database 2016-2019

Jisoo Kim *el paso TX*[1], JOSEPH IGWE *Atlanta GA*[2], Eric DeMaria *GREENVILLE NC*[3], Omar Ghanem *Rochester MN*[4], John Marr *El Paso TX*[1], Maria Ahmad *El Paso TX*[1], Brian Davis *El Paso TX*[1], Benjamin Clapp *El Paso TX*[1]

Texas Tech University Health Science Center - El Paso[1] Morehouse School of Medicine[2] Brody School of Medicine at East Carolina University[3] Mayo Clinic[4]

Introduction: Patients who undergo metabolic and bariatric surgery (MBS) are prone to nutritional deficiencies. The varying degree of vitamin malabsorption among MBS patients may increase risk for Thiamine(vitamin B1) deficiency and the associated sequalae of Wernicke's-Korsakoff encephalopathy(WE). Case studies have noted WE among MBS patients but research using a nationwide dataset has not been performed. We sought to determine the incidence and association of MBS with WE.

Methods: Using the National Inpatient Sample (NIS), we identified adult patients (≥35 years-old) with a history of bariatric surgery between 2016-2019. We used a Pearson χ2 analysis, analysis of variance and multivariable regression analyses to analyze odds and associations for the primary outcome: WE; and secondary outcomes: WE within MBS subpopulation. MBS was identified using International Classification of Diseases version-10 Clinical Modification code Z98.84; non-alcoholic WE were identified using the codes E51.2 and F04. STATA/MP was used for analyses.

Results: There were 982,220 in the NIS database with a history of MBS. The incidence of WE were higher for those with MBS(0.01379%) compared to non-MBS(0.0074%) ($p<0.001$). MBS was associated with higher odds of WE compared to non-MBS patients (aOR: 1.86, [1.29-2.68], $p<0.001$). Within the MBS subpopulation, alcohol abuse was associated with a higher odds of WE compared to non-alcoholics (aOR: 9.09, [3.10 - 26.62], $p<0.001$)(Table 1).

Conclusion: There was a nearly 2 times increased risk of nonalcoholic WE in patients with history of bariatric surgery. There is an even higher increased risk among those patients with MBS and a history of alcohol abuse.

Presidential Grand Round V

Wednesday, June 28th, 2023
9:30 AM- 10:15AM

A093

Women Pursuing Metabolic/Bariatric Surgery Are High Risk for Underlying Endometrial Cancer

Robert Ross *Baton Rouge LA*[1], Maggie Ducote *Baton Rouge LA*[1], Emma Domangue *Houma LA*[2], Breyanah Graham *New Orleans LA*[2], Laura Boyer *Baton Rouge LA*[1], Michael Cook *New Orleans LA*[2], Amelia Jernigan *New Orleans LA*[3], Philip Schauer *Baton Rouge LA*[1], Vance Albaugh *Baton Rouge LA*[1]
Pennington Biomedical Research Center[1] LSU School of Medicine[2] LSU Health Science Center[3]

Introduction: Endometrial cancer (EC) is the strongest obesity-associated malignancy and the fastest growing cancer of young women. Early identification of endometrial pathology in women with severe obesity may improve treatment options and help avoid hysterectomy. Data on underlying endometrial pathology in women pursuing metabolic/bariatric surgery is limited.

Methods: A 10-item questionnaire was implemented at two high-volume bariatric clinics to identify dysfunctional uterine bleeding, specifically combining tools designed to identify anovulatory/postmenopausal bleeding and heavy menstrual bleeding (SAMANTA). Initial data was collected from June-September 2022.

Results: Out of 804 eligible women presenting for surgical evaluation, 409 (51%) positive screens were referred for gynecologic evaluation to rule out endometrial hyperplasia/cancer. Fourteen percent of women explicitly noted "abnormal bleeding or spotting", while 31% had a SAMANTA score of ≥3, indicating heavy menstrual bleeding.

Conclusions: Women presenting for metabolic/bariatric surgery have a high prevalence of dysfunctional menstrual bleeding and are high risk for EC. Standardized EC screening with appropriate gynecologic referral should be a routine part of the overall evaluation for patients with severe obesity. Follow-up is ongoing to quantify the prevalence of endometrial pathology in the preoperative population, as well as the potential effects of marked weight loss on cancer status, endometrial hyperplasia, and surgical outcomes.

A094

Causes of 30-day Readmission Following Robotic Bariatric Surgery

Mark Mahan *Danville PA*[1], Grace Petrick *Danville PA*[2], Benjamin Smith *Danville PA*[3], Hugo Villanueva *Danville PA*[1], Craig Wood *Danville PA*[1], Benefsha Mohammad *Danville PA*[1], David Parker *Danville PA*[1], Anthony Petrick *Danville PA*[1], Vladan Obradovic *Danville PA*[1]
Geisinger[1] Boston College[2] Geisinger School of Medicine[3]

Introduction: Studies have consistently shown RA-MBS to have longer operative times and higher readmission rates compared with laparoscopic (Lap) MBS. The aim of our study was to identify platform-based predictors of readmission after MBS.

Methods: 2015-2021 MBSAQIP Participant Use files were used to identify index Lap or RA-MBS. Propensity scores were used to match Lap or RA cases (1:1) from 847,833 Lap and 121,295 RA. Multivariate logistic regression models and chi square were used to evaluate predictors of 30-day readmission (overall and within surgical approach).

Results: Propensity matching of 242,590 patients (121,295 Lap and RA), found mean operative time (OpT) was longer (RA=108.5 vs. Lap=81.1) and readmissions were higher in RA (3.8% vs. 3.2%, OR=1.19, 95% CI [1.14-1.24]). Multiple regression analysis confirmed a significant association of both RA-MBS and OpT with readmission, (RA OR=1.08, 95% CI[1.03, 1.13] and each 15-minutes of OpT (OR=1.04, 95% CI[1.03-1.05]). Lap cases were 4X more likely to be completed under 50 minutes than RA. History of PE was the only preoperative factor predictive of readmission for RA that was not predictive for Lap (OR=1.57, 95%CI=[1.29-1.91]). Adverse occurrences more common in RA versus Lap-MBS included organ space infection (0.31% vs. 0.25% p=0.0021), pneumonia (0.21% vs. 0.15% p=0.0025) and unplanned intubation (0.13% vs. 0.1% p=0.007).

Conclusion: A review of all MBSAQIP PUF years, found that longer operative time was independently and significantly associated with greater readmission after MBS. The significantly longer operative times for patients undergoing RA-MBS are the most significant driver of excess readmissions.

A095

Early Dehydration Following Roux-en-Y Gastric Bypass is Associated with Marginal Ulceration

Patrick Sweigert *Columbus OH*[1], Theresa Wang *Columbus OH*[1], Annie Chen *Columbus OH*[2], Tarik Yuce *Columbus OH*[1], Roukaya Hassanein *Columbus OH*[1], Vimal Narula *Columbus OH*[1], Bradley Needleman *Columbus OH*[1], Stacy Brethauer *Columbus OH*[1], Sabrena Noria *Columbus OH*[1]

The Ohio State University Wexner Medical Center[1] The Ohio State University[2]

Introduction: Despite advances, factors influencing the incidence of early marginal ulceration (MU) at the gastrojejunal anastomosis following Roux-en-Y Gastric Bypass (RYGB) remain poorly understood.

Methods: A prospectively maintained, single-institution database was queried to identify adults undergoing primary RYGB. Cohorts were stratified by presence of early dehydration (ED) – defined by need for outpatient intravenous fluid resuscitation within 30 days postoperatively. Early MU was diagnosed on endoscopy within 90 days. Bivariate analyses were performed between cohorts. Unadjusted time-to-event analyses were performed using the Kaplan-Meier (KM) method. Logistic regression modeling adjusting for demographics, comorbid conditions, and operative factors was utilized to evaluate independent predictors of early MU.

Results: Of 616 patients who underwent RYGB, 38 (6.2%) required outpatient fluid resuscitation for ED. Mean age was 44.9 (SD 11.2) and mean BMI was 47.3 (SD 8.1). ED patients were more likely to be female (94.6% vs 79.1%, $p = 0.005$). No differences were observed in age, comorbid conditions, smoking status, or gastrojejunal anastomotic technique among cohorts. Median length-of-stay was significantly longer for ED patients (2 days [IQR: 2-3] vs 2 days [IQR: 1-2], $p = 0.04$). ED patients were more likely to develop early MU (21.4% vs 4.6%, $p<0.001$), and demonstrated decreased overall MU free survival (Figure). After risk-adjustment, ED was independently associated with increased odds of early MU (OR 5.77, 95% CI: 2.56-13.0).

Conclusions: Patients who experience ED following RYGB are at 5-fold increased adjusted risk of developing MU within 90 days. The causative factors involved in this association require further study.

A096

Outpatient Bariatric Surgery: Retrospective Evaluation of Same Day Discharges in a Single Institution

Carlos Delgado *Orlando FL*[1], Eric Stevens *Orlando FL*[1], Daniel Farinas *Orlando FL*[1], adventhealth orlando *orlando FL*[1], Elizabeth Dovec *Orlando FL*[1]
AdventHealth[1]

Background: Bariatric Surgery is a safe and effective treatment for morbid obesity. Despite the vast evidence supporting its use, bariatric surgery performed in the inpatient hospital setting can be prohibitively expensive. This study aims to determine whether same-day discharge bariatric surgery can be safely performed with the use of a defined Enhanced Recovery After Bariatric Surgery (ERABS) protocol.

Methods: We performed a retrospective review of same-day bariatric surgeries performed between October 2021 and July 2022 by two high-volume surgeons. Our primary study endpoints included the 30-day rate of ER visits, readmissions, reoperations, morbidity, and mortality. Several statistical analyses were performed, including a non-inferiority analysis with an assigned a non-inferiority margin of 5%.

Results: Out of the 401 patients included, 211 (52.6%) underwent Laparoscopic Roux-En-Y Gastric Bypass (LRYGB), 164 (40.9%) Laparoscopic Sleeve Gastrectomy (LSG), and 26 (6.5%) Laparoscopic Revisional Bariatric Procedures (LRBP). The mean body mass index (BMI) was 46.9 kg/m2. The overall 30-day rate of ER visits was 12.2%, readmissions 2.2%, reoperation 3.5%, and mortality was 0%. By comparison, the nationally accepted rates for these complications are 0.1-10%, 6-20.8%, 4.9-9.8%, and 0-0.01% respectively. Based on our non-inferiority analysis, our results can be considered non-inferior to the standard of care for inpatient bariatric surgery.

Conclusion: Based on our study, outpatient bariatric surgery is associated with non-inferior results with regards to the rate of ER visits, readmissions, reoperations, morbidity, and mortality when utilizing standardized ERABS protocols.

A097

Early BMI Loss Predicts 10 Year BMI Trajectories in Adolescents Following Metabolic & Bariatric Surgery

Todd Jenkins *Cincinnati OH*[1], Justin Ryder [2], Changchun Xie *Cincinnati OH*[3], Anita Courcoulas *Pittsburgh PA*[4], Marc Michalsky *Columbus OH*[5], Thomas Inge *Chicago IL*[6]
Cincinnati Children's Hospital Medical[1] University of Minnesota[2] University of Cincinnati[3] University of Pittsburgh[4] Nationwide Children's Hospital[5] Lurie Children's Hospital[6]

Long-term variation in weight loss maintenance following metabolic and bariatric surgery (MBS) among adolescents with ≥ Class 2 obesity has been understudied. Our objective was to identify unique 10-year BMI trajectories following Roux-en-Y Gastric Bypass (RYGB) and Vertical Sleeve Gastrectomy (VSG) in adolescents and evaluate whether early (baseline, 6-month) clinical and/or behavioral characteristics were predictive of trajectory group membership.

Teen Longitudinal Assessment of Bariatric Surgery (Teen-LABS), a prospective observational study at five US centers, enrolled consecutive patients ≤19 years following MBS, of which 161 and 99 underwent RYGB and VSG, respectively. Latent class growth modeling was used to construct %BMI change trajectories 10 years following MBS. The relationship between early-stage predictors and trajectory group membership was evaluated using cumulative logit modeling.

Ten years after MBS, mean %BMI change from baseline was -20% (95% CI: -22, -18). Latent class analysis identified four unique BMI change trajectories (mean posterior probability of group membership, 0.93). Ten-year %BMI change by trajectory group was: Group 1, -43% (ideal weight loss maintenance); Group 2, -23%; Group 3, -12%; Group 4, +8% (high weight regain). Adjusted cumulative logit modeling found that %BMI change at 6 months was significantly associated with trajectory group membership ($p<0.01$). Greater 6 month %BMI loss was associated with a more successful 10-year BMI trajectory (Odds Ratio: 1.16 [1.11, 1.21]).

Ten years following MBS, four distinct BMI change trajectories were identified among adolescents who underwent RYGB or VSG. Greater 6 month postoperative BMI loss was associated with more favorable 10-year trajectories.

Presidential Grand Round VI

Wednesday, June 28th, 2023
12:00 PM – 12:45 PM

A098

Truncal vagotomy for the treatment of recalcitrant marginal ulcers after Roux-en-Y gastric bypass.

Helmuth Billy *ojai CA*[1], Benjamin Clapp *El Paso TX*[2], shreyash Pradhan *Ventura CA*[3], Karl Hage *Rochester MN*[4], Omar Ghanem *Rochester MN*[4]
Ventura Advanced Surgical Associates[1] Texas Tech HSC Paul Foster School of Med[2] Community Memorial Hospital, Ventura CA[3] Mayo Clinic, Rochester Minnesota[4]

Background: Marginal ulcer is a common complication following laparoscopic Roux-en-Y gastric bypass operations for morbid obesity.

Methods: A retrospective chart review of patients who required surgical intervention for non-healing marginal ulcers or those presenting with perforated marginal ulcers were reviewed during the time period January 2013 through February 2019. In cases of recalcitrant marginal ulcers, persistent ulceration was present despite medical therapy and lifestyle changes. In cases where the patient presented with free perforation surgical intervention occurred at the time of presentation. Patients with recalcitrant marginal ulcers had preoperative EGD that demonstrated a recalcitrant marginal ulcer. Revision of the GJ anastomosis or resection of the marginal ulcer was done in all cases. Laparoscopic truncal vagotomy was performed following revision of the anastomosis or resection of the ulcer. We reviewed operative time, ulcer recurrence and complications in the 30 cases identified.

Results: 30 patients were identified who underwent revision/resection following presentation with a recalcitrant or free perforation of a marginal ulcer. Every patient underwent simultaneous truncal vagotomy at the time of operation. Complete truncal vagotomy was confirmed on frozen section at the time of operation. There were no 30-day mortalities. All patients had surgical drains placed. There were no leaks. All patients underwent follow-up endoscopy 3-6 months after resection/vagotomy. There were no recurrent marginal ulcers discovered. Follow up of 5 months to 6 years reveals no recurrent ulcers. There were no reoperations or major complications.

Conclusion: Laparoscopic truncal vagotomy appears to be safe and effective in the treatment of marginal ulcers.

A099

Surgical versus non-surgical weight management interventions in individuals with weight recurrence after Roux-en-Y gastric bypass surgery

Loic Tchokouani *New York NY*[1], Akash Gujral *New York NY*[1], Akshitha Adhiyaman *Stony Brook NY*[1], Holly Lofton *New York NY*[1]
NYU Grossman School of Medicine[1]

Bariatric surgery is the gold standard of obesity treatment. However, weight recurrence (WR) remains an issue. We prospectively recruited participants with a history of Roux-en-Y Gastric Bypass (RYGB) up to ten years ago, with an average WR of 17.1% from nadir. The participants were randomized to either once daily Liraglutide 3.0 mg (Liraglutide) or placebo. We compared this with patients who had the gastric band-over bypass (GBOB) within 1-10 years of RYGB surgery.
We recruited 89 people (14 males, 75 females) in the liraglutide with an average of 70.97 months after their primary surgery with a mean age of 46.74±9.74, and 43 (5 males, 38 females) in the placebo arm, with a mean of 63.90 months between their enrollment and RYGB, mean age 48.21±10.67. Data search identified 22 patients (7 males, 15 females) with a mean age of 46.35±9.23, had GBOB, with an average duration of 96.5 months between the two surgeries. Starting weight, post-op nadir weight, weight at the start of the intervention, and 1-year post-intervention weights (all in kg) for the liraglutide cohort were 136.42±32.44, 82.64±18.24, 100.75±20.46, 95.82 (8.7±8.0%), placebo, 128.85±19.71, 79.87±12.85, 96.32±14.36, 95.82 (0.6±4.4%), and GBOB, 155.77±41.21, 101.87±28.62, 126.78±27.9, 112.63±31.03 (12.5±9.7%), respectively.
The weight loss observed after 1-year post-intervention was 8.7±8.0 in the liraglutide, 0.6±4.4% in the placebo group, and 12.5±9.7% in GBOB. RYGB is a crucial method to help lose weight. Long-term WR is still an issue with many patients. Both the GBOB procedure and liraglutide are effective in reducing weight recurrence.

ClinicalTrials.gov Identifier: NCT03048578

A100

Outcomes of Combined Therapy of Severe Obesity with Bariatric Surgery, Glucagon-like Peptide 1 Agonist Before and After Surgery and Genetic-based Targeted Therapy

Zhamak Khorgami *Tulsa OK*[1], Carah Horn *Tulsa OK*[1], Jesse Richards *Tulsa OK*[1]
University of Oklahoma - Tulsa[1]

Introduction: Glucagon-like peptide 1(GLP-1) agonists have been shown to have a significant weight loss effect in diabetic and nondiabetic patients. Setmelanotide, a melanocortin-4 receptor agonist, helps treatment of obesity in patients with Bardet-Biedl Syndrome (BBS). This study describes outcomes of a university-based bariatric program in use of anti-obesity medications (AOM) before and after bariatric surgery.

Methods: All patients referred to the University of Oklahoma bariatric program (July 2020 to November 2022) underwent a multidisciplinary evaluation. They were optimized preoperatively including pharmacotherapy for weight loss. Patients with BMI>45 kg/m^2 were optimized with GLP-1 agonist if covered by insurance and this was continued after surgery until weight loss goals achieved. Genetic testing was performed in patients with childhood obesity, family history of obesity, and those with poor weight loss before surgery. Setmelanotide was used in patients with BBS in preoperative and postoperative period(Figure). Outcomes and complications of medical and surgical treatment were measured.

Results: Out of 792 patients with obesity(297 patients in bariatric program), 192(24.2%) underwent genetic testing. 32 (16.7%) patients were diagnosed with BBS and Setmelanotide was prescribed. 10 patients were approved by payors and received Setmelanotide (not tolerated in one patient) with significant improvement in weight loss. 69 (36.5%) Surgical patients on GLP-1 agonists had a higher weight loss both before and after surgery. All patients with 12-month follow-up achieved excess weight loss >50%.

Conclusion: A combination multidisciplinary approach including GLP-1 agonist medication and genetic testing for targeted therapy can optimize patients for bariatric surgery and enhance postoperative weight loss.

A101

Morbid Obesity and the Heart: What Can Be Done?

Aryana Sharrak *Grand Rapids MI*[1], Jason Aubrey *Grand Rapids MI*[1], Gregory Fritz *Grand Rapids MI*[1], Sydney Rechner *Grand Rapids MI*[2], Sophia Spencer *Grand Rapids MI*[2], Jon Schram *Zeeland MI*[1], Joshua Smith *Grand rapids MI*[1]
Corewell Health[1] Michigan State University[2]

Introduction: Patients with morbid obesity have a two-fold risk of multi-organ dysfunction, one of which being congestive heart failure. Patients with congenital heart disease (CHD) or congestive heart failure (CHF) in need of cardiac intervention are often excluded secondary to BMI. We aim to demonstrate perioperative outcomes in patients with morbid obesity and underlying cardiac dysfunction who undergo laparoscopic sleeve gastrectomy (LSG).

Results: A total of 45 patients who underwent LSG between November 2017 and September 2022 were included. Cardiac dysfunction in these patients was represented by: CHF (79.1%), cardiomyopathy (69.8%), CHD (16.3%), history of STEMI or NSTEMI (14.0%), valvular disease (7%), endocarditis (2.3%), and myocarditis (2.3%). Twelve patients (26.7%) had a left ventricular assist device (LVAD) in place preoperatively. The mean preoperative BMI was 47.95 (SD: 7.97). Within one-year post-operatively, NYHA score for patients improved across all four classes. Eight patients (17.8%) qualified for transplant, and four (8.9%) of these received a heart transplant.

NYHA score for the cohort was decreased preoperatively from the following classes:
8.1%, Class I 43.2%, Class II, 37.8% Class III , 10.8% Class IV
to the following values 1 year postoperatively:
34.5% Class I , 37.9% Class II , 20.7% Class III, 6.9% Class IV.

Conclusion: LSG is safe to perform in patients with underlying cardiac disease and may offer patients with obesity the opportunity to pursue cardiac transplant, improve NYHA score and, subsequently, cardiac functionality. This may offer patients with heart failure and LVAD an increase in quality of life.

A102

Bariatric Surgery Utilization by Black Patients is Increasing with Greatest Gains in Patients with Extreme Obesity

Robert Ross *Baton Rouge LA*[1], Amanda Spence *Baton Rouge LA*[1], Jesus Garcia [2], Denise Danos [3], Michael Cook *New Orleans LA*[2], Vance Albaugh *Baton Rouge LA*[1], Philip Schauer *Baton Rouge LA*[1]

Pennington Biomedical Research Center[1] LSU School of Medicine, New Orleans[2] LSU School of Public Health, New Orleans[3]

Introduction: Utilization of bariatric surgery in the U.S. among Black patients relative to White patients across the BMI spectrum is not known.

Methods: MBS Accreditation and Quality Improvement Program (MBSAQIP) data were used to characterize patient demographics and bariatric surgery utilization between 2015 to 2021. Standardized data science approaches combined all available MBS records (>1.3 million) for analysis over time.

Results: MBS utilization by Black patients increased from 16.7% (n=27,608) in 2015 to 20.5% (n=43,295) in 2021, with utilization by White patients trending lower during this same time (74.9% to 64.6%). Percent of MBS procedures on Black patients steadily increased every year, including 2020, despite overall case numbers decreasing during COVID-19 pandemic. Additionally, Black patients accounted for an increased percentage of MBS procedures for increasingly severe obesity. Specifically, Black patients accounted for only 14% of MBS for patients with BMI<40kg/m^2, with this increasing to 31.6% for those with BMI≥70kg/m^2.

Conclusions: Bariatric surgery utilization by Black patients as a percentage of all bariatric operations from 2015 to 2021 has steadily increased particularly for those with extreme obesity. Further research is required to determine strategies to address barriers to access to bariatric surgery.

Presidential Grand Round VII

Wednesday, June 28th, 2023
12:45 PM – 1:30 PM

A103

Marginal Ulcer and Dumping Syndrome in Patients after Duodenal Switch: A Multi-centered Study

Marita Salame *Rochester MN*[1], Andre Teixeira *Orlando FL*[2], Romulo Lind *Orlando FL*[2], Gilberto Ungson *HERMOSILLO* [3], Muhammad Ghanem *Orlando FL*[2], Karl Hage *Rochester MN*[1], Kamal Abi Mosleh *Rochester MN*[1], Barham Abu Dayyeh *Rochester MN*[4], Michael Kendrick *Rochester MN*[1], Omar Ghanem *Rochester MN*[1]
Mayo Clinic Rochester, Minnesota, USA[1] Orlando Health, Florida, USA[2] Mexicali Bariatric Center, Mexico[3] Mayo Clinic Rochester, Minnesota, USA[4]

Background: The current design of biliopancreatic diversion with duodenal switch (BPD-DS) and single anastomosis duodenal-ileal bypass with sleeve (SADI-S) emphasizes the importance of the pylorus' preservation to reduce the incidence of marginal ulcer (MU) and dumping. However, no study has yet reported data on their prevalence. We aimed to assess the incidence of MU and dumping in patients who underwent BPD-DS and SADI-S and identify the predisposing risk factors.

Methods: A multicenter review of patients who underwent BPD-DS or SADI-S between 2008 and 2022 was conducted. Patient baseline demographics, symptoms and management of MU and dumping were collected. Fisher's exact test was used to analyze the categorical variables and independent samples t-test was used to analyze continuous variables. Data are presented as mean± standard deviation.

Results: 919 patients were included (74.6% female; age 42.5 years; BMI 54.6 kg/m^2) with mean follow-up of 31.5 months. 774 (84.2%) underwent BPD-DS and 145 (15.8%) SADI-S. 8 patients (0.9%) developed MU and 7 (0.8%) had dumping. Only one (12%) patient underwent surgery for MU. Non-steroidal anti-inflammatory drugs (NSAID) use (p=0.006) and longer operation time (p= 0.047) were significantly associated with MU development. Sleep apnea (p=0.005) was significantly associated with dumping. Primary versus revisional surgery, and BDP-DS versus SADI-S had no statistically significant association with MU/dumping.

Conclusions: The incidences of MU and dumping in BPD-DS and SADI-S were low. NSAID use and longer operation time were associated with an increased risk of MU, whereas sleep apnea was associated with a higher risk of dumping.

A104

Outcomes of Metabolic Surgery in Populations with Severe Obesity and Their Risk of Developing Colorectal Cancer. Where Do We Stand? - A Systematic Review.

Daniel Tomey *cypress TX*[1], Maria Corzo *Bogota PA*[2], Victor Pena *Houston TX*[3], Sachin Shetty *Pearland TX*[4], Halil Bulut *Istanbul* [5], NNENNA OSAGWU *Roseau* [6], Suman Shetty *Pearland TX*[7], Victor Bolivar *Houston TX*[8], Rodolfo Oviedo *Houston TX*[1]
Department of Surgery, Houston Methodist Hospital[1] Universidad de Los Andes, School of Medicine, Bogota, Colombia.[2] Universidad de Monterrey, School of Medicine[3] Baylor College of Medicine[4] Istanbul University-Cerrahpasa, cerrahpasa school of medicine[5] All Saints University, School of Medicine, Roseau, Dominica.[6] University of Texas at Austin.[7] Universidad de Oriente, Venezuela[8]

Background: Metabolic surgery has become the most effective therapy for weight loss and resolving obesity-associated diseases in patients with severe obesity. Recent literature has focused on investigating the benefits of metabolic surgery on colorectal cancer patients. The objective of this systematic review is to identify the effect of metabolic surgery on the risk of developing colorectal cancer in populations with severe obesity.

Methods: A systematic review was conducted, on 13 manuscripts with 10,924,393 patients between 2006 and 2022. Patients were divided into a surgical cohort (591,916) and a non-surgical cohort (10,332,477). Data collection included demographics, comorbidities, on surgical and cancer variables. Pearson's correlation coefficient was used to assess correlations. A p-value of < 0.05 was considered statistically significant.

Results: The incidence of total cancer (0.0004) and colorectal cancer (0.0003) in the surgical cohort was inferior to that of the non-surgical cohort (0.0193 and 0.009). Statistically significant positive correlations in the surgical group include age (r:0.78, p:0.004) and gastric band procedure (r:0.96, p:<0.01). Meanwhile, age (r:0.76, p:0.007), alcohol consumption (r:0.97 p:0.007), and both females (r:0.73, p:0.005) and males (r:0.75, p:0.003) demonstrated a strong and statistically significant positive correlation in the nonsurgical cohort. No other variables were found to be statistically significant.

Conclusion: The incidence of colorectal cancer, although low, was shown to be decreased in those who underwent metabolic surgery. This is a key finding that can emphasize the role of colorectal cancer screening and prevention in specific populations. Further research is needed to understand the full effect of this association.

A105

Can the MBSAQIP (Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program) Bariatric Surgical Risk/Benefit Calculator Predict Postoperative VTE (Venous Thromboembolism) Risk After Bariatric Surgery?

Erin Coonan *New Orleans LA*[1], Jacob Broome *New Orleans LA*[1], Valeria Noguera *New Orleans LA*[1], Viktoriya Grayson *New Orleans LA*[1], Mohamed Aboueisha *Boston MA*[1], Benjamin Crisp *New Orleans LA*[1], Michael Caposole *New Orleans LA*[1], John Baker *New Orleans LA*[1], Shauna Levy *New Orleans LA*[1], Carlos Galvani *New Orleans LA*[1]
Tulane University School of Medicine[1]

Background: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) Bariatric Surgical Risk/Benefit Calculator estimates postoperative complication risk based on preoperative factors, but it does not predict venous thromboembolism (VTE). We aimed to determine; a) if the preoperative variables utilized by this tool are associated with risk of postoperative VTE, and (b) 30-day morbidity in patients with VTE.

Methods: The MBSAQIP database was queried for primary bariatric surgery patients from 2015-2021. To assess the risk for postoperative VTE, all MBSAQIP risk calculator variables were utilized. Univariate and Multivariate adjusted logistic regression analysis was performed to determine which patient factors increased risk of postoperative VTE. All other outcomes and complications were compared using chi-square or Mann-Whitney-U.

Results: Out of 1,346,468 patients, 0.3% developed VTE, conserved during the entire study period. Age, vascular risk, Diabetes Mellitus, dialysis, GERD, history of PE, history of DVT, steroid/immunosuppressant use for chronic condition, previous foregut surgery, and non-band surgery independently increased odds of postoperative VTE ($p<0.05$). Compared to non-VTE patients, patients who developed postoperative VTE had increased reoperations, reinterventions, unplanned ICU admission, readmissions, morbidity, mortality, and longer hospital stay ($p<0.05$).

Conclusion: This analysis demonstrates: a) at least 10 preoperative variables from the MBSAQIP Bariatric Surgical Risk/Benefit Calculator are associated with increased risk of postoperative VTE; b) patients who developed postoperative VTE have significantly worse perioperative outcomes after primary bariatric surgery. We suggest the liberal use of extended VTE chemoprophylaxis in patients with identifiable preoperative risk factors and the creation of a VTE-risk calculator.

A106

Use of Lumen-Apposing Metal Stents in Treating Gastrojejunal Anastomotic Strictures in Bariatric Patients.

Jason Samuels *Nashville TN*[1], Patrick Yachimski *Nashville TN*[1], Anthony Gamboa *Nashville TN*[1], Matthew Spann *Nashville TN*[1], Jessica Ardila-Gatas *Nashville TN*[1]
Vanderbilt University Medical Center[1]

Background: Gastrojejunal strictures (GJS) are rare but significant adverse events following Roux-en-Y Gastric Bypass. Lumen-apposing metal stents (LAMS) represent a new therapy for treatment of intestinal strictures, but LAMS' effectiveness in treating GJS is unknown. This study aims to evaluate the safety and efficacy of LAMS in GJS.

Methods: This study retrospectively enrolled patients who underwent LAMS placement for GJS following gastric bypass. Data was collected with manual chart review. Primary outcome of interest was resolution of GJS following LAMS removal. Secondary outcomes included need for additional procedures, LAMS-related adverse events, and need for revisional surgery.

Results: Seventeen patients were enrolled. The cohort was 82% female with median age of 39. The median BMI was 23.6 at time of GJS diagnosis. 59% had marginal ulcers. The most common risk factors for strictures were smoking (50%) and NSAIDs use (25%). LAMS placed were 15 mm in 15 patients and 20 mm and 10 mm, in one patient each.

One perforation and one migration occurred. LAMS were placed for 2 months in 9 patients, <2 months in 5, and >2 months in 2 patients. One patient was lost to follow up. Six underwent repeat LAMS placement. 9 patients achieved resolution of GJS after LAMS removal. Four patients required revisional surgery after LAMS removal.

Conclusion: LAMS placement is safe with few reported complications. While stricture resolution occurred in over half the patients, nearly 1/4th of patients required revisional surgery. More data is needed to predict who would benefit from LAMS versus surgical intervention.

A107

Staple Line Oversewing Versus Buttressing Using The Polyglycolic Acid:Trimethylene Carbonate (PGA:TMC) Material. A Meta-Analysis.

Abdul-rahman Diab *Tampa FL*[1], Zachary Malaussena *Tampa FL*[1], Salvatore Docimo *Coram NY*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida[1]

Introduction: Staple line reinforcement can be divided into 4 categories: Oversewing, gluing, buttressing, and omentopexy/gastropexy (OP/GP). The aim of this study is to compare the postoperative outcomes of staple line reinforcement during sleeve gastrectomy using Seamguard versus oversewing.

Methods: Literature search was done according to the PRISMA guidelines. Meta-analysis was done using the RevMen 5.4.1 software. Statistical method used was Mantel-Haenszel. Analysis model used was random effects regardless of the heterogeneity (I^2).

Results: Meta-analysis of randomized controlled trials comparing Seamguard buttressing versus oversewing of the staple line revealed statistically significant increase in length of stay (MD 0.86, CI 0.37, 1.34) and decrease in operative time (OR -16.09, CI -21.31, -10.86) with Seamguard. In addition, analysis revealed statistically insignificant increases in leaks (OR 1.61, CI 0.31, 8.41) and postoperative bleeding (OR 1.53, CI 0.18, 12.72). Meta-analysis of observational studies revealed statistically significant decrease in re-operations (OR 0.41, CI 0.17, 0.96). In addition, analysis revealed statistically insignificant decrease in leaks (OR 0.91, CI 0.42, 1.98) and increase in postoperative bleeding (OR 1.40, CI 0.83, 2.38), length of stay (MD 0.08, CI -0.08, 0.25), and readmissions (OR 1.46, CI 0.78, 2.72).

Conclusion: Although Seamguard is more expensive than oversewing, operative time is less by 16 minutes. In addition, Seamguard decreases the risk of re-operations. Although increased length of stay with Seamgaurd is statistically significant, it is clinically insignificant as the difference is only 0.08 days, which is less than 2 hours.

Presidential Grand Round VIII

Wednesday, June 28th, 2023
3:00 PM- 3:45PM

A108

Prevalence of gastric intestinal metaplasia and its influence on surgical decision for patients undergoing bariatric surgery: a retrospective study.

Felix Thibeault *Montréal* [1], Aghiles Abbad *Montréal* [2], Pierre Garneau *Mont-Royal* [1], Ronald Denis *Montréal* [1], Anne-Sophie STUDER *Montreal* [1], Adam Di Palma *Montreal* [1], Radu Pescarus *Montreal* [1]
Hôpital Sacré-Coeur de Montréal[1] University of Montreal[2]

Background: Routine preoperative endoscopy for patients undergoing bariatric surgery remains controversial. However, anatomopathological findings during endoscopy can influence the choice of bariatric procedure. Gastric intestinal metaplasia (GIM) is increasingly recognized as a potential risk factor for gastric adenocarcinoma.

Objective: Establish the prevalence of GIM among patients undergoing bariatric surgery in our population and determine the impact of routine esophagogastroduodenoscopy (EGD) on the choice of bariatric procedure.

Methods: We retrospectively reviewed the charts of 314 consecutive patients who underwent routine EGD with antral/corpus biopsies by a single endoscopist at our Canadian institution between March 2021 and November 2022. Data collected included patient demographics, EGD reports, and pathology reports from both endoscopy biopsies and surgical specimens.

Results: The population consisted of 234 (74.5%) females and 80 (25.5%) males with an average age of 43.6 years and BMI of 46.5 kg/m-^{2}. Overall, GIM was present in 8.4% of endoscopies, high-risk GIM in 2.2% and H. pylori in 16.6%. Esophagitis and Barrett's esophagus were present in 19.4% and 6.4% of patients, respectively. Regression analysis did not reveal any factor significantly associated with GIM. Preoperative EGD altered the choice of the surgical procedure for 14.9% of patients, with 9.4% of changes due to hiatal anatomy/esophagitis, 2.3% due to GIM and 0.6% due to Barrett's esophagus.

Conclusion: We demonstrated a significantly higher GIM prevalence (8.4%) than that of previously published bariatric patient cohorts. The presence of GIM is the second most frequent finding that alters the surgical decision making in our bariatric surgery population.

A109

Using Total Bowel Length Measurements to Calculate Common Channel Length Reduces Reoperations and Long-Term Complication Rates after Single-Anastomosis Duodenal Switch

Lucas Fair *Dallas TX*[1], Darby Dwyer *Dallas TX*[2], Priscilla Anderton *Dallas TX*[2], Anella Bittle *Dallas TX*[3], Gerald Ogola *Dallas TX*[3], Daniel Davis *Dallas TX*[1]
Baylor University Medical Center[1] Texas A&M College of Medicine[2] Baylor Scott & White Research Institute[3]

Introduction: Most surgeons who perform single-anastomosis duodenal switches use a pre-determined length for the common channel without measuring total bowel length (TBL). The purpose of this study was to determine if using TBL measurements to calculate the optimal common channel length would reduce reoperations and complication rates.

Methods: A retrospective review was conducted to identify all patients who underwent a single anastomosis duodenal switch at our institution between September 2017 and February 2022. In April 2021, we began performing TBL measurements in all patients with 40% of the TBL used as the length for the common channel. Outcomes pre-TBL and post-TBL measurements were analyzed.

Results: A total of 119 patients (59 pre-TBL measure; 60 post-TBL measure) were included in this study. Preoperative characteristics were similar between the groups. The post-TBL measure group had a significantly longer common channel length than the pre-TBL measure group (309.8 cm vs 268.6 cm, $p<0.001$). The pre-TBL measure group had a significantly higher rate of reoperations (23.7% vs 1.7%, $p<0.001$) and long-term complications (29.3% vs 3.3%, $p<0.001$). The mean time for reoperation in the pre-TBL measure group was 13.7±7 months. Patients in the post-TBL measure group had significantly higher postoperative albumin levels at 3 months (4.2 g/dL vs 3.5 g/dL, $p<0.001$) 6 months (4.2 g/dL vs 3.7 g/dL, $p<0.001$), and 12 months (4.2 g/dL vs 3.8 g/dL, $p=0.023$) (**table 1**).

Conclusion: Using TBL measurements to calculate optimal common channel length significantly reduces reoperations and long-term complication rates after single anastomosis duodenal switches.

A110

Development and Validation of an Instrument to Measure the Safety of the Jejunojejunostomy Portion of Laparoscopic Roux-en-Y Gastric Bypass Surgery

Peter Nau *Iowa City IA*[1], Erin Worden *Harrisburg PA*[1], Ryan Lehmann *Iowa City IA*[1], Kyle Kleppe *Knoxville TN*[2], Gregory Mancini *Knoxville TN*[2], Matthew Mancini *Knoxville TN*[2], Bruce Ramshaw *Knoxville TN*[3]

University of Iowa Hospitals & Clinics[1] University of Tennessee – Knoxville[2] CQInsights PBC, Knoxville, TN[3]

Background: An objective procedure-specific assessment (OPSA) to unambiguously assess bariatric surgeon skill in a logical, data-driven, and standardized manner was developed based on the twelve consecutive tasks required to complete the jejunojejunostomy (JJ) portion of the Roux-en-Y gastric bypass (RYGB).

Methods: Four board-certified bariatric surgeons completed the OPSA and Global Operative Assessment of Laparoscopic Skills (GOALS) from de-identified videos of 30 consecutive RYGB surgeries. Responses were dichotomized as safe or unsafe ("poor" on OPSA; ≤3 on GOALS).

Results: For the OPSA, lowest percent agreement was noted for clear identification of ligament of Treitz (63.3%) followed by adequate reflection of transverse colon (70.0%), common enterotomy closure of JJ (73.3%), and evaluating integrity of anastomosis (80.0%). Highest percent agreement for GOALS was tissue handling (80.0%) followed by bimanual dexterity (56.7%), depth perception (56.7%), and efficiency (53.3%). Unanimous agreement on safety was highest for stapler use (100%) and lowest for clear identification of ligament of Treitz (80.0%). Twenty procedures had at least one step rated unsafe.

Conclusions: This preliminary evidence indicates the OPSA is a valid measure of safe surgical performance and is more reliably measured than the GOALS.

A111

Concomitant Hernia Repair with Bariatric Surgery: A Systematic Review and Meta-Analysis

Zachary Malaussena *Tampa FL*[1], Noah Richmond *Tampa FL*[2], Rahul Mhaskar *Tampa FL*[2], Joseph Sujka *Tampa FL*[2], Christopher DuCoin *Tampa FL*[2], Salvatore Docimo *Coram NY*[2]
University of South Florida Morsani College of Medicine[1] USF Morsani College of Medicine[2]

Background: Repair options for ventral hernias in patients with obesity include performing bariatric surgery prior to definitive hernia repair or a concomitant approach. The aim of this study is to perform a meta-analysis to determine which surgical approach is best for bariatric patients with hernias.

Methods: A PRISMA literature search in PubMed using keywords noted in *Figure 1* was performed. We screened for all retrospective and prospective studies that focused on outcomes of patients who underwent both hernia repair and bariatric surgery, either simultaneously or separately. Exclusion criteria included studies pertaining to hiatal and inguinal hernia repair, as well as case reports and case series.

Results: Seven comparative studies, resulting in a total of 6,331 "staged" patients (weight loss surgery followed by hernia repair) and 1,820 "concomitant" patients were included. For the comparative studies (*Table 1*), the concomitant approach was associated with decreased odds of experiencing SSI, reoperation, and seroma formation at any time. The staged approach was associated with decreased odds of mesh infection in the first 30 days after surgery. Data was insignificant for bowel complications in the comparative studies. *Figure 1* demonstrates the PRISMA diagram for study inclusion and exclusion.

Conclusion: There is insufficient evidence to determine if a concomitant repair or a staged approach is best due to a lack of data in regards to hernia size and reported outcomes. However, the data suggests the staged approach is more appropriate if the hernia requires the placement of mesh.

A112

Effectiveness of Endoscopic Argon Plasma Coagulation at Gastrojejunal Anastomoses in Weight Loss after Roux-en-Y Gastric Bypass

Dosuk Yoon *Brooklyn NY*[1], Sameh Elrabie *Brooklyn NY*[1], Selim Gebran *Brooklyn NY*[1], Andrew Godwin *Huntington NY*[2], David Buchin *Huntington NY*[2]
Wyckoff Heights Medical Center[1] Huntington Hospital Northwell Health[2]

Introduction: There are multiple factors that contribute to the 15-20% failure of weight loss after Roux-en-y gastric bypass (RYGB) procedure. Among these factors, progressive dilation of gastrojejunal anastomoses has shown to be a significant component. Our study illustrates the safety and effectiveness of argon plasma coagulation (APC) at gastrojejunal anastomoses in weight loss.

Methods: This is retrospective study of 144 patients who underwent endoscopic APC procedure after failing to lose weight from RYGB. Weight and safety were studied from procedure to one month and from one month to six months.

Results: Among 144 patients, 134 resulted in weight loss from APC. The mean result in 1 month follow up was a decrease of 1.8 BMI (range -7.4 to +6.4) and 4.9-kg weight loss (range -20.8 to +14.1-kg). Among the 86 patients who did not undergo revision surgery or were not lost in follow up, 75 patients showed weight loss in 6 month follow up. There was average decrease of 4.4 BMI (range -19.6 to +5.9) and 12.3-kg weight loss (range -56.8 to +18.6-kg). Of 144 patients, 35 patients showed exceptional results; >5 BMI decrease and >25-kg weight loss. Five patients had complications; four experienced food intolerance, one of which underwent endoscopic dilation. One patient had postoperative aspiration pneumonia.

Conclusions: This study demonstrated the safety and effectiveness of APC with selected patients which showed tremendous benefit. Considering low complication, time and cost effectiveness, APC can be utilized as an adjunct procedure for patients who failed to lose weight after RYGB

Presidential Grand Round IX

Thursday, June 29th, 2023
9:30 AM – 10:15 AM

A113

Routine Extended (30 days) Chemoprophylaxis for Patients Undergoing Laparoscopic Sleeve Gastrectomy May Reduce Portomesenteric Vein Thrombosis Rates

Dylan Cuva *New York NY*[1], Eduardo Somoza *New York NY*[1], Moyosore Alade *Brooklyn NY*[1], John Saunders *NYC NY*[1], Julia Park *New York NY*[1], Jeffrey Lipman *New York NY*[1], Peter Einersen *Mount Kisco NY*[1], Patricia Chui *New York NY*[1], manish parikh *New York NY*[1]
NYU Langone, Bellevue Hospital[1]

Introduction: Venous thromboembolism (VTE), including portomesenteric vein thrombosis (PMVT), is a major complication of laparoscopic sleeve gastrectomy (LSG). We changed our practice in July 2021 to routinely discharge all LSG patients postoperatively with extended chemoprophylaxis. The objective of this study is to evaluate the efficacy/safety of routine extended chemoprophylaxis for LSG patients compared to two previous timeframes utilizing selective extended chemoprophylaxis.

Methods: Between 2012-2018, LSG patients were discharged on extended chemoprophylaxis if deemed "high-risk" for VTE, including patients with BMI >50, and previous VTE (Group 1). Between 2018-2021, extended chemoprophylaxis was broadened to positive preoperative thrombophilia panels (including Factor VIII) (Group 2). After 2021, all LSG were routinely discharged on extended chemoprophylaxis (Group 3). The regimen was 30 days Lovenox BID (weight-based dosing). Outcomes evaluated were rate of VTE/PMVT and post-operative bleed, including delayed bleed (readmission for bleed).

Results: A total of 8864 patients underwent LSG. Average age and BMI were 37.5 years and 43.0 kg/m^2, respectively. Overall incidence of PVT was 33/8864 (0.34%). Table 1 demonstrates that converting from selective extended chemoprophylaxis (Group 1) to routine extended chemoprophylaxis (Group 3) decreased the rate of PMVT from 0.55% to 0.21%. There was a slightly higher overall bleeding rate (0.44%), including delayed bleeds (0.10%) in the routine extended chemoprophylaxis patients (Group 3). The majority of these delayed bleeds were managed non-operatively.

Conclusion: Routine extended chemoprophylaxis for all LSG may reduce PMVT rate but lead to a slightly higher bleeding rate postoperatively.

A114

Botulinum toxin pyloroplasty to reduce postoperative nausea and vomiting after sleeve gastrectomy: a pilot study

Tyler Robinson *Portland OR*[1], Tiffany Moy *Albany NY*[1], Tejinder Singh *Albany NY*[1], Jessica Zaman *Albany NY*[2]
Albany Medical College[1] Albany Medical Center[2]

Background: Chemical pyloroplasty (CP) using botulinum toxin benefits patients after esophagectomy or with gastroparesis by muscular relaxation of the pylorus. CP has not been studied as an adjunct to bariatric surgery.

Methods: Prospective, double-blinded, randomized clinical trial of patients undergoing sleeve gastrectomy (SG), comparing those treated by CP to those treated by placebo. Either saline containing 100u botulinum toxin or saline only are injected into the pylorus at the termination of SG. Primary outcomes are postoperative use of antiemetic medications and hospital length of stay. Secondary outcomes include patient-reported nausea scores, 30-day hospital readmission rate and complication rate.

Results: Out of 54 patients randomized to the protocol, preliminary analysis demonstrates that when comparing patients treated with CP versus those treated with placebo, there was no difference in adverse outcomes. In addition, there was no significant difference in the mean doses of postoperative antiemetic medication (0.9 vs. 1, $p = 0.87$); mean hospital length of stay (1.6 vs. 1.5, $p = 0.6$); patient reported mean episodes of nausea (1.5 vs. 2.2, $p = 0.07$); or overall mean satisfaction scores (4.2 vs. 4.6, $p = 0.13$).

Conclusion: A pilot study demonstrates that CP during SG is safe but does not have significantly different effect on postoperative outcomes when compared to placebo. An ongoing randomized controlled trial that was limited by the COVID-19 pandemic may demonstrate significant differences in patient outcomes.

A115

Role of Pre-Surgical Metabolic Testing for Procedure selection in Bariatric Surgery

Principal Investigator
Syed Harris Bokhari *Dallas TX*[1], Lucas Fair *Dallas TX*[1], Anella Bittle *Dallas TX*[1], Gerald Ogola *Dallas TX*[1], Daniel Davis *Dallas TX*[1]
Baylor University Medical Center[1]

Introduction: Resting energy expenditure (REE) is a measurement of whole-body metabolism. There is increasing interest in understanding how variations in REE are related to successful weight loss after surgery. The purpose of this study was to determine if there was an association between REE and mean percent total weight loss (%TWL) following various bariatric procedures.

Methods: A prospectively maintained database was retrospectively reviewed to identify all patients who underwent bariatric surgery and metabolic testing at our institution between September 2016 and October 2021. Indirect Calorimetry was used to measure REE pre and postoperatively. Data for baseline patient characteristics, REE, and %TWL was analyzed for comparison.

Results: A total of 58 patients (45 female, 13 male) met inclusion criteria. The types of bariatric procedures performed included duodenal switch (n=16), gastric bypass (n=10), and sleeve gastrectomy (n=32). Baseline patient characteristics were similar among the subjects. Although there was no statistically significant difference in the mean %TWL at 6 months ($p=0.08$), the mean %TWL was higher in patients who underwent a duodenal switch (27.2%±5.1) or gastric bypass (28.5%±5.8) when compared to sleeve gastrectomy (21.9%±6.9) (**table 1**). Interestingly, sleeve gastrectomy patients had a significant decrease in their REE at 6 months ($p=0.02$), while duodenal switch ($p=0.20$) and gastric bypass ($p=0.07$) patients did not (**table 2**).

Conclusion: Sleeve gastrectomy had lower mean %TWL than both duodenal switch and gastric bypass at 6 months. Sleeve gastrectomy patients also had a significant decrease in their postoperative REE, which may have a role in their lower mean %TWL.

A116

Long-Term Follow Up of a Series of Patients who developed Portomesenteric Vein Thrombosis after Laparoscopic Sleeve Gastrectomy; Defining the Optimal Treatment Strategy.

Dylan Cuva *New York NY*[1], Moyosore Alade *Brooklyn NY*[1], John Saunders *NYC NY*[1], Patricia Chui *New York NY*[1], Julia Park *New York NY*[1], Jeffrey Lipman *New York NY*[1], Peter Einersen *Mount Kisco NY*[1], manish parikh *ny NY*[1]
NYU Langone, Bellevue Hospital[1]

Introduction: Portomesenteric vein thrombosis (PMVT) is a significant post-operative complication after laparoscopic sleeve gastrectomy (LSG). This study provides long-term follow up of patients who developed PMVT postoperatively and insight into various treatment strategies.

Methods: A retrospective review was performed of LSG patients who developed PMVT postoperatively over a 10 year period. Imaging was obtained to determine clot resolution vs. cavernous transformation of the portal vein. Duration of anticoagulation and any additional intervention was documented.

Results: From 2012-2022, 33 patients developed PMVT after LSG. During this time 8864 LSG were performed (0.37% incidence). Mean age and BMI were 37 years and 41 kg/m^2, respectively. Most (85%) were female. 75% had a positive thrombophilia workup. Most (82%) were diagnosed within 30 days postoperatively. 52% involved the portal vein and the superior mesenteric vein, 6% involved secondary branches of the portal vein. All patients were started on therapeutic anticoagulation (AC). 59% continued AC beyond 6 months, 2 patients underwent open thrombectomy and 2 patients underwent portal vein recanalization. At median follow-up of 3 years, 9/33 PMVT (27%) resolved, 14/33 (42%) have continued thrombus, and 10/33 (30%) progressed to cavernous transformation of the portal vein. The latter group had extensive clot burden at the initial diagnosis.

Conclusion: PMVT is a significant but infrequent (0.37%) complication of LSG. Consideration should be given to early intervention (either surgical or radiologic) especially in those with extensive clot burden to decrease the risk of progression to cavernous transformation. Anticoagulation should be continued until the thrombus has resolved radiographically.

A117

Evaluation of Perioperative Complications of Bariatric Surgery in Extreme Obesity(>70kg/m2) versus Super Obesity (50-70 kg/m2): A MBSAQIP Analysis

Paul Wisniowski *Los Angeles CA*[1], Kamran Samakar *Los Angeles CA*[1], Vincent Cheng *Sacramento CA*[1], Stuart Abel *Los Angeles CA*[1], Lauren Hawley *Los Angeles CA*[1], James Nguyen *Los Angeles CA*[1], Adrian Dobrowolsky [1], Matthew Martin *Los Angeles CA*[1]
University of Southern California[1]

Introduction: Previous studies demonstrate increased perioperative complications with increasing body mass index (BMI), and significantly increased risk beyond BMI 50kg/m^2. Few studies have evaluated the safety of MBS in patients with BMI >70kg/m^2. This paper will examine the perioperative complications in patients with extreme obesity (EO) compared to severe obesity (SO) undergoing metabolic surgery.

Methods: The 2015-2020 Metabolic and Bariatrics Surgical Quality Improvement Project (MBSAQIP) Registry was utilized to evaluate patients with EO compared to SO undergoing bariatric surgery. 30-day complications were evaluated using univariate analysis and multivariable regression.

Results: 231,195 patients were included; 10,551(4.6%) with EO and 220,644(95.4%) with SO. 160,399(69%) underwent sleeve gastrectomy (SG), and 70,796(31%) underwent gastric bypass (RYGB). Patients with extreme obesity were younger 39.6y vs 42.2y, with a greater proportion of Black patients 3,312(31.4%) vs 51,270(23.2%) compared to SO, all $p<0.001$. Univariate analysis demonstrated increased complications and mortality with EO versus SO for both SG and RYGB (Table 1). On multivariable regression, EO was independently associated with the following complications: leak rates (AOR 1.54, $p=0.001$), pulmonary (AOR 2.48, $p<0.001$), cardiac (AOR 1.98, $p=0.001$), renal (AOR 4.23, $p<0.001$), infection (AOR 1.82, $p<0.001$), VTE (AOR 1.34, $p<0.022$), bleed (AOR $p=0.006$), serious complications (AOR 1.46, $p<0.001$), and mortality (AOR 2.84, $p<0.001$).

Conclusion: In this national database study, patients with extreme obesity had a significantly higher risk of postoperative complications and mortality compared to those with severe obesity, and with higher risks following RYGB versus LSG. Focused interventions and adjusted perioperative counseling are warranted in in this high-risk population.

E-Posters

Tuesday, June 27th, 2023 - Thursday, June 29th, 2023

A118

A Population Health Approach to the Assessment of Disparities in Access to Bariatric Surgery in North Carolina

Ashley Burch *Greenville NC*[1], Walter Pories *Greenville NC*[1], William Irish *Greenville NC*[1], Jan Wong *Greenville NC*[1]
East Carolina University[1]

Background: Methods to quantitate disparities in access to surgery in vulnerable populations while considering selection effects and confounding factors are needed. The purpose of our report is to identify factors that contribute to disparities in access to bariatric surgery at the county-level in North Carolina (NC).

Methods: We utilized data from the Health Cost and Utilization Project State Inpatient and Outpatient Database from 2016. Using the rate of bariatric surgery in the county with the best health outcome as the reference, we calculated Surgical Equity Index (SEI) in the remaining counties in NC. Predictors of bariatric surgery were analyzed in a multivariable Poisson model following a multivariable hierarchical regression analysis.

Results: A statistically significantly difference in the SEI was observed in 89 counties. Univariable analyses identified the following variables to be significantly associated with the SEI: percent rural (Relative rate change in SEI (RR)= 0.994, 95% CI 0.92-0.997; p<0.0001), median household income (RR=1.0, 95% CI= 1.0-1.0; p=0.0002), prevalence of diabetes (RR=0.947, 95% CI 0.917-0.977; p=0.0006), the primary care physician ratio (RR=0.995, 95% CI 0.991-0.998; p=0.006) and percent uninsured adults (RR=0.955, 95% CI 0.927-0.985; p=0.003). By multivariable hierarchical regression analysis, only the percent rural remained statistically associated with low SEI (RR=0.995 per 1% increase in rurality, 95% CI=0.992, 0.998; p=0.0002).

Conclusion: Residing in a rural county in NC is the most significant predictor of disparities in access to bariatric surgery. Understanding the characteristics of rurality that are barriers to access are needed to mitigate disparities in bariatric surgical access in NC.

A119

Predictors of Opioid Needs Following Metabolic Bariatric Surgery

Ciara Lopez *Celebration FL*[1], Dennis Smith *Celebration FL*[2], Sharon Krzyzanowski *Celebration FL*[2], Cynthia Buffington *Celebration FL*[2]
AdventHealth Celebration[1] AdventHealth[2]

Background. A bariatric enhanced recovery after surgery protocol with multimodal analgesia (ERAS/MMA) significantly reduces postoperative pain and opioid needs for many, but not all, patients. In this study, we have attempted to identify preoperative predictors and/or underlying causes of opioid needs in patients having bariatric metabolic surgery (BMS).

Methods. The BMS population included 152 patients; 89 Roux-en-Y gastric bypass (RYGB), 42 sleeve gastrectomy (SG), all under ERAS/MMA protocol. Potential preoperative predictors of opioid use included age, BMI, gender, health status (ASA, obesity-related diseases) and possible underlying causes were surgical outcomes (complications, operative time, length of hospital stay), procedure (RYGB, SG) and approach (laparoscopic, totally robotic). Data was analyzed statistically using student t-test and regression analyses with $p<0.05$.

Results. Postoperatively, 45% of patients required opioids for pain management; whereas, 55% did not. Opioid needs of patients averaged 10.2 morphine mEq, with 22% of patients requiring >20 mEq (mean=20.4). No significant differences ($p>0.05$) were found between the opioid-requiring and non-requiring patient groups for BMI, weight, gender, or preoperative health status, but; there was an association between opioid use and younger age. Perioperative complications did not significantly ($p>0.05$) differ between opioid users and non-users nor did operative times (99.6, 108.1 min, respectively) or LOS (1.22, 1.31 days). Surgical approach (totally robotic, laparoscopic) had no effect on opioid needs but surgical procedure did. Following RYGB, 55% of patients required opioids in contrast to 35% for SG, $p=0.02$.

Conclusion. Among our BMS patients under ERAS/MMA, only younger age and RYGB were predictors of opioid needs.

A120

Comparative analysis of the single-anastomosis duodenal-ileal bypass (SADI) to established bariatric procedures: an assessment of long-term postoperative data illustrating weight loss, type 2 diabetes, and nutritional status in a single US center

Paul Enochs *Cary NC*[1], Jaime Lee Bull *Cary NC*[2]
WakeMed - Bariatric Specialists of NC[1] WakeMed-Bariatric Specialists of NC[2]

Background: Sleeve gastrectomy (SG), Roux-en-Y gastric bypass (RYGB), and single-anastomosis duodenal-ileal bypass (SADI) are established bariatric procedures. There is limited long term data comparing these procedures.

Objective: A retrospective review of long-term data on a cohort of patients undergoing SG, RYGB, or SADI-S to evaluate weight loss and HgbA1c level as well as compare the nutritional outcomes between RYGB and SADI.

Methods: A retrospective review of 878 patients who underwent SG, RYGB, or SADI from April 2014 - October 2015 by 5 surgeons in a single institution. For weight loss analysis, the patients were categorized into 4 different categories: patients regardless of their preoperative BMI, preoperative BMI <45 kg/m^2, preoperative BMI 45 to 55 kg/m^2, and preoperative BMI >55 kg/m^2.

Results: A total of 878 patients were identified for analysis. Of 878 patients, 448 patients, 270 patients, and 160 patients underwent SG, RYGB, and SADI, respectively. Overall, the weight loss was highest with SADI-S, followed by RYGB and SG in all 4 categories. In addition, the weight loss was highest in patients with preoperative BMI <45 kg/m^{2}and lowest in patients with preoperative BMI >55 kg/m^2. Also, there were no statistically significant differences between the nutritional outcomes between RYGB and SADI-S. The SADI had significantly lower rates of abnormal glycosylated hemoglobin than RYGB and SG.

Conclusions: The weight loss outcomes and glycosylated hemoglobin rates were better with SADI-S than RYGB or SG. The nutritional outcomes between RYGB and SADI were similar.

A121

Transthoracic Vagotomy Treatment Method for Marginal Ulcers in Gastric Bypass Patients

Paul Enochs *Cary NC*[1], Allison Howell [2], Jaime Lee Bull *Cary NC*[3]
WakeMed - Bariatric Specialists of NC[1] Campbell University - Osteopathic Med[2] WakeMed - BSNC[3]

Marginal ulcers (MU) are one of the most common postoperative complications following gastric bypass (GBP) surgeries occurring in approximately 1-23% of patients. Smoking and long-term NSAID use have been identified as common risk factors for predisposition of MU. With minimal research in this area, there are limited number of studies that have examined risk factors, complications, and overall health maintenance of patients with MU. This study aimed to identify common variables and analyze outcomes of patients requiring transthoracic vagotomy (TTV) for treatment of intractable ulcers. A retrospective chart review was conducted among patients (n=22) receiving care under one bariatric surgeon. Patients had undergone gastric bypass surgeries between 2003 and 2018 and developed MU that were refractory to first line of treatment. All patients underwent TTV procedures between 2009 to 2019. Variables including patient demographics, smoking history, prior NSAID use, and perioperative data were examined. Approximately 59% (n=13) of patients experienced successful resolution of MU without recurrence following a vagotomy procedure. There was overall improvement in symptoms including nausea and abdominal pain. As evidence shows that MU are a significant GBP postoperative complication, further understanding of patient risk factors and the pathophysiology may allow for preventative measures to be implemented in the future. Through extensive literature review with minimal findings, this retrospective study may have the potential to be one of the first that examined patients after GBP surgeries requiring TTV for treatment of intractable MU. Future investigations regarding the efficacy of TTV procedure for management of MU are warranted.

A122

Is BMI ≥60 kg/m2 too risky for primary Bariatric Surgery? A MBSAQIP database study

Ammr Al-Houssan *Hartford CT*[1], Yin Wu *Hartford CT*[1], Richard Seip *Hartford CT*[1], Tara McLaughlin *Hartford CT*[1], Connie Santana *Glastonbury CT*[1], Dale Bond *Hartford CT*[1], Devika Umashanker *Glastonbury CT*[1], Edward Hannoush *Hartford CT*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1]

Background: It is well established that obesity severity is associated with the number and severity of comorbid diseases and may contribute to increased adverse postoperative outcomes. Few studies have evaluated surgical outcomes for patients with BMI≥60kg/m^2.

Objective: Evaluate the association between BMI≥60kg/m^2 and 30-day outcomes following sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB).

Methods: We queried the MBSAQIP database for patients undergoing primary SG (CPT:43775) or RYGB (CPT:43644) in 2020-2021 and compared 30-day outcomes between patients with BMI≥60kg/m^2 vs. BMI<60kg/m^2. Logistic regression models estimated the probability of adverse postoperative outcomes as a function of BMI classification for SG and RYGB separately while controlling for age, sex, and race.

Results: For SG, 14 deaths occurred among the 10,652 cases with BMI≥60kg/m^2 (0.13%) and 101 deaths among 218,922 with BMI<60kg/m^2 (0.05%; OR:3.01). For RYGB, 9 deaths among 3,822 with BMI≥60kg/m^2 (0.24%) and 73 deaths among 78,668 with BMI<60kg/m^2 (0.09%; OR:3.68). For SG, BMI≥60kg/m^2 was associated with a significantly higher risk of ICU admission (OR:3.10), GI bleeding (OR:2.04), septic shock (OR:2.80), acute renal failure (OR:4.03), ventilator support > 48hours (OR:3.41), unplanned intubation (OR:5.22), readmission (OR:1.35), and ED visit (OR:1.21). For RYGB, BMI≥60kg/m^2 was associated with a higher risk of conversion to open technique (OR:5.38), acute renal failure (OR:2.62), ventilator support > 48hours (OR:2.41). There were no significant differences in venous thromboembolism or anastomotic/staple line leak.

Conclusion: $BMI \geq 60 kg/m^2$ is associated with higher 30-day mortality for SG and RYGB. Interventions to facilitate weight loss before surgery should be encouraged in this patient population.

A123

National Trends in Utilization of Robotic Sleeve Gastrectomy: Is there a benefit for the patient or the system?

Jessica Delamater *Miami FL*[1], Nestor de la Cruz-Munoz *Doral FL*[1], Mehmet Akcin *Miami FL, 33136 FL*[1], Onur Kutlu *Miami FL*[1]
University of Miami[1]

Background: Technological innovations are often utilized before data demonstrates value. There is constant increase in use of robotic system for sleeve gastrectomy(SG) even for patients without prior surgery. Robotic surgery has many proposed advantages, including visualization and articulated instruments. However, the value of the robot has not been demonstrated in SG or bariatric surgery. The aim of this study is to analyze the trend and compare the value of robotic SG(RSG) to laparoscopic SG(LSG).

Methods: MBSAQIP 2015-2020 Was the data source. Patients who underwent SG without previous foregut or concurrent surgery were identified to select the ideal surgical candidates. Temporal trend was assessed with Mann–Kendall tests for Sen's slope(SS) and repeated measures ANOVAs. Logistic regression models were used to correct for confounders and outcomes for 30-day mortality, leak, ICU admission, sepsis, readmission, and conversion to open. Linear regression evaluated OR time, hospital stay, and transfusion.

Results: 707,531 patients were identified. 637,485 LSG(90.1%) and 70,046 RSG(10.9%). RSG increased over time from 6.34% (7,036) to 17.52% (20,746) ($p<0.001$, SS: 0.57). Regression models correcting for confounders showed, no difference in mortality ($p=0.22$), hospital-stay ($p=0.12$), leak ($p=0.28$), re-operation ($p=0.06$), transfusion ($p=0.06$), readmission ($p=0.08$), ICU ($p=0.63$), and sepsis ($p=0.14$). Conversion was higher for RSG (0.37% vs 0.11%, OR 1.41, 95% CI:1.34-1.58, $p<0.001$). RSG was also associated with increased operative time (99.1 vs 69.1 min, $p<0.001$).

Conclusion: Although RSG had similar perioperative outcomes, it had longer operative times and higher conversion rates. These findings suggest that RSG does not add value to outcomes in SG.

A124

Preoperative Serum Creatinine Levels Used as a Predictor for Morbidity and Mortality in Metabolic Surgery - An MBSAQIP Study

Halil Bulut *Istanbul* [1], Daniel Tomey *cypress TX*[2], Maria Corzo *Bogota PA*[3], NNENNA OSAGWU *Roseau* [4], Suman Shetty *Pearland TX*[5], Victor Pena *Houston TX*[6], Sachin Shetty *Pearland TX*[7], Victor Bolivar *Houston TX*[8], Rodolfo Oviedo *Houston TX*[2]
Istanbul University-Cerrahpasa, cerrahpasa school of medicine[1] Department of Surgery, Houston Methodist Hospital.[2] Universidad de Los Andes, School of Medicine, Bogota, Colombia.[3] All Saints University, School of Medicine, Roseau, Dominica[4] University of Texas at Austin.[5] Universidad de Monterrey, School of Medicine.[6] Baylor College of Medicine[7] Universidad de Oriente, Venezuela.[8]

Background: Serum creatinine can be an indicator of perioperative complications and mortality across various surgical specialties, including metabolic surgery. Renal injury is an important cause of morbimortality associated with surgical procedures, but the true association is unknown. The objective of this study is to determine if high serum creatinine levels (>1.4 mg/dL) can predict morbidity and mortality in those undergoing metabolic surgery.

Methods: A retrospective analysis was performed using the MBSAQIP participant usage file (PUF) database for patients who underwent metabolic surgery between 2015 and 2019. A total of 530.121 patients were divided into two groups, according to serum creatinine levels (> 1.4mg/dL and < 1.4 mg/dL). Data collection included previous medical history, perioperative complications, and mortality. Chi-square analysis and Multinomial Logistic Regression tests were performed. The statistical significance threshold used was $p < 0.05$.

Results: The incidence of high serum creatinine levels was 2.6%, and this group had more comorbidities ($p<0.001$). The incidence of surgical conversion, perioperative myocardial infarction (PMI), postoperative acute renal failure, postoperative pulmonary embolism, and overall mortality was found to be significantly higher in the group with high creatinine levels ($p<0.001$). Elevated creatinine levels were also independently associated with postoperative acute renal failure ($p=0.005$), but were not independently associated with pulmonary embolism, PMI, mortality, and conversion to open surgery($p>0,05$).

Conclusion: Preoperative serum creatinine levels are predictive of postoperative renal conditions and complications after metabolic surgery. Perioperative creatinine levels can be of great use for preoperative preventive measures, defining surgical plans, and for postoperative monitoring.

A126

A nationwide population-based cohort study on efficacy and safety of bariatric surgery in young adults versus adults

Kelly van de Pas *Veldhoven NV*[1], Aliyar Esfandiyari Noushi *Veldhoven* [1], Loes Janssen *Veldhoven* [1], Anita Vreugdenhil *Maastricht* [2], Wouter Leclercq *Veldhoven* [1], François van Dielen [1]

Maxima Medisch Centrum - Locatie Veldhov[1] Maastricht Universitair Medisch Centrum[2]

Objectives

Bariatric surgery has proven to be the most effective treatment for severe obesity in adults and has shown promising results in young adults. However, due to concerns regarding long-term efficacy and complications the utilization of bariatric surgery in young adults lags behind that of adults. Therefore, this study aimed to compare weight loss outcomes between young adults and adults who underwent a Roux-en-Y Gastric Bypass(RYGB) or sleeve gastrectomy(SG).

Methods

A nationwide population-based cohort study utilizing data from the Dutch Audit Treatment of Obesity(DATO). Young adults(aged 18-25) and adults(aged 35-55) who underwent primary RYGB or SG were included. Primary outcome was percentage total weight loss(%TWL) until five years postoperatively. Secondary outcomes were incidence of complications and regression of obesity related comorbidities.

Results

A total of 2,822(10.3%) young adults and 24,497(89.7%) adults were included. Young adults more often received a SG(45.8% versus 22.9%; p<0.001) and had a higher preoperative BMI compared to adults(44.4±4.9 versus 42.8±5.2; p<0.001).

Young adults who underwent RYGB showed superior percentage TWL compared to adults until four years postoperatively(Figure 1a). Young adults who underwent SG revealed superior percentage TWL until five years postoperatively(Figure 1b). Postoperative complications ≤30 days were more prevalent among adults, 5.3% versus 3.5%(p<0.001). No differences were found in the long term complications. Young adults revealed more improvement of hypertension, dyslipidemia and musculoskeletal pain.

Conclusion

Bariatric surgery appeared to be safe and effective in young adults. Compared to adults, superior weight loss and improvement of obesity related comorbidities were found in the short- and midterm.

A127

Outcomes of Robotic Bariatric Surgery Approach are Comparable to Laparoscopic Approach

Clay Cashman *Omaha NE*[1], Swapnil Shah *Omaha NE*[1], Ryan Walters *Omaha NE*[1], Alex Hall *Omaha NE*[1], Kalyana Nandipati *Omaha NE*[1]
Creighton University School of Medicine[1]

Background: The robotic approach has been more commonly utilized for bariatric procedures. The aim of this study is to identify the differences in outcomes between the laparoscopic and robotic approach in three common bariatric surgeries in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database.

Methods: The data from the MBSAQIP were collected for patients who underwent sleeve gastrectomy (SG), duodenal switch (DS) and Roux-en-Y gastric bypass (RYGB) between 2015-2020. The post-operative outcomes including 30-day mortality and morbidity were analyzed. Separate log-binomial regression models were estimated for each procedure to quantify the unadjusted and adjusted risk for each 30-day outcome (unplanned reoperation, wound disruption, death) between robotic-assisted and laparoscopic approaches. Risk ratios are reported alongside 95% confidence intervals, with ratios >1 indicating greater risk for the robotic-assisted group.

Results: Our analysis included 983,446 surgeries, with SG comprising the majority (71%), followed by RYGB (28%) and DS (1%). Results demonstrated a 12% higher risk of unplanned reoperation for robotic-assisted RYGB (RR 1.12, CI 1.04 - 1.21; $p = 0.003$); although, rates of reoperation were low (2.7% vs 2.4%). There were no statistically significant between-approach differences in unplanned reoperation for SG and DS. There was no statistically significant difference in any other outcomes (see table).

Conclusion: Our results suggest that robotic-assisted approach has comparable outcomes after adjusting for demographic and clinical characteristics among the three common bariatric procedures. The decision in choosing any particular approach should be decided upon surgeon expertise and cost effectiveness for the healthcare institution.

A128

Examining the Prevalence of Cardiac Intestinal Metaplasia in the Pre-operative Bariatric Patient Population.

David Leenen *Portland OR*[1], Melissa DeSouza *Portland OR*[2], Kevin Reavis *Portland OR*[2], Steve DeMeester *Lake Oswego OR*[2], Christy Dunst *Portland OR*[2], Daniel Bradley *Portland OR*[2]
The Oregon Clinic/Providence Portland Medical Center[1] The Oregon Clinic[2]

Background: Obesity is a known risk factor for gastro-esophageal reflux disease (GERD). A complication of GERD is development of intestinal metaplasia, Barrett's esophagus and esophageal adenocarcinoma. The aim of the study is to evaluate the prevalence of cardiac intestinal metaplasia (CIM) in the pre-operative bariatric surgery population.

Methods: A retrospective review was performed of all patients who underwent bariatric surgery from 2019-2022. We included patients who underwent primary bariatric surgery and had pre-operative gastro-esophageal junction biopsies. Our primary endpoint was prevalence of CIM on pre-operative biopsy. Secondary endpoints included reported GERD symptoms, antacid use, and endoscopic findings including esophagitis and hiatal hernia.

Results: We included 341 patients; 296 female, mean age 45, mean BMI 44.2. Twenty-six patients (7.6%) were noted to have CIM pre-operatively. Typical reflux symptoms were reported in 92.3% of CIM patients and 87.8% without($p=0.496$). Seven (26.9%) of patients with CIM reported antacid use compared to 38.7% without CIM($p = 0.236$). Twenty-four patients were found to have Helicobacter pylori, one with concurrent CIM($p=0.505$). Endoscopic findings included hiatal hernia in 30.7% with CIM and 29.3% without($p=0.874$). One patient in each group had LA-Grade C/D esophagitis.

Conclusion: At pre-operative baseline, our bariatric population has a CIM prevalence of 7.6%. There were no significant differences in age, BMI, sex, reflux symptoms, hiatal hernia, or antacid use between patients with or without pre-operative CIM. In the absence of markers to screen for CIM, pre-operative endoscopy may be considered in patients seeking to undergo bariatric surgery to establish a histologic baseline.

A129

Association between bariatric surgery and malignancy: A systematic review and meta-analysis, Trends, and conclusions

Zvi Perry *Beer-Sheva* [1], Libby Or Madar *Geulim* [2], Nitzan Goldberg *Ein Ha'Horesh* [3], Uri Netz *Beer Sheva* [4], Itzhak Avital [4]

Soroka University Medical Center, Surgery A[1] Soroka University Medical[2] Ben-Gurion University[3] Soroka University Medical center[4]

Introduction: Obesity is a worldwide pandemic. Bariatric surgery is considered the only sustained weight reduction option for obese patients. Many studies have investigated the association between obesity, bariatric surgery, and cancer with conflicting results and thus arises a need for delving deeper into these studies. Thus, we decided to use a systematic review and a meta-analysis, to explore trends in cancer prevention and their relation to bariatric surgery.

Methods: The study was conducted according to the PRISMA statement. We conducted a search using the following electronic databases through May 2020: Pubmed, Embase, and the Cochrane Library. Data analysis was performed using effect size calculation, and mean effect size using SPSS version 25.0 (IBM) and random effect models.

Results: The initial search found 11,789 potentially relevant studies. After removing duplicate articles, 5,081 articles were identified. Filtering by title and abstract resulted in 439 relevant studies. According to full-text analysis, 35 publications met the inclusion criteria, yielding a collection of randomized clinical trials, prospective cohort studies, and retrospective cohort studies. 14 had no full text available, leaving us with 21 studies eligible for data extraction.

Discussion: According to the retrieved data from patients who underwent bariatric surgery compared to non-operated morbid obese patients, the overall cancer incidence tended to be lower in the former group, i.e., the calculated risk of cancer was reduced after bariatric surgery. Additional information collected in this study revealed the behavior of specific types of cancer in response to induced weight loss by operative means.

A130

15-year Retrospective Study of Bariatric Revisional Surgery Outcomes for Gastro-gastric Fistula Revision following Roux -en-Y Gastric Bypass on Type-2 Diabetic Patients

Sharma Cook-Richardson *Danville PA*[1], Luis Pina *Danville PA*[1], Hugo Villanueva *Danville PA*[1], Mark Mahan *Danville PA*[1], Craig Wood *Danville PA*[1], Anthony Petrick *Danville PA*[1], Vladan Obradovic *Danville PA*[1], David Parker *Danville PA*[1]
Geisinger Medical Center[1]

Introduction: Gastro-gastric fistula (GGF) formation following Roux-en-Y gastric bypass surgery (RYGB) is a rare complication that could inhibit weight loss, lead to weight regain, and hinder improvements in obesity-related chronic diseases (ORCD). The effect of GGF revision (GGFR) on ORCD is unknown. This study estimates the rate of type-2 diabetes (T2DM) remission in those with T2DM at time of GGFR and evaluates whether weight loss and DiaRem scores are associated with T2DM remission.

Methods: Retrospective review was conducted on T2DM patients that had RYGB and GGFR surgeries occurring between 2003-2019. DiaRem scores at RYGB and GGFR and changes in body weight were compared between those with and without post-GGFR T2DM remission using two-sample t-tests.

Results: There were 20 T2DM patients with GGFR between 1 and 14 years after RYGB (median = 4.9 years). A mean age of 58.7 including 75% females and 35% on insulin medication at the time of revision. At one-year after GGFR 25% (n=5) patients achieved T2DM remission. The total mean percent weight loss from RYGB to GGFR was 20.1% and increased to 28.8% at one-year after GGFR. Post-GGFR diabetes remission was associated with lower pre-GGFR DiaRem score ($p<0.0001$), but not with DiaRem at RYGB ($p=0.615$), weight loss from RYGB to GGFR ($p=0.316$), or weight loss 1-year postoperatively following GGFR ($p=0.979$).

Conclusion: Diabetes remission following GGFR is achievable, especially for those with lowerHbA1c, younger age, and not using insulin medication. Further studies evaluating obesity-related chronic disease remission following bariatric primary and revisional surgeries are needed.

A131

Risk of financial toxicity among patients experiencing gastric banding complications in the United States

Yung Lee *Hamilton* [1], Tania Kazi *Hamilton* [1], Jerry Dang *Cleveland OH*[2], Aristithes Doumouras *Hamilton* [1], Dennis Hong *Hamilton* [1]
McMaster University[1] Cleveland Clinic[2]

Background: Laparoscopic gastric banding (LAGB) was historically among the most performed bariatric procedures but has fallen out of favor in recent years due to poor long-term weight loss and high revisional surgery rates. Significant financial hardship of medical care, known as "financial toxicity", can occur from experiencing unexpected complications of LAGB. We investigated the risk of financial toxicity among patients being admitted for LAGB complications.

Methods: All uninsured and privately insured patients who were admitted for LAGB complications were identified from the National Inpatient Sample 2015-2019. Publicly available government data (US Census Bureau, Bureau of Labor, The Centers for Medicare and Medicaid Services) were utilized to estimate patient income, food expenditures, and average maximum out-of-pocket expenditures. Financial toxicity was defined as total admission cost from LAGB complications $\geq$40% of post-subsistence income.

Results: Among 28,005 patients, 66% patients had private insurance and 44% patients were uninsured. Median total admission cost was $12,443 (IQR $7,959-$19,859) and $15,182 for those who received revisional bariatric surgery. Approximately 55% of the uninsured patients and 1% of insured patients were at risk of financial toxicity after admission for banding-related complications. Patients who had an emergency admission, revisional surgery, or post-operative ICU admission were more likely to experience financial catastrophe following admission ($P<0.01$).

Conclusion: About 1 in 2 uninsured patients who are admitted for LAGB-related complications were at risk of financial toxicity. In addition to surgical risks, providers should consider the potential financial consequences of LAGB when counseling patients on their choice of surgery.

A132

Post-operative COVID-19 infection is associated with adverse 30-day outcomes following bariatric surgery: a propensity-matched analysis of the 2021 MBSAQIP database

Nick Levinsky *Charlottesville VA*[1], Ruyun Jin *Charlottesville VA*[1], Florence Turrentine *Charlottesville VA*[1], Peter Hallowell *Charlottesville VA*[1], Bruce Schirmer *Charlottesville VA*[2]
University of Virginia[1] Department of Virginia[2]

Background: Prior studies have shown bariatric surgery to be safe during the COVID-19 pandemic. However, studies examining outcomes in infected patients are fewer. This is the first large database analysis of COVID-19's impact on bariatric surgery outcomes.

Objectives: Evaluate impact of COVID-19 infection on bariatric surgery outcomes.

Setting: Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) centers.

Methods: Propensity-matched analysis of MBSAQIP 2021 data. Cohorts including pre-operative COVID+ and post-operative COVID+ patients were matched to healthy controls and 30-day post-operative outcomes analyzed.

Results: 166,230 patients undergoing sleeve gastrectomy (70%) or Roux-en-Y gastric bypass (30%) met study criteria, with 1,303 pre-operative COVID+ patients and 1,104 post-operative COVID+ patients. Following propensity matching by demographics and comorbidities, 1276 pre-operative COVID+ were compared to negative controls, and 1096 post-operative COVID+ patients compared to negative patients. Pre-operative COVID infection had similar outcomes for anastomotic leak, venous thromboembolism or other complications compared to matched controls. However, compared to matched controls, patients with 30-day post-operative COVID infection had significantly more anastomotic leaks (1.3% vs 0.2%, $p<0.01$), venous thrombosis (0.8% vs 0.1%, $p<0.05$), pneumonia (2.8% vs 0.2%, $p<0.001$), ICU admission (1.5% vs 0.5%, $p<0.05$), reoperation (2.3% vs 0.9%, $p<0.05$), readmission (14.4% vs 3.5%, $p<0.001$), Emergency Department visits (29.2% vs 9.4%, $p<0.001$), and outpatient IV hydration (9.2% vs 4.0%, $p<0.001$).

Conclusions: COVID-19 infection within 30 days after bariatric surgery is associated with adverse outcomes including anastomotic leaks, while preoperative infection did not impact outcomes. Greater attention to continued preoperative testing and enforcement of vaccination should be considered.

A133

Bariatric Surgery Complications by BMI, A Review and Analysis of 2020-2021 National MBSAQIP Database

Nicholas Dahlgren *Greenville SC*[1], Dawn Blackhurst *Greenville SC*[1], John Scott *Greenville SC*[2]
Prisma Health Upstate[1] Prisma Health Upstate USC SOM Greenville[2]

Obesity is an independent risk factor for postoperative complications. There is little data analyzing the complications of bariatric surgery by BMI status. The purpose of this study is to perform a review of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) Participant Use Data File (PUF) to analyze the complications and readmission rates of bariatric surgical procedures between BMI classes.

The 2020 and 2021 MBSAQIP PUFs were obtained for retrospective review. Cases were selected for inclusion by CPT codes for sleeve gastrectomy (43775) and Roux-en-Y gastric bypass (43644) and preoperative BMI$\geq$30. Postop occurrences increased with each BMI class, and were found to notably increase at BMI$\geq$50 which was used to distinguish cohorts for analysis of specific complications. Pearson's Chi-square tests were performed on reported data between BMI$\geq$50 and BMI<50.

A total of 317,841 cases from the 2020-2021 MBSAQIP PUFs were included. Postoperative occurrences were significantly higher in patients with BMI$\geq$50 when compared to BMI<50. Patients with BMI$\geq$50 were found to have significantly higher mortality rates as well as acute renal failure, PE, SSI, and UTI. ED visits and readmission rates were also significantly higher in the BMI$\geq$50 cohort however interventions were similar.

Obesity is a well-known risk factor for surgical complications, especially in bariatric surgery as this is the indication for the procedure. This study reports granular data on specific complications rates by BMI and, to our knowledge, is the first to show that overall complications and readmissions in bariatric surgery increase with BMI, specifically with BMI$\geq$50.

A135

Increased renal mRNA expression of CYP27B1 and improved glucose clearance with sclerostin antibody in ovariectomized mice following Roux-en-Y Gastric Bypass Surgery

Makena Parker *Chicago IL*[1], Anna Spagnoli *Chicago IL*[1], Michael Kluppel *Chicago IL*[1], Sai Meka *Chicago IL*[1], Pranav Mishra [1], Alfonso Torquati *Chicago IL*[1], Anna Spagnoli [1]
Rush University Medical Center[1]

Purpose: Bone loss is common after bariatric surgery. Sclerostin antibody is an effective treatment for osteoporosis. This study takes advantage of a well-designed animal model, aiming to uncover mechanisms underlying bone loss in this high-risk population.

Methods: Six ovariectomized mice, fed a high-fat diet (HFD) to induce obesity, received Roux-en-Y gastric bypass (RYGB) surgery. Seven ovariectomized HFD mice received sham surgery and served as control. Animals were sacrificed 8 weeks postoperatively. mRNA was extracted from the kidneys using TRIzol and qRT-PCR experiments were performed to quantify substrates associated with active vitamin D (1,25 dihydroxyvitamin D) formation and degradation, including CYP27B1, CYP 24, and TRPV5. Cortical and trabecular bone mass were assessed by micro computed tomography (mCT). A second study treated ovariectomized HFD mice that had RYGB or sham surgery with sclerostin antibody or carrier. Intraperitoneal glucose tolerance testing (IPGTT) was performed to assess glucose clearance. Statistical analyses were performed using unpaired two-tailed Student t-test; significance set at $p<0.05$.

Results: qRT-PCR analyses showed RYGB mice had a six-fold increase of renal CYP27B1 mRNA expression ($p=0.0021$) compared to sham mice (given arbitrary value, 1). CYP24 and TRPV5 did not show statistically significant changes compared to sham mice. IPGTT showed that RYGB mice injected with sclerostin antibody have improved clearance of glucose implying improved insulin sensitivity.

Discussion: These findings may be helpful in guiding treatment for bariatric patients postoperatively. We aim to assess the impact of sclerostin antibody on insulin sensitivity using ELISA.

A136

Primary Bariatric Surgery in Patients with Severe Obesity: Is There a Preferred Technical Approach? An MBSAQIP Survey

Yao Liu *Providence RI*[1], Jenny Zhang *Providence RI*[1], Andrew Luhrs *Providence RI*[1], Marcoandrea Giorgi *Providence RI*[1]
Brown University[1]

Background: Robotic adoption in bariatric surgery continues to increase, with ergonomic benefits to the surgeon especially when operating on patients with severe obesity. However, the risks of robotic-assisted surgery for patients with severe obesity and as robotic adoption has increased have not been well-studied.

Methods: We analyzed MBSAQIP data from 2015 to 2021, including 1,082,565 patients undergoing initial laparoscopic vs. robotic-assisted Roux-en-Y Gastric Bypass (RYGB) and Sleeve Gastrectomy (SG) surgery. Subgroup analysis was performed for patients with severe obesity (BMI ≥ 50) and by surgical approach. Multivariate logistic regressions controlling for patient demographics, ASA class, BMI, comorbidities, and operative length were performed. Two-tailed t-tests were used to compare robotic-assisted surgery and complication rates between groups ($\alpha = 0.05$).

Results: Rates of robotic-assisted RYGB/SG surgery increased significantly from 2015 to 2021, from 6.4% (2015) to 23.3% (2021, $p < 0.05$). Aggregate serious complication rates for robotic-assisted surgery decreased from 3.67% in 2015 to 2.56% ($p < 0.01$) in 2021, with greater reduction in complications for patients with severe obesity (2.65% in 2021 vs 4.74% in 2015, $p < 0.01$). Nevertheless, robotic assistance remains associated with increased risk for serious complications (OR = 1.041, $p < 0.05$). which appears to be mediated by increased length of robotic surgery (OR = 0.932, $p < 0.01$) when operative length is included as a confounder.

Conclusions: Serious complications in robotic-assisted bariatric surgery have decreased for patients with severe obesity over time, though robotic assistance is associated with higher risk than laparoscopy.

A137

Evaluating Metabolic and Bariatric Surgery Fellows' Attitudes Toward Their Training

Frank R. Bisceglie *New Haven CT*[1], Rami Lutfi *chicago IL*[2], Shanu Kothari *Greenville SC*[3], Jaime Ponce *Chattanooga TN*[4], Benjamin Clapp *El Paso TX*[5]
Medtronic[1] Chicago Institute of Advanced Surgery[2] Prisma Health[3] CHI Memorial Hospital[4] Texas Tech School of Medicine - El Paso[5]

Background: The ASMBS Leadership Academy is conducted at the ASMBS Weekend to prepare surgeons for practice, while in their fellowship. The aim of this analysis is to gather the views of the younger generation in training on issues regarding practice patterns and career development.

Methods: An online survey was conducted at the last two ASMBS Leadership Academy Meetings at the ASMBS Weekend. There were 15 questions. There were 78 respondents. There were 23 respondents had incomplete surveys were not included in the final analysis. There were 24 fellows surveyed at the Leadership Academy on November 2022 and 31 attendees in Jan 2022.

Results: Fifty-eight percent of attendees were interviewing for employment after their fellowship with 3.64% already employed. Eighteen percent had employment secured for after their fellowship. Of the academic fellows, 29.1% believe that private practice will no longer exist in 2030 and 10.9% of attendees believe that we will have Medicare for all by 2030. Fellows in academic programs ranked their fellowship as either "best decision of my life" or "great" (96.4%) and 3.6% ranked it as "useless (not good/not bad)." Ninety-three percent of attendees said they would do a bariatric fellowship again. Of those that said they would not, all were from a robotic fellowship program. Of those that would do a bariatric fellowship again, 80% stated they would do so at the same institution.

Conclusions: The fellows that attended the ASMBS Leadership Academy overall were very pleased with their fellowship experience, but many have not secured employment.

A138

Risk Factors for Perioperative Myocardial Infarction after Metabolic Surgery – An MBSAQIP Study

Maria Corzo *Bogota PA*[1], Daniel Tomey *cypress TX*[2], Halil Bulut *Istanbul* [3], NNENNA OSAGWU *Roseau* [4], Suman Shetty *Pearland TX*[5], Victor Bolivar *Houston TX*[6], Sachin Shetty *Pearland TX*[7], Victor Pena *Houston TX*[8], Rodolfo Oviedo *Houston TX*[9]
Universidad de Los Andes, School of Medicine, Bogota, Colombia[1] Department of Surgery, Houston Methodist Hospital.[2] Istanbul University-Cerrahpasa, cerrahpasa school of medicine[3] All Saints University, School of Medicine, Roseau, Dominica[4] University of Texas at Austin.[5] Universidad de Oriente, Venezuela[6] Baylor College of Medicine[7] Universidad de Monterrey, School of Medicine.[8] Department of Surgery, Houston Methodist Hospital[9]

Background: Metabolic surgery is among the most effective treatments available for patients with severe obesity. There is a risk for perioperative myocardial infarction (PMI) in patients who undergo this type of surgery, although there is limited literature on the specific risk factors associated with PMI. This study aimed at identifying risk factors associated with PMI in patients undergoing metabolic surgery.

Methods: A retrospective analysis was performed using the MBSAQIP participant usage file (PUF) database between 2015 and 2019. With a total of 966,646 patients, we identified demographics, comorbidities, and surgical variables, and later compared them to the PMI outcome. Chi-square analysis was run for non-parametric variables and an independent sample t-test was used for parametric variables. The statistical significance threshold used was $p<0.05$.

Results: The incidence of PMI was 0.03%, where 80.5% of the population were females. Male gender, white race, and cardiovascular and metabolic medical illnesses, among others, were significantly associated with PMI ($p<0.05$). Surprisingly, smoking and higher BMI were not associated with PMI ($p=0.175$ and $p=0.214$, respectively). Robotic-assisted surgery was associated with a lower risk of PMI compared to conventional laparoscopy and open surgery regardless of the metabolic procedure performed ($p<0.05$).

Discussion: The risk for PMI in patients undergoing metabolic surgery is relatively low and robotic surgery might be option for patients at higher risk. The identification of these risk factors can provide perioperative guidelines for screening, help define the optimal surgical plan, and aid high-risk patients who seek metabolic surgery to improve their quality of life.

A139

Attrition in Bariatric Surgery: An exploration of key barriers and motivators

Advait Suvarnakar *Washington DC*[1], Summer McCloud [1], Deanna-nicole Busog *Bowie MD*[2], Grace Chao *New Haven CT*[3], Mary Byrnes *Ann Arbor MI*[4], Ivanesa Pardo *Bethesda MD*[1], Yewande Alimi *Washington DC*[1]

Georgetown University School of Medicine[1] Medstar Health Research Institute[2] Yale University School of Medicine[3] University of Michigan Medical School[4]

Background and Objective: Recent studies have indicated that nearly two-thirds of all Americans are considered obese or overweight. While obesity is widely prevalent in populations of varying socioeconomic statuses (SES) and races, it disproportionately affects individuals of Black and Latino backgrounds at rates of 48.1% and 42.5% respectively. Bariatric surgery is utilized in less than 1% of qualified individuals. The rate of individuals of lower SES, Black, and Latino background undergoing bariatric surgery is lower than their white counterparts. We aim to examine key motivators and barriers to completion.

Methods and Analysis: A retrospective analysis from January 2014-May 2022 was conducted to identify 40 eligible participants. In depth one-on-one semi-structured interviews were completed about the bariatric surgical process. Subthemes were compared across the domains to identify patterns in data and are grouped into global themes, representing the most important factors.

Results: 65% identified as Black, 5% Hispanic, and 2.5% as Asian Pacific Islander. Respondents cited prolonged program length, schedule conflicts with program stakeholders such as dieticians, and finding another doctor who did not require bariatric surgery as a prerequisite for other surgeries as reasons for attrition. Additionally, respondents endorsed frustration and confusion with a common feeling of not understanding why they needed bariatric surgery.

Conclusion: Clinicians, dieticians, and referring providers play an important role in the completion of bariatric surgery. Environmental factors and resources were predominant in themes of attrition. Additionally, insurance driven program lengths serve as significant barriers to completion.

A140

Endoscopic Trans-Oral Outlet Reduction with Overstich as an Effective Alternative to Surgical Revision of Gastric Bypass

Rachel Huselid *Fairfield CT*[1], Alph Emmanuel *Pittsburgh PA*[2], Nikhilesh Sekhar *Fairfield CT*[2]
Frank H Netter School of Medicine at QU[1] NYBG[2]

Introduction: Roux-en-Y gastric bypass is the gold standard procedure for morbid obesity, with the most common complications of weight regain and gastrojeunal anastomosis (GJA) widening. Endoscopic trans-oral outlet reduction (TORe) is a safe, technically feasible, and durable treatment for revision of GJA enlargement. The objective of this study is to demonstrate that TORe is an effective alternative to surgical correction of GJA widening, with fewer adverse events (AEs).

Methods: We conducted a comprehensive review of several databases to identify relevant articles. We then performed a retrospective chart review of 65 patients who underwent TORe with the primary outcomes of total weight loss (TWL) at 1, 3 and 5 months and adverse events.

Results: Six prospective and retrospective studies and one systematic review were included, involving 1778 patients undergoing TORe. TORe was correlated with weight loss as early as 3 months and as long as 7 years post-procedure. There was no significant difference in weight loss between endoscopic and surgical correction of GJA widening. The technical success rate was 99.89-100% with no serious AEs and an overall AE rate of 6.5-11.4%. In our 65 patient sample, TWL at 1, 3 and 5 months post TORe of 16.06+/-9.17, 25.34+/-12.79, and 30.22+/-12.91 respectively. There were no serious AEs reported, with the most common AE being the need for a second TORe (4 patients, 6.06%).

Conclusion: TORe is a safe and technically practical option for GJA outlet reduction after gastric bypass, and may offer weight loss without the risks of more invasive surgical revisions.

A141

Long-term weight outcomes after laparoscopic sleeve gastrectomy in adolescents and young adults

Matthew Hornick *New Haven CT*[1], Geoffrey Nadzam *New London CT*[1], Andrew Duffy *New Haven CT*[1], Saber Ghiassi *Fairfield CT*[1], John Morton *MADISON CT*[1]
Yale School of Medicine[1]

Introduction: Laparoscopic sleeve gastrectomy is the most common bariatric procedure performed in the US, and is by far the most common bariatric operation performed in adolescents and young adults. There remains a paucity of data regarding long-term weight outcomes after sleeve gastrectomy in young patients, in whom durability of weight loss is paramount. This single-institution study reviews longitudinal weight data after laparoscopic sleeve gastrectomy in patients aged 25 years or younger.

Methods: We retrospectively reviewed records of all patients who underwent laparoscopic sleeve gastrectomy at our institution between 2013 and 2018. All weight data documented in the medical record through October 2022 was included. We calculated weight change postoperatively as percent total body weight loss (%TBWL) relative to preoperative weight.

Results: 103 patients aged 25 years or younger underwent laparoscopic sleeve gastrectomy at mean age 22.9±2.4 years. 49.5% identified as African-American or Hispanic, 42.7% had private health insurance, and 60.2% had at least 4 years of available follow-up weight data. Mean %TBWL was 26.5±2.7% at weight nadir, which occurred at 1.3±0.2 years postoperatively. Mean longitudinal %TBWL was 11.3±3.3% at 5.7±0.3 years postoperatively, with 49 of the 62 patients (79%) regaining to within 20% of their preoperative weight.

Conclusions: Adolescents and young adults undergoing laparoscopic sleeve gastrectomy at our institution had weight nadir comparable to published results, but the majority developed significant weight regain. Our findings highlight the need for combined therapies at the time of postoperative nadir to enhance the long-term efficacy of sleeve gastrectomy in this diverse, publicly-funded population.

A142

Bupivacaine/Meloxicam Extended-Release Solution versus Bupivacaine HCl solution on Postoperative Opioid Usage in Laparoscopic Sleeve Gastrectomy: A Prospective Comparative Study

Yannis Raftopoulos *Holyoke MA*[1], Shruthi Rajkumar *Holyoke MA*[1], Elana Davidson *Holyoke MA*[1], Michael Bell *Holyoke MA*[1]
Holyoke Medical Center[1]

Background: Local anesthesia decreases postoperative opioid use (POU) in bariatric surgery. Despite this, the best-reported outcome on POU in oral morphine equivalents (OME) is 23.8. We aim to compare the addition of Bupivacaine/Meloxicam (Zynrelef^{TM}, Heron Therapeutics, (Z)) to Bupivacaine alone on POU after laparoscopic sleeve gastrectomy (LSG).

Methods: With informed consent, 212 patients scheduled for LSG were randomly divided into Z group (n=106) and Non-Z group (n=106). Both groups had same intraoperative anesthesia. Non-Z group received 100ml of 0.25%Bupivacaine HCl+10mg Dexamethasone on all port sites. Z-group received additional 7ml of Bupivacaine/Meloxicam (29.25mg/0.88mg/ml) only in main incision site. Demographics, analgesic use, hiatal hernia repair (HHR), and operative time (OT)(mins) were recorded. Outcomes included postoperative pain scores (PPS) hourly in PACU, 4-hourly on surgical floor (SF), in-hospital opioid use (IHOU), and post-discharge opioid prescriptions (PDOP).

Results: Mean age (years) and BMI were similar in Z and non-Z groups respectively (42.6±9.5 vs 40.7±10.2), and (45.3±6.1 vs, 44.5±6.7kg/m^2). Z compared to non-Z group had a lower % chronic pain (23.6% vs. 44.3%, p=0.002) and HHR (12.2% vs. 24.5%, p=0.03) and a higher mean OT (124±25 vs.109±21, p<0.0001). Z group had a lower mean PACU OME(1.6±6.3 and 3.0±6.5, p=0.04), total OME(2.0±6.5 vs. 3.5±6.8, p=0.04). All Z-group PPS were lower, and 3-hr PACU scores were statistically significant. Z use had significant independent effect on total OME on regression analysis, unlike HHR, OT, and CP.

Conclusions: Adding Zynrelef^{TM} decreases the PPS and POU in LSG. A remarkably lower mean total OME was noted compared to previous studies.

A143

Long Term Outcomes of Sleeve Gastrectomy: Weight Recurrence and Surgical Non-responders

Romulo Lind *Orlando FL*[1], Karl Hage *Rochester MN*[2], Muhammad Ghanem *Orlando FL*[1], Meera Shah *Rochester MN*[2], Robert Vierkant *Rochester MN*[2], Marita Salame *Rochester MN*[2], Kamal Abi Mosleh *Rochester MN*[2], Omar Ghanem *Rochester MN*[2], Andre Teixeira *Orlando FL*[1]
Orlando Health[1] Mayo Clinic[2]

Introduction: Sleeve Gastrectomy (SG) is an effective procedure with remarkable weight loss and low complication rates. However, up to 30% of cases require revisional surgery in non-responders or patients who experience weight recurrence. We aim to report the rate of weight recurrence/non-responders (WR/NR) in patients who underwent SG and had more than 5 years of follow-up.

Methods: We performed a multicenter retrospective study of patients who underwent SG from 2008-2017. Patient demographics, and weight loss outcomes up to 12 years after SG were collected. Surgical non-responders were defined as <20% of total body weight loss (%TBWL) over total follow-up period. Weight recurrence was defined as >20% weight regain compared to maximum weight loss. A chi-square test for categorical variables and a two-sample t-test for continuous variables were used. Data are summarized as mean± standard deviation.

Results: From a total of 1263 patients, we included 339 patients (78% female, age 47.3± 11.2 years; baseline weight 125.8± 27.6 kg) with at least 5 years of follow-up (mean follow-up of 7.1± 1.8 years) (**Table 1**). Surgical non-response was demonstrated in 15.9% of patients (n=54) and 64.0% (n=217) had weight recurrence after SG (**Figure 1**). There was a statistically significant difference in history of hypertension (*p=0.046*) and diabetes (*p=0.032*) as well as %TBWL at 1 year (*p=0.005*) and at longest follow-up (*p<0.001*) between patients who experienced WR/NR and those who did not.

Conclusions: Only 20% of patients who underwent SG and followed-up for more than 5 years were able to maintain appropriate weight loss.

A144

Time-course changes in fecal microbiome communities up to 12-months after one-anastomosis gastric bypass in Australian patients with morbid obesity: A pilot study

Dora Huang *Heidelberg* [1], Anya Shindler *Bundoora* [2], Urja Amin [2], Ashley Franks [2], Arun Dhir *Bundoora* [3], Colleen Thomas *Bundoora* [2]
Austin Health[1] La Trobe University[2] University of Melbourne[3]

Background: The impact of one-anastomosis gastric bypass (OAGB) surgery on human gut microbial communities beyond 6 months of having the procedure is unknown. The present pilot study characterized microbiota and cardiometabolic markers differences up to 12-months post-OAGB.

Methods: Seven female participants (mean-age 42 years, BMI 55 kg/m^2) underwent a very-low calorie diet for 3 weeks prior to OAGB. At pre-surgery and at 3-, 6- and 12-months post-OAGB, fecal microbial communities were analysed by sequencing the V4 region of the 16S rRNA gene using MiSeq (illumina). Time-course changes in anthropometric measurements, blood pressure (BP), glycaemic status and lipid profile were also assessed.

Results: At 12-months post-OAGB, patients achieved significant reductions in BMI (-32.7%, $P<0.05$) and systolic BP (-17%, $P<0.05$), with trends for improved glycaemic control (HbA1c -21.5%). Four dominant gut phyla were detected: Actinobacteria, Firmicutes, Proteobacteria and Bacteroidetes. Phylogenetic alpha-diversity analysis indicated that microbial richness and diversity were highest pre-surgery, lowest 6-months post-OAGB and returned towards baseline levels by 12-months post-OAGB. No significant differences were found for Shannon, Simpson and Choa1 diversity measures. For beta-diversity analysis, weighted UniFrac distance data detected significant time-course differences ($p=0.019$). Visually, community shifts were observed pre- vs. 3- and 6-months post-OAGB, but these changes were reversed by 12-months post-OAGB.

Conclusion: Accompanying significant falls in BMI and systolic BP, and trends for long-term glycaemic control, this study is the first to describe transient changes in the gut microbiota community of patients with Class III obesity 12-months post-OAGB, and to identify altered composition of dominant bacteria.

A145

Association of Genetic Variants FTO, MCR4 and TMEM18 with Obesity Risk and Weight Loss

Mohammad Jamal *Kuwait* [1], Hussah Al-Janahi *Kuwaot* [1], Ahmad Al-Serri *Kuwait city* [1]
Kuwait University[1]

Background

Obesity represents a critical factor contributing to morbidity and mortality worldwide. The complex nature of obesity requires a comprehensive understanding of the genetic mechanisms underlying its etiology to achieve a more effective interventional strategy. We therefore aim to assess the relationship between single nucleotide polymorphisms (SNPs) in relationship to obesity risk and weight loss.

Methods

A cohort of overweight/obese subjects (n=113) were collected and followed up after elipse intervention for four months. We genotyped these subjects using TaqMan allelic discrimination by Real-Time PCR for five SNPs (*FTO* rs1558902, *MC4R* rs6567160, *TMEM18* rs13021737, *SEC16B* rs543874 and *GNPDA2* rs10938397). Using linear and logistic regression, we assessed the relationship between the selected SNPs with both obesity and weight loss under an additive, recessive, and dominant genetic model.

Results

We found an association between the *FTO* variant rs1558902 with increased BMI β =2.15 (95% 0.17 – 4.14); p= 0.035. Similarly, we observed an association between the *MC4R* rs6567160 and increased BMI β =1.78 (95% CI 0.42 – 3.14); p = 0.011. In addition, we also observed an association between *TMEM18* rs13021737 with BMI point lost β =1.1 (95% CI 0.06 – 2.14); p = 0.042

Conclusion

Although our findings require further validation, our results are consistent with previous studies showing the *FTO* and *MC4R* variants to be associated with obesity risk. Moreover, the association between *TMEM18* and weigh loss after gastric balloon intervention is novel.

A146

Relationship Between Biologic Sex and Preoperative Body Mass Index on Weight Loss Outcomes after Bariatric Surgery

Ahmad Hider *Ann Arbor MI*[1], Aaron Bonham *Ann Arbor MI*[2], Amir Ghaferi *Milwaukee WI*[3], Jonathan Finks *Ann Arbor MI*[2], Anne Ehlers *Ann Arbor MI*[2], Jeffrey Friedman *Gainesville FL*[4], Oliver Varban *Detroit MI*[4]
University of Michigan Medical School[1] University of Michigan[2] Medical College of Wisconsin[3] Henry Ford Health System[4]

Introduction:
Preoperative body mass index (BMI) has been shown to impact postoperative weight loss with bariatric surgery. However, it is unknown whether the effect is uniform between male and female sex or by procedure type.

Methods:
Laparoscopic gastric bypass (LGB) and sleeve gastrectomy(LSG) cases between 2006-2021 were analyzed (n=97,793) using a state-wide bariatric specific data registry. Total body weight loss (TBWL%) at 1-year after surgery was compared between male and female sex based on preoperative BMI and stratified by procedure type.

Results:
TBWL% was greater among females with lower preoperative BMIs (<50 kg/m^2) for both LGB (34.1% vs. 32.2%, p<0.0001) and LSG (28.7% vs. 27.7%, p<0.0001). However, TBWL% was greater among males with higher preoperative BMIs (>50 kg/m^2), for both LGB (36.8% vs. 35.5%, p<0.0001) and LSG (32.2% vs. 30.3%, p<0.0001) (Figure 1). Males with a BMI <50 kg/m^2 were more likely to be older (49.5 years vs. 45.4 years, p<0.0001), have higher rates of hypertension (67.3% vs 45.1%, p<0.0001), hyperlipidemia (64.1% vs. 44.9%, p<0.0001) and diabetes (45.5% vs. 29.4%, p<0.0001), when compared to females with a BMI <50 kg/m^2.

Conclusions:
At lower BMIs, males have less weight loss when compared with females but also have higher rates of metabolic disease. However, at higher BMIs, females experience less weight loss, regardless of procedure type. Females appear to experience a weight loss plateau when the BMI >50 kg/m^2, which warrants further investigation.

A147

SHORT TERM COST SAVINGS WITH ENDOSCOPIC SLEEVE GASTROPLASTY; A 30 DAY US COST CONSEQEUNCE ANALYSIS

Erik Wilson *Houston TX*[1], Frank O'Neill *Austin TX*[2], Brandon VanderWel *Shoreline WA*[3], Michael Ujiki [4]
University of Texas[1] Apollo Endosurgery, Inc.[2] Eviva[3] NorthShore University Health System[4]

Background: Endoscopic sleeve gastroplasty (ESG) is a less invasive alternative to laparoscopic sleeve gastrectomy (LSG) for bariatric intervention in patients. Recent propensity matched analyses have demonstrated non-inferior weight loss for ESG compared to LSG analyses, with comparable adverse event rates. However, there is a lack of comparative costing data to inform clinical and economic decision making.
Aim: To compare short-term costs between ESG and LSG in US patients undergoing bariatric intervention.

Material & Methods: A cost-consequence model was developed to simulate procedural and adverse event cost up to 30 days. Clinical and cost parameters were informed using commercial US claims databases, targeted literature review and expert opinion.

Results: A significantly greater amount of ESG procedures took place in the outpatient setting ($p<0.01$). ESG was associated with a reduction in costs ($4,452 per patient) at 30 days, compared to LSG. Savings were driven by a reduced OR time ($871) and Length of stay ($2,776) between the procedures. After 30 days there was an increased incidence of gastroesophageal reflux disease (6.6%) in the LSG compared to ESG (0.4) ($p<0.01$). All other adverse events contributed to a cost saving with ESG after 30 days.

Conclusion: In our analysis, ESG is cost-saving compared to LSG and may offer economic benefits for selected US bariatric patients. Cost-saving were due to procedure setting and reduction in facility resource utilisation at 30 days. Well conducted and longer-term costing studies are required to inform robust economic modelling and clinical decision making.

A148

Binge Eating Disorder Prevalence in a University-Based Obesity Clinic

Cindy Ho *Tulsa OK*[1], Zhamak Khorgami *Tulsa OK*[2], Robert Lim *Tulsa OK*[2], David Meehan [2], Jesse Richards [2]

OU-Tulsa School of Community Medicine[1] OU- Tulsa School of Community Medicine[2]

Binge eating disorder (BED) is the most common eating disorder in the US with a prevalence of 2.6%, but it remains underrecognized and undertreated. BED is characterized by episodes of consuming large amounts of food rapidly with loss of control and is identified with a binge eating score (BES). Episodes lead to feelings of shame and distress. The relationship between obesity and BED is not well understood. This study compares the prevalence of BED in populations with obesity and the general US population.

This retrospective chart review evaluated patients seen at a university-based obesity and bariatric surgery clinic over a 1-year period. BES was routinely calculated. The primary endpoint was BED diagnosis (BES≥18). Characteristics associated with BED including sex, BMI, and diabetes mellitus(DM) were recorded.

From 100 patients evaluated (age 40.9±13 years, 81% female, 32% with DM, BMI 49.76±12.12), 56 (56 %) had BED. BES was greater in higher BMIs, but not statistically significant. There was no significant difference in BED rate in male and female patients (52.6% vs 56.8%). BED was diagnosed more in younger patients. 59.5% of patients with age <50 had BED versus 46.2% with age ≥50 (P=0.24). BED was diagnosed in 64.7% of non-diabetic patients versus 37.5% of patients with diabetes (P=0.011).

The prevalence of BED is high in patients of obesity and bariatric surgery clinic. BED can be as prevalent in all obesity classes and both genders, and especially prevalent in patients without diabetes. Therefore, further research is needed to better understand BED and obesity.

A149

SIMILAR OUTCOMES OF ENDOSCOPIC SLEEVE GASTROPLASTY IN SURGICAL AND GASTROENTEROLOGY PRACTICES IN THE UNITED STATES

Khushboo Gala *Rochester MN*[1], Vitor Brunaldi *Rochester MN*[1], Karim Al Annan *Rochester MN*[1], Lea Sayegh *Rochester MN*[1], Wissam Ghusn *Rochester MN*[1], Manpreet Mundi *Rochester MN*[1], Meera Shah *Rochester MN*[1], Omar Ghanem *Rochester MN*[1], Andres Acosta *Rochester MN*[1], Eric Vargas *Rochester MN*[1], Andrew Storm *Rochester MN*[1], Christopher McGowan *Cary NC*[2], Daniel Maselli *Atlanta GA*[2], Ashley Kucera *Cary OH*[2], Qais Dawod *New York NY*[3], Reem Sharaiha *New York NY*[3], Enad Dawod [3], Waleed Aljohani [3], Omar Saab [3], Emily Pipinich *Shoreline WA*[4], Sabrina Galindo [4], Brandon VanderWel *Shoreline WA*[4], Syed Hamaad Rahman *Irving TX*[5], Prashant Kedia [5], Michael Ujiki [6], Connie Klein *Bellaire TX*[7], Erik Wilson [7], Angielyn Rivera *Bellaire TX*[7], Barham Abu Dayyeh *Rochester MN*[1]

Mayo Clinic, MN[1] True You Weight Loss[2] Weill Cornell Medical Center[3] Eviva[4] Methodist Dallas Medical Center[5] NorthShore University Health System[6] The University of Texas, Houston[7]

Introduction: Endoscopic sleeve gastroplasty (ESG) is performed in clinical practice by both gastroenterologists and bariatric surgeons across the nation. Given the increasing regulatory approval and global adoption, our aim is to evaluate real world outcomes in multidisciplinary practices involving bariatric surgeons and gastroenterologists (GI) across the United States.

Methods: We included adult patients with obesity who underwent ESG from January 2013 to August 2022 in clinical US practices. Patients and procedural characteristics, serious adverse events (SAEs), and weight loss outcomes up to 24 months were analyzed. SPSS (version 29.0) was used for all statistical analyses.

Results: 1506 patients from 7 sites included 235 (15.6%) treated by surgeons and 1271 (84.4%) treated by GIs. There were no significant baseline differences between groups **(Table 1).** GIs used Argon Plasma Coagulation (APC) for marking more often than surgeons (34.8% vs. 3.4% p-value < 0.001). There were no differences between providers in overtube use, or intra-procedural complications. The mean number of sutures was 7 and was similar between the two groups. On average, procedural length was 20 minutes longer for surgeons compare to GIs ($p<0.001$). %TWBL was similar between the two groups at 12, 18, and 24 months (Figure 1). SAEs were low and similar at 1.2% for surgeons and 0.8% for GIs ($p>0.05$).

Conclusion: Clinical data from a large US cohort showed significant and sustained weight loss with ESG and excellent safety profile in both bariatric surgery and GI practices. This supports the scalability of the procedure across practices in a multidisciplinary setting.

A150

Systematic Review and Meta-analysis of Outcomes after Sleeve Gastrectomy with Concurrent Fundoplication

Scott Mu *Newark NJ*[1], Abi James *Newark NJ*[2], Alan Saber *Short Hills NJ*[2]
Rutgers Health/New Jersey Medical School[1] Newark Beth Israel Medical Center[2]

Introduction: Sleeve gastrectomy is the most commonly performed metabolic surgery in the United States but one of its limitations is the potential worsening of gastroesophageal reflux disease (GERD). Sleeve gastrectomy with fundoplication is a novel procedure that addresses both obesity and GERD, and now several centers have reported their results.

Methods: We performed a systematic review of articles describing outcomes after sleeve gastrectomy with concurrent fundoplication in three electronic databases: MEDLINE (Pubmed), Embase and Web of Science. We included original investigations including case series, prospective or retrospective cohort studies, and randomized controlled trials and excluded abstracts, case reports, technical descriptions of procedures and systematic reviews. We used random-effects meta-analysis models to estimate the pooled percent reduction in excess body weight (%EBWL) and the proportion of individuals free from GERD after the operation.

Results: We identified 811 articles in our initial search, and after removing duplicates and screening the titles and abstracts, we reviewed 51 full text articles. Post-operative GERD data was available for all 13 studies (740 patients), and percent excess body weight loss was available in 7 studies (547 patients). 95.4% (95% CI: 92.9%-97.1%) of patients were free from GERD post-operatively, and the mean percent excess body weight loss was 66.3% (95% CI: 53.8%-78.8%).

Conclusion: Sleeve gastrectomy performed with concurrent fundoplication is an emerging surgical approach for patients with obesity and GERD. Additional studies of efficacy and safety are needed to compare different gastrectomy fundoplication techniques with other weight loss procedures.

A151

Sleeve Gastrectomy With Versus Without Buttressing Using The Polyglycolic Acid:Trimethylene Carbonate (PGA:TMC) Material

Abdul-rahman Diab *Tampa FL*[1], Sarah Alfieri *Tampa FL*[1], Salvatore Docimo *Coram NY*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida[1]

Introduction: Staple line reinforcement (SLR) can be divided into 4 categories: Oversewing, gluing, buttressing, and omentopexy/gastropexy (OP/GP). The aim of this study is to compare the outcomes sleeve gastrectomy with versus without Seamguard SLR.

Methods: Literature search was done according to the PRISMA guidelines. Meta-analysis was done using the RevMen 5.4.1 software. Statistical method used was Mantel-Haenszel. Analysis model used was random effects regardless of the heterogeneity (I^2).

Results: Meta-analysis of observational studies comparing Seamguard SLR with no SLR revealed statistically significant decrease in postoperative bleeding (OR: 0.08, CI 0.03, 0.21), leaks (OR 0.54, CI 0.30, 0.95), length of stay (MD -0.78, CI -1.23, -0.32), and re-operations (OR 0.10, CI 0.03, 0.32). In addition, analysis revealed statistically insignificant decrease in abscess (OR 0.28, CI 0.03, 2.65), and operative time (MD -1.29, CI -31.57, 29.00).

Conclusion: Staple line buttressing with Seamguard leads to very strong reduction in the risk of postoperative bleeding, re-operations, and length of stay. In addition, it reduces the risk of leaks to almost half. Although insignificant, the decrease in abscesses was very close to significance cutoff, and thus larger studies might be able to prove this decrease as statistically significant. As reported in previous research, oversewing of the staple line greatly increase operative duration, therefore we recommend future studies to focus on comparing Seamguard buttressing versus gluing of the staple line, instead of Seamguard buttressing versus oversewing.

A152

Weight Regain Following Bariatric Surgery: Initiation of Pharmacotherapy

Helena Randle *Albany NY*[1], Rachel Conley *Albany NY*[1], Jennifer Lindstrom *cohoes NY*[2], Jessica Zaman *Albany NY*[2]
Albany Medical College[1] Albany Medical Center[2]

Introduction: Although bariatric surgery is the gold standard for severe obesity, long-term weight regain remains a complication and pharmacotherapy is a common therapeutic option. This study compares trends in use of weight loss medications and their effectiveness following bariatric surgery.

Methods: Single-center retrospective chart review from January 2019 to December 2021 comparing outcomes of weight loss medication use after bariatric surgery. Demographics, procedure type, pre- and post-medication body mass index (BMI), and comorbidities recorded. Total body weight loss (TBWL) calculated and compared using ANOVA.

Results: Of 158 patients prescribed medication, 91 (57%) had prior surgery: 59 (65%) Roux-en-Y, 27 (30%) sleeve gastrectomy, and 5 (5%) gastric band. Of this cohort, 85% were women and 84% white. 19% had diabetes, 43% hypertension, 48% hyperlipidemia, and 40% obstructive sleep apnea. On average, medication was started 7.3 years post-procedure. 61 started on liraglutide, 14 on naltrexone/bupropion, 8 on phentermine, 5 on semaglutide, and 3 on phentermine/topiramate. Average weight loss was 10lbs (4% TBWL). 75% lost weight and 25% maintained/regained weight, ranging from 68lbs lost to 37lbs gained. Between medications TBWL was significantly different ($p<0.05$). Phentermine/topiramate had the greatest weight loss, average 30.3lbs (13% TBWL). Naltrexone/bupropion had the lowest, average 0.89lbs (0% TBWL) gained.

Discussion: Although bariatric surgery is the gold standard for severe obesity, the substantial proportion of post-surgical patients on weight loss medication indicates it is not a permanent solution. For providers to optimize long-term outcomes, further research is necessary to determine the ideal combination and timing of medication initiation post-surgically.

A153

Perioperative Outcomes for Biliopancreatic Diversion with Duodenal Switch in African Americans; Six-Year Analysis of the MBSAQIP Database

Samuel Perez *Columbia MO*[1], Connor Klingele *Columbia MO*[2], Andrew Wheeler *Columbia MO*[2]
University of Missouri School of Medicine[1] University of Missouri SOM[2]

Introduction

African American (AA) patients experience a disproportionately higher rate of obesity and account for a lower percentage of bariatric surgeries. The primary aim of this study was to investigate the preoperative characteristics and perioperative outcomes between AA and non-AA patients undergoing biliopancreatic diversion with duodenal switch (BPD/DS).

Methods

The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) was analyzed for years 2015 through 2021. Exclusion criteria were applied, and patients were split into two cohorts based on being African American (AA) or non-African American (non-AA). Propensity score matching (PSM) was conducted on 19 covariates to achieve two well-balanced groups.

Results

There were a total of 1,279 AA patients and 9,783 non-AA patients undergoing BPD/DS after applied exclusion criteria. AA patients were more likely to be female (78.0% vs 72.1%;$p<0.001$), have hypertension (47.4% vs 41.6%;$p<0.001$), have a higher BMI (55.1 ± 10.6 vs 51.4 ± 9.2;$p<0.001$), and have an IVC filter present (2.1% vs 1.0%;$p<0.001$). After PSM, AA patients were found to experience similar rates of perioperative mortality, reintervention, and reoperation, but experienced increased operative times (174.8 ± 70.5 vs 157.3 ± 78.7;$p<0.001$), readmissions (8.8% vs 5.6%;$p=0.003$), and outpatient dehydration treatment (5.7% vs 3.2%;$p=0.005$).

Conclusion

African Americans continue to experience higher rates of obesity and certain postoperative complications after bariatric surgery including the BPD-DS. Further understanding of this disparity is important as the BPD-DS, one of the most effective surgical weight loss options, increases in popularity.

A154

The impact of geographical and hospital characteristics on sleeve gastrectomy outcomes in a nationwide patient sample.

Michael Bagnell *Newark NJ*[1], Theofano Zoumpou [1], Bao-Ngoc Nasri *Newark NJ*[1], Aziz Merchant *EDISON NJ*[2], Daniel Jones *Newark NJ*[1]
Rutgers New Jersey Medical School[1] Hackensack Meridian Health[2]

Objective

As the prevalence of obesity continues to increase, more patients will qualify for sleeve gastrectomy (SG), the most popular weight loss surgery nationwide. Geographical and hospital characteristics have been associated with disparities, including access to surgical care, postoperative morbidity, and mortality. This study explores the differences in preoperative patient characteristics and postoperative outcomes in relation to hospital characteristics among SG patients nationwide.

Methods

We analyzed the National Inpatient Sample (NIS) from 2015 to 2017. We used the patient demographics, hospital location, bed-size, teaching status, and ownership as independent variables. Outcomes of interest included hospital length of stay (LOS), total charges, mortality, and in-hospital complications. Univariate analysis included Chi-Square test for categorical and t-test for continuous variables. Multivariate analysis included logistic regression for categorical and generalized least squares regression for continuous variables. We controlled for comorbidities using the Elixhauser mortality and readmission indexes. An α-level of 0.05 was considered statistically significant.

Results

The sample was representative of 286,290 SG patients. Most patients were treated at large and urban teaching hospitals. LOS and total charges were significantly lower in small/ medium and rural/ urban non-teaching hospitals compared to large and urban teaching hospitals, respectively($p<0.001$). Although in-hospital morbidity did not differ, mortality was lower in small and rural hospitals ($p<0.001$).

Conclusion

Our nationwide study revealed that hospital characteristics correlate to different outcomes among SG patients. Hospital size and teaching status were the variables with the strongest impact on outcomes, such as LOS and mortality.

A155

Social Determinants of Health and Baseline Symptomatology in a Multimodal Weight Management Program

J. Susie Hwang *Commack NY*[1], Anastasia Philippopoulos *Stony Brook NY*[1], Jill Stadterman *Port Jefferson Station NY*[1], Devan Palmer *Shoreham NY*[1], Jennifer LaChapelle *Brentwood NY*[1], Farah Hasan *Stony Brook NY*[1], Ian Penzel *Stony Brook NY*[1], Jenna Palladino *Smithtown NY*[1], Genna Hymowitz *Centereach NY*[1]
Stony Brook University[1]

Introduction

Overweight and obesity affect over 73% of the US population and can lead to negative health outcomes. Given the relationships among obesity, neighborhood deprivation and income inequality, the current study aimed to evaluate the relationship between social determinants of health and biopsychosocial functioning of individuals with overweight and obesity.

Method

Participants enrolled in a multimodal weight-management program completed online measures of anxiety, depression, and overall functioning. Neighborhood area deprivation index (ADI) scores were calculated, and Edmonton obesity stage score (EOSS), and insurance status data were extracted from electronic medical records.

Results

Participants (n=34) averaged 46 years of age (SD = 12.5; range 23-75), a BMI of 35.16 (SD = 9.1), were primarily White (88%), female (70%), and had private insurance (77%). National ADI scores ranged from the 9th to the 42nd percentile, most among the top 25% (67%; n=22).

Public insurance holders reported significantly higher anxiety ($t(8.5) = 2.66$, p=.028), depression ($t(32) = 2.84$, $p = .008$), and functional disability (U=31, z=*-2.57*, $p = .01$) than private insurance holders. Neither insurance nor ADI were significantly related to EOSS stage or BMI. ADI was not significantly related to anxiety or depression scores.

Discussion

Higher levels of depression, anxiety, and functional disability underscore the importance of ensuring access to care for under-resourced individuals with obesity or overweight. Program participants are mostly White and live in privileged areas, indicating that people attending weight management visits may face fewer barriers to care. Future research should evaluate strategies to increase engagement among under-resourced populations.

A156

Sunshine in My Pocket: Industry's Payments to General Surgeons

Rizwan Ahmed *Frisco CO*[1], Patrick Hosokawa [1], Kevin Rothchild [1], Kweku Hazel *Aurora CO*[1], Akshay Chauhan *Aurora CO*[1], Jonathan Schoen *Aurora CO*[1]
University of Colorado[1]

Introduction:The Sunshine Act has reported eight years of industry payments to physicians. Collaboration between industry and physicians has helped advanced the field of bariatric surgery. Industry utilizes various methods to help promote understanding their devices. The purpose of this study is to ascertain payments to general surgeons from industry and compare changes in payments overtime.

Methods:We analyzed payment trends using Physician Payment Sunshine Act (PPSA) data of the fiscal year 2015 and 2021 using the Open-Payments-Program website.

Results:In 2021, $50,083,688 was paid to 16,682 general surgeons, the median (interquartile range [IQR]) was $150[45-760]. Of all general surgeons: 39% received payments of <$100; 38% received $100-$999; 17% received $1,000- $9,999; and 6% received >$10,000. The four highest paid general surgeons received: $2,608,799; $1,536,970; 389,555; and 382,963. Ten companies contributed to 80% of payments. The four highest paying companies were: Intuitive($26,327,257); Medtronic($5,228,996); Cook($1,618,747); and Ethicon($1,315,808). In comparison, during 2015, $43,609,610 was paid to 19,602 general surgeons, the median [IQR] was $177[53-887]. Of all general surgeons: 36% received payments of <$100; 40% received $100-$999; 20% received $1,000- $9,999; and 3% received >$10,000. The four highest paid surgeons received: $1,757,619; $821,851; $630,173; $448,366. Ten companies contributed to 57% of payments made to surgeons. The four highest paying companies were: Intuitive($10,624,754); Bard($2,894,894); Covidien($2,639,209); and Ethicon($2,406,869).

Conclusion:Comparing the 2021 to 2015 PPSA data, per surgeon there was a median $27 decrease in payment that was not statically significant. 76% of general surgeons received payments of less than $1,000 and 6% of surgeons received payments of >$10,000.

A157

Porto-Mesenteric vein thrombosis after bariatric surgery: a six-year review at our institution.

Maryam Khurram *Richardson TX*[1], Fakeha Masood *St Catharines* [2], Heath Smith *Decatur TX*[3], Mistey Patterson [3], Arsalla Islam *Decatur TX*[3]
University of Texas at Dallas[1] Independent research scholar[2] Wise Health System[3]

Objective: To report incidence, presentation, and management of Porto-mesenteric vein thrombosis (PMVT) at our institution.

Materials and Methods: A retrospective chart review of 5266 patients undergoing bariatric surgery at our institution between 2014 and 2019 was performed.

Results: Out of 5266 patients, 10 patients (0.19%) developed porto-mesenteric vein thrombosis. Patients who developed PMVT were females from age range of 24 to 55 years and had a BMI range of 36.9 to 47.01. None of these patients were candidates for perioperative venous thromboembolism chemoprophylaxis. The average operative time was 40.2 minutes, and all patients underwent laparoscopic sleeve gastrectomy with one patient requiring a concurrent laparoscopic hiatal hernia repair. There were no intraoperative complications. These patients presented to the hospital with a combination of symptoms including abdominal pain, nausea, vomiting, and back pain.The workup showed thrombophilia in 4 out of 10 patients. One patient needed bowel resection. Another patient underwent laparotomy with splenectomy. The patient requiring bowel resection tested positive for antiphospholipid antibody and was heterozygous for Prothrombin gene mutation and Protein C deficiency. Other patients tested positive for Prothrombin gene mutation or anti-phospholipid antibody. One patient had a diagnosis of non-cirrhotic portal hypertension on follow-up but no current symptoms.

Conclusion: PMVT is a rare but potentially lethal complication. Prompt anticoagulation is the cornerstone of treatment. Timely operative treatment is required to prevent catastrophic outcome in a subset of these patients. Further studies are needed to improve guidelines for thrombophilia screening in bariatric patients

A158

Efficacy of Adjuvant Weight Loss Medications in Post-Bariatric Surgery Patients Regarding Weight, Insulin Resistance, & Hyperlipidemia

Michael Zeitchek *Hackensack NJ*[1], Erica Amianda *Hackensack NJ*[1], Angela Dang *Nutley NJ*[2], Sebastian Eid *Wyckoff NJ*[1], Douglas Ewing *Paramus NJ*[1], Hans Schmidt *Hackensack NJ*[1], Jeffrey Kraft *North Bergen NJ*[1]
Hackensack University Medical Center[1] Seton Hall PA student[2]

The continued emergence of new weight loss medications has introduced a variety of tools for clinicians to use to manage the chronic disease of obesity. With the predicted rate of obesity in the United States being close to 50% by 2030, it is critical that we consider how to best utilize them in conjunction with one another.

A retrospective chart review of 68 post-bariatric surgery patients who were administered weight loss medications (liraglutide, lorcaserin, phentermine, and topiramate) between 3/1/15-9/30/20 was performed. Weights at each visit after initiating medication, as well as change in lab values for low-density lipoprotein (LDL), high-density lipoprotein (HDL), triglycerides, and hemoglobin A1c (Hgb A1c) were statistically analyzed.

Liraglutide was the only medication to exhibit statistically significant weight loss p(<0.05) when used by post bariatric surgery patients. The average treatment time was 12 months. It was evidence once patients stopped taking their prescribed medications; they did have some weight recurrence making the change no longer statistically significant. Semaglutide was not yet approved for the treatment of obesity during the period of time this cohort of patients were treated. There were no significant differences observed with respect to Hgb A1c, HDL and LDL levels.

This retrospective analysis can set the stage for further prospective research regarding the obesity epidemic. Extended periods of treatment or use of Semaglutide or Tirzepatide may prove to be more effective in preventing weight recurrence.

A159

Revision of Sleeve Gastrectomy to Single-Anastomosis Duodenoileal Bypass: One-Year Outcomes Comparing 300cm vs 250cm Common Channel Length

Adeel Ashfaq *Los Angeles CA*[1], Karen J. Coleman *Pasadena CA*[2], Robert Casillas *Los Angeles CA*[2]

Kaiser Permanente Los Angeles[1] Kaiser Permanente West Los Angeles[2]

Background: Single-anastomosis duodenoileal bypass (SADI) is an efficacious revision to address weight gain after laparoscopic sleeve gastrectomy (LSG). Controversy remains regarding optimal length of the common channel in regards to weight loss and potential adverse outcomes.

Objective: To analyze SADI revision for LSG, comparing 300cm (SADI-300) versus 250cm (SADI-250) common channel length.

Setting: Community Hospital, Bariatric Center of Excellence, USA

Methods: A retrospective review of a prospectively collected data base was performed. All revision patients met the National Institutes of Health guidelines for bariatric surgery. Outcomes included percent total weight loss (%TWL), complications, reoperations, and malabsorptive symptoms.

Results: Forty-five patients underwent SADI revision of LSG. Preoperative weight, BMI and co-morbidities were similar between cohorts. Follow-up was available for 100% of patients at 1 year. Average time from original LSG to SADI was 58 months. Twenty-two patients underwent SADI-300 and 23 patients underwent SADI-250. Patients undergoing SADI-250 experienced greater weight loss than SADI-300 (49 vs 37 lbs; p= 0.045) and greater %TWL (18.5% vs 13.9%, p= 0.03). There was one reoperation in the SADI-300 group for a duodenal stump leak and no significant difference in the number of bowel movements or malabsorptive symptoms between groups (p=0.19). Interestingly, the SADI-300 group experienced some weight regain at 24 months with %TWL dropping to 9.7%.

Conclusion: The SADI-250 was associated with significantly greater weight loss at 1 year compared to SADI-300, with no significant findings of malabsorptive states in either group. Further data will be useful in assessing long-term differences.

A161

Longer Operative Times are Associated with Pulmonary Embolus in RYGB and Sleeve Gastrectomy: An MBSAQIP Analysis

Hugo Villanueva *Danville PA*[1], Thomas Walls *State college PA*[2], James Dove *Danville PA*[1], Mark Mahan *Danville PA*[1], David Parker *Danville PA*[1], Vladan Obradovic *Danville PA*[1], Anthony Petrick *Danville PA*[1], Benefsha Mohammad *Danville PA*[1]
Geisinger Medical Center[1] Penn State University[2]

Background: Bariatric surgery is increasingly performed using a robotic approach. While robotic and laparoscopic approaches have been shown to have comparable peri-operative outcomes, the former is associated with longer operative times. We examine whether a longer operative time causes increased incidence of venous thromboembolic events (VTE) in matched robotic (RA) and laparoscopic (Lap) cohorts.

Methods: The 2020-2021 Participate User Files were reviewed retrospectively. Lap and RA sleeve gastrectomy and gastric bypasses (MBS) were included. Patients were propensity matched 1:1 based on method of VTE prophylaxis, procedure type, and other pre-operative variables. Logistic regression models of the matched cohorts were created to look at impact of operative time on VTE.

Results: 285,738 patients were included in the study (79% laparoscopic, 21% robotic). No significant difference in VTE incidence between laparoscopic and robotic was seen in the unmatched cohorts (0.3% vs 0.4%, $p = 0.253$), with a trend towards increased VTE in the RA group. The propensity matched cohorts (58,958 in each) showed no difference in VTE (0.4% vs 0.3%, $p = 0.589$). After propensity score matching, operative time was associated with a significant increase in pulmonary embolism (PE) (OR 2.098, CI 1.552 – 2.837). Longer median operative times were seen in cases where a PE occurred in both RA and Lap MBS.

Conclusions: Increased operative time is associated with an increased incidence of PE in both RA and Lap MBS. The longer procedure times seen in RA-MBS may contribute to increased rates of PE relative to laparoscopic approaches.

A162

Ethnicity and weight loss trajectory are associated with weight loss nadir in adolescent and young adult patients following laparoscopic sleeve gastrectomy

Matthew Hornick *New Haven CT*[1], Geoffrey Nadzam *New London CT*[1], Andrew Duffy *New Haven CT*[1], Saber Ghiassi *Fairfield CT*[1], John Morton *MADISON CT*[1]
Yale School of Medicine[1]

Introduction: There are limited data regarding weight nadir following laparoscopic sleeve gastrectomy (LSG) in adolescents and young adults. This single-institution study reviews longitudinal weight outcomes after LSG in patients aged 25 years or younger, with attention to timing of weight nadir and demographic variables associated with weight nadir.

Methods: We retrospectively reviewed records of patients who underwent LSG at our institution between 2013 and 2020, and included weight data through October 2022. We calculated weight nadir postoperatively as maximal percent total body weight loss (%TBWL) relative to preoperative weight.

Results: 123 patients aged 25 years or younger underwent LSG (mean 22.9±2.3 years). 52.0% identified as African-American or Hispanic, 42.3% had private health insurance, and 56.9% had available weight nadir data. Overall, mean %TBWL was 27.6±2.3% at weight nadir, at 1.5±0.2 years postoperatively. Patients reaching nadir after 1 year postoperatively had significantly greater %TBWL at nadir (31.3±2.1%) than patients reaching nadir before 1 year postoperatively (18.6±2.8%, $p < 0.001$). Caucasian patients had significantly greater %TBWL at nadir (31.0±3.3%) than African-American patients (25.3±3.8%, $p = 0.02$) or Hispanic patients (23.6±4.1%, $p < 0.01$). There was no significant difference in %TBWL at nadir between patients with private and public health insurance ($p=0.14$).

Conclusions: Our results suggest that time to weight nadir and patient race/ethnicity are significantly associated with %TBWL at nadir following LSG in adolescent and young adult patients. Identifying variables associated with weight nadir can help set expectations about combined therapies and inform timing of adjunct weight loss interventions in this population.

A164

Bariatric Surgery for the Treatment of Adolescent Obesity in Children Aged 13 and Under: A Retrospective Study

Norah Liang *Palo Alto CA*[1], Rachel Herdes *Palo Alto CA*[2], Janey Pratt *Palo Alto CA*[3], Matias Bruzoni *Palo Alto CA*[3]
Stanford University[1] Lucile Packard Children's Hospital at St[2] Lucile Packard Children's Stanford[3]

Introduction: Pediatric patients who undergo bariatric surgery have been shown to have better glycemic control, weight reduction, and improvement of cardiovascular risk factors compared to those treated with medical therapy alone. However, bariatric surgery remains underutilized for this population, especially those aged 13 and under. This retrospective single-center cohort study examines outcomes for this demographic who were evaluated for bariatric surgery and subsequently underwent sleeve gastrectomy.

Methods: A total of 15 patients underwent vertical sleeve gastrectomy at 13 years of age or younger at a tertiary academic center from September 2014 to October 2022. Data on pre-operative characteristics, post-operative outcomes, and total weight loss at 3 months, 6 months, and 1 year were collected using retrospective review.

Results: The mean age of patients (67% female, 53% Hispanic) in this study was 12.2 years (SD 0.9, range 11-13). At the time of surgery, the mean BMI was 49.5 kg/m^2 which represented 165% of the 95^{th} percentile. Common pre-operative comorbidities included obstructive sleep apnea (67%), dyslipidemia (53%), and insulin resistance (47%). There were no 30-day readmissions or post-operative complications. The mean length of hospital stay was 2.8 days (SD 0.5). The mean percent total body weight loss was 13.6% (SD 4.6) at 3 months, 17.7% (SD 5.2) at 6 months, and 23.8% (SD 10.9) at 1 year.

Conclusions: Bariatric surgery is a safe and effective treatment for children and adolescents with obesity, even as young as 11 years old. We demonstrated favorable post-operative outcomes, with durable weight loss at 1 year post-operatively.

A165

Achalasia Post RYGB: Literature Review.

George Angelakakis *Tampa FL*[1], Bilal Koussayer *Tampa FL*[1], Abdul-Rahman Diab *Tampa FL*[2], Joseph Sujka *Tampa FL*[2]
USF Health Morsani College of Medicine[1] Tampa General Hospital[2]

Introduction: Achalasia after Roux-en-Y gastric bypass (RYGB) is a rare complication, happening years after surgery. Laparoscopic Heller Myotomy (LHM) and Peroral Endoscopic Myotomy (POEM) are frequently used techniques to treat achalasia. The purpose of this narrative review is to summarize the available evidence of achalasia treatment post-RYGB, and to specifically compare post-operative complications of LHM versus POEM.

Methods: Case reports and review articles with achalasia listed as a post-operative complication were compiled (from PubMed).

Results: Our literature review reveled twenty-four studies for a total of 65 included patients. The patients' age range at time of achalasia development was from 28 to 70 years with a mean age of 53 years. Only 60 patients in the literature had their gender reported, with 80% being female. Overall, 77% of patients had undergone LRYGB while the remaining 23% underwent open RYGB. The onset of achalasia symptoms post RYGB was highly variable, ranging from immediate onset to 18 years post op (mean onset of 7.2 years). Of the patients with reported achalasia subtypes, 12 patients presented with Type 1, 20 patients with Type 2, and 6 patients with Type 3. For treatment options, 35% of patients underwent POEM, 26% underwent LHM, 9% underwent OHM and 3% underwent Botox injections. There were no major complications reported in either LHM or POEM, with 78% of patients seeing symptom resolution within one to 21 months follow-up.

Conclusion: No differences in post-operative complications were reported in the literature for LHM or POEM.

A166

Nomogram for Predicting Anemia 1 Year After Bariatric Surgery in Chinese Patients with Obesity

Yuntao Nie *Beijing* [1], Ziru Tian *Beijing* [1], Pengpeng Wang *Beijing* [1], Baoyin Liu *Beijing* [1], Hua Meng *Beijing* [1]
China-Japan Friendship Hospital[1]

Background: Anemia is a common nutritional complication after bariatric surgery, with a reported incidence of 20-50%. To date, no model has been established to identify patients at high risk of postoperative anemia to guide nutritional monitoring and supplementation. We aimed to develop a nomogram for predicting anemia 1 year after bariatric surgery.

Methods: Patients with obesity undergoing bariatric surgery in China-Japan Friendship Hospital between 2018 and 2020 were reviewed. Anemia is defined according to the WHO criteria. Predictors were identified using univariate and multivariate logistic regression analyses to establish the nomogram. The discriminative ability, calibration, and clinical value of the nomogram were tested using the area under the curve (AUC), calibration plot, and decision curve analysis. The nomogram was internally validated using 1000 bootstrap resampling.

Results: A total of 281 patients were enrolled, and 108 (38.4%) patients experienced anemia 1 year after surgery. According to multivariate analyses and clinical significance, gender, age, surgical type, preoperative anemia status, preoperative ferritin, folate, and VitB12 levels were risk factors for postoperative anemia and incorporated to develop the nomogram. The nomogram showed good discrimination, with the bootstrap bias-corrected AUC of 0.790 (0.732-0.838). The brier score (0.181) and calibration plot both indicated excellent calibration. Under the Youden index of 0.374, sensitivity was 76.9%, specificity was 72.8%, and accuracy was 74.4%. Decision curve analysis further confirmed the clinical usefulness of the nomogram.

Conclusion: The first nomogram for predicting anemia after bariatric surgery had an excellent predictive value, which may help guide postoperative nutritional monitoring and supplementation.

A167

Has Expansion of Guidelines on Bariatric Surgery for Class 1 Obesity Impacted Practice? National Trends and Outcomes in Class 1 Obesity (BMI 30-35 kg/m2) from 2015 to 2021

Paul Wisniowski *Los Angeles CA*[1], Kamran Samakar *Los Angeles CA*[1], Lauren Hawley *Los Angeles CA*[1], Stuart Abel *Los Angeles CA*[1], James Nguyen *Los Angeles CA*[1], Adrian Dobrowolsky [1], Matthew Martin *Los Angeles CA*[1]
University of Southern California[1]

Background: Since 2012 a series of increasingly expanded guidelines supporting metabolic bariatric surgery (MBS) in patients with class 1 obesity (C1O) (BMI 30-35) have been published, but the impact on clinical practice is unknown. We sought to analyze national trends in MBS for CO during this time period.

Methods: The Metabolic Bariatric Surgery Accreditation Quality Improvement Program (MBSAQIP) data were queried. MBS utilization in C1O and 30-day outcomes were evaluated using univariate and multivariate analyses.

Results: 38,669 (3.5%) patients with C1O and 1,067,094 (96.5%) patients with BMI>35 were identified. Patient with C1O were younger 49y vs 44y ($p<0.01$), and predominantly white 76% vs 70% ($p<0.01$). The trends in MBS for C1O showed no significant increase indexed to total MBS cases, remaining at approximately 3.5% of all MBS procedures per year (p=NS). Trends in utilization of MBS for C1O with and without diabetes showed similar minimal change over time. The utilization of sleeve gastrectomy increased 6%, adjustable gastric band decreased 5.6%, and robotic use increased 15% during the study period ($p<0.01$, see Figure). On univariate analysis C1O had fewer superficial infections, more reoperations, and decreased mortality (all $p<0.01$), but no difference in these outcomes on multivariate regression.

Conclusion: Despite the expansion of guidelines supporting MBS in patients with class 1 obesity, there has been little corresponding increase in utilization in this population in recent years. Further analysis is needed to identify patient, provider, and system level factors that may be serving as barriers to increased access to MBS in this population.

A168

Outcomes of concomitant cholecystectomy during bariatric surgery

Christopher McMillian *Houston TX*[1], Aman Ali *Sugar Land TX*[1], Jiaqiong Xu *Houston TX*[1], Diana Panciera *Houston TX*[1], Linda Moore *Houston TX*[1], Mari Galang *Houston TX*[1], Vadim Sherman *Houston TX*[1], Nabil Tariq *Houston TX*[1]
Houston Methodist Hospital[1]

Background: Obesity and bariatric surgery (BS) are associated with increased risk for gallstones and concomitant laparoscopic cholecystectomy (CLC) remains a matter of debate. Several studies have cited increased operative times, post-operative complications and hospital length of stay (LOS) in CLC. We compared the post-operative outcomes of CLC with BS alone (BSA).

Methods: We performed a retrospective single institution study from 01/2014 to 7/2022 at a tertiary hospital bariatric center of excellence to analyze 30-day outcomes in patients who underwent primary BS (laparoscopic sleeve gastrectomy [GS] or Roux-en-Y gastric bypass [GB]) with CLC versus BSA. Outcomes included infectious, thrombotic, cardiopulmonary, bleeding, LOS, readmission and reintervention outcomes from the local MBSAQIP database. We performed a propensity score matching (PSM) to analyze 30-day outcomes. Conditional logistic linear regression with cluster were applied after PSM.

Results: Of the 2,375 patients having BS, 84 (3.54%) patients had CLC. Before PSM, there were less SSI and readmissions but more blood transfusions and LOS in the CLC group (SMD>0.1). PSM matched 393 BS and 81 CLC cases. Of these, no significant difference was noted in any postoperative complications between BSA versus CLC, including composite outcomes (10.18% vs. 11.11%, p=0.978), LOS (1.9±3.4 vs 3.2±10.5 days, p=0.42), or for GB vs GS (p=0.90).

Conclusions: In this study, patients undergoing primary BS with CLC , after PSM, experienced no statistical difference in 30-day outcomes, regardless of type of BS. In select patients, such as with preoperative documented gallstones, laparoscopic cholecystectomy may be appropriate to consider concomitantly with bariatric surgery

A169

Preoperative semaglutide treatment in adolescents anticipating bariatric surgery

Matthew Hornick *New Haven CT*[1], Michelle Van Name *New Haven CT*[1], Rachel Goldberg-Gell *New Haven CT*[1], John Morton *MADISON CT*[1]
Yale School of Medicine[1]

Introduction: Bariatric surgery is the most effective treatment option for severe obesity in adolescents. Since adolescents with lower preoperative BMI will generally have a lower postoperative weight nadir, there is clinical value in optimizing BMI preoperatively. Within our adolescent bariatric surgery program, we consider preoperative glucagon-like peptide-1 receptor (GLP-1) agonist therapy in all patients with BMI greater than 50 kg/m^2. Here we report preliminary weight reduction outcomes in adolescents treated with semaglutide preoperatively.

Methods: Adolescents enrolled in our program were offered weekly-injected semaglutide during the preoperative period if their BMI exceeded 50 kg/m^2. Semaglutide was titrated to a maximum dose of 1mg weekly. Weight loss and adverse event outcomes were monitored from the time of initiation of semaglutide to the time of bariatric operation, or to most current available weight if still awaiting operation.

Results: Three patients with initial BMI greater than 50 kg/m^2 (mean age 18.4±1.3 years, mean BMI 62.2±4.2, normal glucose tolerance) were prescribed weekly-injected semaglutide titrated to 1mg. Mean BMI decreased by 2.1 kg/m^2 while taking semaglutide for an average of 6.0 months preoperatively. Patients reported no significant medication side effects.

Conclusions: GLP-1 receptor agonists are a potentially valuable tool for reducing preoperative BMI in adolescents with severe obesity who are anticipating bariatric surgery. In this first reported case series, we demonstrate that pharmacologic obesity treatment is feasible in young patients preparing for bariatric surgery, and the combination of medical and surgical therapy has the potential to enhance outcomes in this group.

A170

Magnetic Gastro-jejunostomy in a Swine Model over 6 Weeks. Safety and Efficacy

Michel Gagner *Westmount* [1], Maxime Lapointe-Gagner *Montreal* [2], Todd Krinke [3]
Wesmount Square Surgical Center[1] Westmount Square Surgical Center[2] GT Metabolic Solutions, Inc.[3]

The objective was to evaluate a new design of magnetic compression anastomosis device for gastrojejunostomy and determine the safety and efficacy at 6 weeks using a swine model. Methods: Using 8 domestic farm female pigs, aged 3-6 months and weighing 55.5-79.2 kg. After the procedure, animals were observed for approximately 6 Weeks (41-46 days) and follow-up radiographs were performed 3 times per week (every single or 3 days) starting 7 days post-implantation to track the movement of the device through the intestines. The proximal magnet was delivered to the stomach using a gastroscope and a delivery catheter. The distal magnet was delivered to the jejunum via laparoscopy. Results: Anastomotic dislodgement occurred between 10 to 26 days and expulsion from 16 to 31 days. In all animals, the magnetic anastomosis devices successfully induced patent anastomoses at 6 weeks post-operatively seen at final gastroscopy and necropsy. Microscopically, 6 weeks postoperatively, the magnetic devices appeared to induce anastomosis with minimal inflammation. This contrasts with suture implantation, which was associated with a much higher degree of injury, inflammatory response and disruption of the mucosal and serosal integrity. In summary, the use of magnetic anastomosis devices to induce a gastrojejunostomy was associated with a good healing response, successfully induced patent anastomosis and was well tolerated clinically with no abnormal clinical signs related to the use of the magnetic anastomosis device.

A171

Health Disparities in Sleeve Gastrectomy based on Nationwide Database.

Michael Bagnell *Newark NJ*[1], Theofano Zoumpou [1], Bao-Ngoc Nasri *Newark NJ*[1], Aziz Merchant *EDISON NJ*[2], Daniel Jones *Newark NJ*[1]
Rutgers New Jersey Medical School[1] Hackensack Meridian Health[2]

Objective: Disparities are a pressing issue for patients eligible for sleeve gastrectomy (SG). Minorities might not receive appropriate care timely or experience worse surgical outcomes. This study explores correlations between socioeconomic factors and the likelihood of undergoing SG at class II versus III obesity, as well as outcomes among SG patients nationwide.

Methods: We analyzed the National Inpatient Sample (NIS) from 2015 to 2017. We used the NIS demographics (age, race, sex, insurance, income quartile, hospital location, etc.) as independent variables. Outcomes of interest included hospital length of stay (LOS), mortality, obesity level at SG, and in-hospital complications. Univariate analysis included Chi-Square test for categorical and t-test for continuous variables. Multivariate analysis included logistic regression for categorical and generalized least squares regression for continuous variables. We controlled for comorbidities using the Elixhauser mortality and readmission indexes. An α-level of 0.05 was considered statistically significant.

Results: The sample was representative of 286,290 SG patients. Black patients had a higher rate (74.9%) of SG at class III obesity than White (66.2%) and Hispanic (68.2%) patients ($p<0.001$). Medicare, Medicaid, and quartile 1-income patients had longer LOS and higher mortality rates ($p<0.001$). They were also more likely to have SG at class III obesity. Males and Black patients were more likely to experience postoperative complications.

Conclusion: Our nationwide study revealed that socioeconomic disparities persist in SG patients. After controlling for comorbidities, sex, race, insurance type, and income quartile had a significant impact on most outcome variables.

A172

Impact of Roux-en-Y Gastrojejunostomy Technique on Rates of Marginal Ulceration: A Single Institution Experience

Patrick Sweigert *Columbus OH*[1], Annie Chen *Columbus OH*[2], Theresa Wang *Columbus OH*[1], Tarik Yuce *Columbus OH*[1], Roukaya Hassanein *Columbus OH*[1], Vimal Narula *Columbus OH*[1], Sabrena Noria *Columbus OH*[1], Bradley Needleman *Columbus OH*[1], Stacy Brethauer *Columbus OH*[1]

The Ohio State University Wexner Medical Center[1] The Ohio State University[2]

Introduction: Although the safety and efficacy of the Roux-en-Y Gastric Bypass (RYGB) in patients with obesity is well established, marginal ulceration (MU) remains a challenging complication. The impact of gastrojejunostomy (GJ) technique on rates of MU is poorly understood.

Methods: Consecutive adults undergoing primary laparoscopic RYGB were selected from a single institution database. MU was diagnosed on endoscopy or reoperation. Patients were stratified by GJ technique as stapled end-to-end (EEA) or linear stapled/handsewn (LS). MU free survival was evaluated using the Kaplan-Meier (KM) method. Cox proportional-hazards models were developed to assess the association between GJ technique and overall risk of MU adjusting for patient and operative factors.

Results: Among 675 patients who underwent RYGB, 74.7% utilized an EEA technique, and 25.3% LS. At the time of operation, mean age was 44.7 years, 81.5% were female, and mean BMI was 47.1 (SD 8.0). No differences were noted in patient characteristics among cohorts, including previous smoking history (p=0.46). No differences were noted in 30-day rates of readmission, emergency room visit, or overall morbidity (p>0.08). Overall observed MU rate was 17.9% for EEA and 10.5% for LS (p=0.024) with a mean overall follow up of 405 days. On KM analysis, GJ technique was not associated with a difference in MU free survival (Figure). However, Cox modeling revealed a decreased adjusted risk of MU for LS vs EEA: HR 0.57 [95%CI: 0.34-0.97].

Conclusions: A linear stapled GJ technique is associated with decreased adjusted risk of MU development in patients with obesity undergoing RYGB.

A173

Outcomes of Bariatric Surgery in Patients with Established Heart Disease With or Without Chronic Lower Limb Venous Disease: Propensity Score Matching Analysis Using the 2015-2021 MBSAQIP Database

Michael Olaughlin *Ellicott City MD*[1], Jorge Cornejo *Randallstown MD*[1], Alba Zevallos *Randallstown MD*[1], Alissa Coker [2], Gina Adrales *Baltimore MD*[2], Christina Li *Randallstown MD*[1], Raul Sebastian *Randallstown MD*[1]
Northwest Hospital[1] Johns Hopkins Hospital[2]

Bariatric surgery for established heart disease (EHD) patients reduces the long-term cardiovascular events and mortality. Short-term complications may limit bariatric surgery utility. Chronic lower limb venous disease (CLLVD) is highly prevalent in the bariatric population and is associated with EHD. Using the 2015-2021 MBSAQIP database, we aimed to evaluate the 30-day outcomes of bariatric surgery in EHD patients with or without CLLVD.

Patients with EHD (previous MI or cardiac surgery or stent) with CLLVD were selected for the SG and RYGB groups. A 1:2 PSM analysis using 21 preoperative characteristics was performed. First, we compared 30-day outcomes in the EHD vs non-EHD patients. Secondly, we analyzed the EHD patients with or without CLLVD.

Patients with EHD who underwent SG or RYGB had significantly worse 30-day outcomes including higher mortality rates, cardiac and pulmonary complications (Table 1). EHD patients with CLLVD in the SG group showed higher rates of readmissions (8.9% vs. 6.2%, $p<0.001$), interventions (2.7% vs. 1.6%, $p=0.013$), venous thromboembolism (0.9% vs. 0.4%, $p=0.017$), and postoperative bleeding (1.6% vs.0.8%, $p=0.016$). EHD patients with CLLVD at the time of the RYGB revealed higher rates of renal complications (2.4% vs. 1.2%, $p=0.036$), unplanned ICU admissions (5.7% vs. 4%, $p=0.040$), blood transfusions (3.7% vs. 2.3%, $p=0.044$), readmissions (14.6% vs. 11.3%, $p=0.025$), and reoperations (5.7% vs. 3.2%, $p=0.004$).

Patients with EHD who underwent bariatric surgery had more short-term complications and mortality. The complication rate was even higher in EHD patients with CLLVD though sufficiently low to offer bariatric surgery.

A174

Exploring the Perspectives of Patients with Weight Recurrence after Primary Bariatric Surgery: A Journey Mapping Approach

Spyridon Giannopoulos *Indianapolis IN*[1], Jessica Bentley *Anderson IN*[2], Wendy Li *Indianapolis IN*[3], Terri Wada *Indianapolis IN*[4], Jill Nault Connors *Indianapolis IN*[3], William Hilgendorf *Carmel IN*[5], Dimitrios Stefanidis *Carmel IN*[3]
Indiana University[1] DORIS Research[2] Indiana University School of Medicine[3] Collabo Creative[4] Indiana University Health North Hospital[5]

Background: Weight recurrence (WR) after bariatric surgery may have detrimental psychological effects on patients. A journey map is a visualization of the process that a person goes through to accomplish a goal. This study aimed to develop a journey map of patients experiencing WR following bariatric surgery.

Methods: In-person interviews with patients who self-identified as experiencing challenges with WR were conducted by a qualitative researcher at an academic MBSAQIP-accredited center in collaboration with the health system's Office of Experience Design in 2021-2022. Thematic analysis of the obtained information was performed.

Results: Overall, 26 patients with WR participated in the journey mapping interviews. The most frequently debated topics were related to weight-loss and mindset. Figure 1 presents all topic areas mentioned by patients and their associated sentiments. Barriers to successful maintenance of weight-loss were related to peer-pressure to eat and drink like others and traumatic life events (job loss, family member death, etc.). Facilitators of success included family and social support, having healthy daily routines in place, sharing successes with others, and education by a nutritionist. When asked about their fears/concerns, patients mentioned surgical complications, difficulties in achieving weight-loss goals, and stories from others with bad outcomes after surgery. Patients also perceived significant stereotypes against them and stigma with getting bariatric surgery.

Conclusions: Journey mapping interviews of patients with WR identified barriers and facilitators to their success and provide important insights for the management of this growing patient population. Understanding patient perspectives may enable bariatric surgeons to better address the needs of patients with WR.

A175

SLEEVE WITH PROXIMAL JEJUNAL BYPASS- 3 year Follow up data

Nandakishore Dukkipati *Hyderabad*
Livlife hospital

Background: Sleeve gastrectomy alone is not sufficient in patients with morbid obesity to achieve complete and durable weight loss. Laparoscopic Proximal Jejunal Bypass with Sleeve Gastrectomy (LPJB-SG) has shown effective weight loss in such patients. We present our 3 years Indian data for the same.

Materials and Methods: Patients with morbid obesity who underwent LPJB-SG between June 2018 to Dec 2022 at a single centre are included. All surgeries consisted of a sleeve gastrectomy with bypassing proximal jejunum about 250–300 cm in length. Intra and post-surgical data, BMI and percentage of excess weight loss (%EWL), Surgical complications, nutritional deficiencies, improvement of co-morbidities was documented over a 3 year period.

Results: 99 patients underwent LPJB-SG in this study period. Their average age was 37 yrs. Their average weight was 129.9kg and BMI was 46.45kg/m2. Their average small bowel length was 750 cms. Average operation time was 2 hrs and length of stay 1 days. Their % EWL was 65.94%. Three year follow up was available for 35 patients whose % EWL was 67.44%. 2 year follow up % EWL was 66.74%. There were two complications, one SMV thrombosis at 18 days, managed conservatively and adhesive band obstruction at 3 months which required surgery. One patient was diagnosed with peripheral neuropathy and proximal muscle weakness at 6 months which reversed completely with B12 supplementation.

Conclusions: LPJB-SG is an effective weight loss procedure. Three year results are promising. Further long- term data is needed to assess the long-term effectiveness of this procedure.

A176

Racial Disparities in Preoperative Weight Loss in Patients Undergoing Bariatric Surgery

Karina Lo *Springfield MA*[1], Aixa Perez Coulter *Springfield MA*[1], John Romanelli *Springfield MA*[1], Michael Tirabassi *Springfield MA*[1]
Department of Surgery, University of Massachusetts Chan Medical School-Baystate Medical Center, Springfield, Massachusetts[1]

Background: Preoperative weight loss has been observed to be a predictor of post-operative weight loss success following bariatric surgery. Studies have reported that minorities have overall worse outcomes following bariatric procedures.

Aim: To determine if there is racial disparity in preoperative weight loss before bariatric surgery.

Methods: A retrospective cohort study using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program(MBSAQIP) database from 2015-2018 of patients who underwent primary laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass. Patient demographics and outcomes were analyzed. Main study outcomes were preoperative weight and BMI loss as defined by the differences between the highest preoperative measurement and the preoperative measurement closest to procedure.

Results: A total of 556,956 patients were included. White non-Hispanics were overall the oldest. Black non-Hispanics had the highest, and Asians had the lowest preoperative weight and BMI both overall and closest to procedure. White non-Hispanics had the highest mean preoperative weight loss of 5.65kg(SD 7.95) and BMI loss of 2.13(SD 2.36). Black Hispanics had the lowest mean preoperative weight loss of 3.91kg(SD 5.25) and BMI loss of 1.50(SD 1.88). Black non-Hispanics experienced the highest proportion of all complications within 30 days(7.8%). These differences were statistically significant ($p<0.01$)(Table1).

Conclusions: We observed significant racial disparity in pre-operative weight loss before bariatric surgery, however this did not correlate with 30-day complication rates. Targeted interventions towards improving accessible outpatient resources may be one effective method to improve the racial disparity in long term outcomes after bariatric surgery.

A177

Contemporary Differences in Clinical Outcomes following Primary versus Conversion Roux-en-Y Gastric Bypass

Vincent Cheng *Sacramento CA*[1], Gary Grinberg *Sacramento CA*[1], Kamran Samakar *Los Angeles CA*[2], James Nguyen *Los Angeles CA*[2], Matthew Ashbrook *Los Angeles CA*[2], Paul Wisniowski *Los Angeles CA*[2], Panduranga Yenumula *Sacramento CA*[1]
Kaiser Permanente South Sacramento[1] University of Southern California[2]

Introduction: Demand for conversion bariatric surgery is increasing. However, contemporary analysis of primary versus conversion Roux-en-Y gastric bypass (RNYGB) is lacking. This study compares clinical outcomes following primary RNYGB, conversion RNYGB from gastric band, and conversion RNYGB from sleeve gastrectomy.

Methods: The 2020 MBSAQIP databank was queried for patients who underwent primary RNYGB, conversion RNYGB from gastric band, or conversion RNYGB from sleeve gastrectomy. Multivariable regression analyses examined the association of surgery type and clinical outcomes while controlling for patient characteristics.

Results: Overall, 46,042 patients were included: primary RNYGB 38,781 (84%), conversion RNYGB from gastric band 2,136 (5%), and conversion RNYGB from sleeve gastrectomy 5,125 (11%). The median age was 45 years, and 7,541 (16.4%) patients were male. Multivariable logistic regression showed that conversion RNYGB from gastric band (odds ratio [OR] 1.793, p=0.032) and conversion RNYGB from sleeve gastrectomy (OR 1.636, p=0.016) were associated with higher rates of anastomotic leak compared to primary RNYGB. Conversion RNYGB from sleeve gastrectomy was associated with higher rates of readmission (OR 1.229, p=0.002) and reintervention (OR 1.366, p=0.006) compared to primary RNYGB. However, conversion RNYGB from gastric band was not significantly associated with differences in readmission (OR 0.807, p=0.061) or reintervention (OR 0.785, p=0.265) compared to primary RNYGB. Reoperation rates did not significantly differ between the three surgeries.

Conclusions: Although leak rates are higher after conversion compared to primary RNYGB, only conversion from sleeve gastrectomy was associated with higher rates of readmission and reintervention. These differences warrant discussion prior to any index bariatric surgery.

A178

Does Sleeve Gastrectomy and Roux-en-Y Gastric Bypass have different Venous Thromboembolism risk factors? Creation of 30-day Bariatric Hypercoagulation Score using MBSAQIP Database

Jorge Cornejo *Jacksonville FL*[1], Naga Swati Gunturu *JACKSONVILLE FL*[1], Rocio Castillo-Larios *Jacksonville FL*[1], Enrique Elli *Jacksonville FL*[1]
Mayo Clinic Florida[1]

Introduction: Venous thromboembolism (VTE) is a major cause of morbidity and mortality after bariatric surgery, most occurring after discharge within 30 postoperative days. We aim to determine the main factors related to VTE for SG and RYGB.

Methods: Using the MBSAQIP 2015-2018, a Bariatric Hypercoagulation Score (BHS) was created by performing a multivariate logistic regression of "Venous Thromboembolism". The variables with the highest Odds Ratio (OR) were selected for the Sleeve Gastrectomy (SG) and Roux-en-Y Gastric Bypass (RYGB) groups. Then, the 30-day outcomes of low-risk (0-1), average-risk (2-3), and high-risk (≥4) BHS were compared.

Results: The BHS for SG and RYGB present similar risk factors for VTE such as a history of DVT (SG; 3.54, RYGB: 3.05), history of PE (SG: 1.61, RYGB: 2.82), prolonged length stay (SG: 2.62, RYGB: 2.73), African American race (SG: 1.72, RYGB: 1.70), and male sex (SG: 1.25, RYGB:1.32). Conversely, dialysis (OR 1.81) was found to be a risk factor in the SG group, meanwhile, prolonged operative time (OR 1.50), and age > 60 years old (OR 1.28) were for the RYGB group.
To validate the BHS, the receiver operating curve (ROC) was performed, obtaining an area under the curve (AUC) of 0.62 and 0.68 for SG and RYGB, respectively. In the comparison of the 30-day outcomes, a significantly higher rate of complications was found in the high-risk BHS.

Conclusions: Patients with high-risk BHS had worse postoperative outcomes. The VTE-correlated variables require special consideration when asses patients that will undergo SG and RYGB.

A179

Cardiac Arrest after Elective Primary Bariatric Surgery: An Analysis of Clinical Outcomes and Predictors in The Metabolic And Bariatric Surgery Accreditation And Quality Improvement Program (MBSAQIP) Data Registry.

Roberto Valera *Weston FL*[1], Mauricio Sarmiento-Cobos *Boca Raton FL*[1], Carlos Rivera *Coral springs FL*[1], Lisandro Montorfano *Weston FL*[1], Emanuele Lo Menzo *Weston FL*[1], Samuel Szomstein *North Miami Beach FL*[1], Raul Rosenthal *Weston FL*[1]
Cleveland Clinic Florida[1]

BACKGROUND: Cardiac arrest is a major public health problem. Bariatric Surgery (BaS) patients are a high risk population for developing cardiopulmonary complications leading to this adverse outcome. We aimed to describe patient and procedure related factors that may increase the risk of cardiac arrest after elective primary laparoscopic BaS.

METHODS: We performed a retrospective analysis of the MBSAQIP database for patients aged ≥18 years old undergoing laparoscopic sleeve gastrectomy (SG) and Roux en Y gastric bypass (GBP) during 2015-2019. Data on demographics, comorbidities and type of procedure were collected. The primary outcome of the study was the incidence of cardiac arrest. Secondary outcomes included 30-day complications, readmission, reoperation and mortality. Univariate analysis was performed to look for any differences between patients with and without cardiac arrest; a multivariate logistic regression model was performed to determine clinical predictors.

RESULTS: A total of 752,722 patients were included in our analysis. Cardiac arrest occurred in 296 patients (0.04%). Univariate analysis showed that patients with postoperative cardiac arrest had higher rates of adverse 30-days outcomes (Table 2), with a mortality rate as of 56.4%. Multivariable analysis revealed the most important predictors of cardiac arrest: end stage renal disease on hemodialysis, therapeutic anticoagulation, male gender, history of chronic kidney disease and chronic obstructive pulmonary disease (Table 3).

CONCLUSION: Cardiac arrest is associated with significantly adverse 30-day outcomes in patients undergoing BaS. Our analysis also showed that a history of end stage renal disease on hemodialysis was the most relevant independent predictor of cardiac arrest.

A180

Comparing Weight Loss After Conversion to SIPS from Sleeve Gastrectomy vs. Gastric Bypass

Arpit Gupta *New York NY*[1], Omar Bellorin-Marin *New York NY*[1], Cheguevara Afaneh *New York NY*[1], Greg Dakin *New York NY*[1], Amy Holmstrom *New York NY*[1]
Weill Cornell Medical Center[1]

Bariatric surgery can cure obesity-related co-morbidities and improve patient quality of life. Weight plateau and regain following bariatric surgery remains a problem. Conversion to a more malabsorptive anatomy via a stomach intestinal pylorus-sparing surgery (SIPS) can improve weight loss.

A retrospective review of patients undergoing conversion to SIPS at a single center from 2017 to 2022 was performed. Patients were matched 2:1 based on pre-operative demographics and obesity-related co-morbidities with conversion from SG serving as the control group compared to conversion from RYGB. Patient parameters, operative characteristics, weight loss, and duration of follow-up were reported.

A total of 36 patients were included; 24 with prior SG, and 12 with prior RYGB. Pre-operative BMI averaged 50.7 (range 41-70) in the SG group and 43.1 (32-57.6) in the RYGB group. Operative time was shorter in the SG group (49.9±9.4 minutes vs. 219.0±71.9 in RYGB group). There were no intra-operative complications. There were four post-operative complications; PO intolerance and hematoma in the RYGB group, dehydration and arrhythmia in the SG group. Follow-up was longer on average in the SG group (22.9 months vs. 11.3). Total body weight loss at 12 months post-conversion to SIPS was 32.9% in the SG group vs 19.8% in the RYGB group.

Conversion to SIPS from SG or RYGB is a safe approach to improve weight loss after index bariatric surgery. Greater weight loss can be expected after conversion from a purely restrictive procedure. Longer follow-up is necessary to determine the durability of weight loss after conversion to SIPS.

A182

Impact of Multidisciplinary Patient Complexity Scoring on Bariatric Surgery Outcomes

Brandon Smith *La Crosse WI*[1], Katelyn Mellion *La Crosse WI*[1], LaNaya Anderson *La Crosse WI*[1], Afton Koball *La Crosse WI*[1], Brandon Grover *La Crosse WI*[1], Joshua Pfeiffer *La Crosse WI*[1]

Gundersen Health System[1]

Introduction: Bariatric surgery patients often undergo preoperative multidisciplinary evaluation to identify those at elevated risk and guide preoperative optimization. This study evaluates implementation of a multidisciplinary preoperative complexity scoring system across three major clinical domains of bariatric surgery: surgical, nutritional, and psychological, and investigates the relationship between complexity score and postsurgical outcomes.

Methods: Since July 2021, bariatric surgery patients at a single center of excellence received a preoperative complexity score ranging from 1 (least complex) to 3 (highly complex) in surgical, nutritional, and psychological domains. A single domain score of 3 or a combined score of 6 or higher defined a complex patient. All complex patients were discussed at our multidisciplinary team meeting.

Results: In total, 112 patients met inclusion criteria with an 83.9% female predominance. Complexity scores across the psychological domain were 1(n=78), 2(n=31), and 3(n=3). Nutritional domain scores were 1(n=103), 2(n=8), and 3(n=1). Surgical domain scores were 1(n=85), 2(n=19), and 3(n=8). This yielded an overall complex patient pool of 8.9%(n=10) and an overall non-complex patient pool of 91.1%(n=102). There were no 30-day mortalities. Primary endpoint analysis demonstrated no statistical difference in mean percent excess body weight loss at 1 year (63.1% vs 69.4%, p=0.91), 30-day emergency observations (10.0% vs 8.8%, p=0.68), 30-day readmissions (10.0% vs 5.8%, p=0.08), or postoperative appointment attendance (3.5 vs 3.9 appointments, p=0.40).

Conclusion: Implementation of a multidisciplinary patient complexity scoring system has exemplified that surgically, nutritionally, and psychologically complex patients can achieve similar perioperative safety and postoperative weight loss as less-complex patients.

A183

Comparison of Post-Operative Bleed Rates and Location of Bleed Between Vessel Sealing Devices After Laparoscopic Sleeve Gastrectomy

Dylan Cuva *New York NY*[1], manish parikh *ny NY*[1], Patricia Chui *New York NY*[2], Jeffrey Lipman *New York NY*[1], Peter Einersen *Mount Kisco NY*[1], John Saunders *NYC NY*[1], Julia Park *New York NY*[1]

NYU Langone, Bellevue Hospital[1] NYU Langone, Bellevue[2]

Laparoscopic sleeve gastrectomy (LSG) is a commonly performed bariatric procedure. At our institution, two vessel sealing devices, Thunderbeat (Olympus) and Maryland Ligasure (Covidien) are utilized for intraoperative dissection. In this study, we evaluated post-operative bleeding rates between the two devices.

A retrospective review of all patients who underwent primary LSG from July 2013 through August 2022 was performed. All LSG were performed with staple-line reinforcement.The primary outcome measured was post-operative bleeding as defined by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP): bleeding of the GI tract within 30 days postop and readmission, reoperation, intervention, any blood transfusion, or a critical blood pressure drop and/or increase in heart rate that results in transfer to higher level of care or administration of pressors.

A total of 8157 underwent LSG. Average BMI and age were 43.2 kg/m^2 and 37.1 years, respectively. 6600 (81%) were female. Thunderbeat was utilized in 5143 (63%) cases and Maryland Ligasure was used in 3014 (37%) cases.There was no significant difference in overall bleeding between the Thunderbeat (18/5143, 0.35%) and the Maryland Ligasure (19/3014, 0.63%; p=0.0689).However, there was a difference noted when comparing reoperation for bleeding between Thunderbeat (9/5143, 0.2%) and Ligasure (13/3014, 0.4%; p=0.0291).Furthermore, the location of bleeding in the reoperations was more commonly from the mesentery cut edge compared to the staple line with the Ligasure vs. the Thunderbeat (69.2% vs 33.3%; p=0.038).

The Thunderbeat device is comparatively more hemostatic than the Ligasure for LSG.

A184

Metabolic Syndrome and its Risk Factors in Sexual Minority Women

Young Mee Choi *Durham NC*[1], Jun Xiang *Morgantown WV*[2], Courtney Pilkerton *Morgantown WV*[2], Amie Ashcraft *Morgantown WV*[3], Keri A Seymour *Durham NC*[1], Nova Szoka *Morgantown WV*[2]
Duke University[1] West Virginia University[2] West Virginia Universty[3]

Background

Studies have shown sexual minority women (SMW) have higher incidence of obesity, but the risk of metabolic syndrome (MetS) in SMW is unclear. We examined whether sexual orientation was associated with higher incidence of MetS and its components.

Methods

Data was extracted from the National Health and Nutrition Examination Survey (NHANES) from 2001 to 2016 examining women ages 20 to 59 years. Participants were divided into three categories: heterosexual, self-identified SMW (lesbian, bisexual) and questioning SMW. Logistic regression was used to analyze the association between MetS and sexual orientation.

Results

Of 12,755 women, 708 (5.6%) were self-identified SMW, and 365 (2.9%) were questioning SMW. Over 16 years, the proportion of self-identified SMW and questioning SMW increased. The incidence of MetS was not significantly different across the groups (Figure 1). Questioning SMW more frequently lacked health insurance compared to heterosexual women and self-identified SMW (45.5%,18%, 26.7%, respectively $p<0.0001$). Logistic regression demonstrated self-identified SMW had significantly higher odds of large waist circumference (OR 1.39; 95% CI 1.14-1.71) and obesity (OR 1.53; 95% CI 1.24-1.90), while questioning SMW had significantly higher odds of low high-density lipids (OR 1.5; 95% CI 1.13-1.98) compared to heterosexual women.

Discussions

This is the largest study to date evaluating the incidence of MetS in SMW. Self-identified and questioning SMW did not have increased incidence of MetS compared to heterosexual women, but both groups had significantly increased risk of certain components of MetS. Further studies are needed to identify areas for interventions to reduce health disparities in SMW.

A185

Level of Evidence of Guidelines for Metabolic and Bariatric Surgery: An Evaluation Using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) tool

Yung Lee *Hamilton* [1], Caroline Hircock *Hamilton* [1], Jerry Dang *Cleveland OH*[2], James Jung *Toronto* [3], Ahmad Elnahas *London* [4], Jigish Khamar *Hamilton* [1], Ashley Vergis *Winnipeg* [5], Umair Tahir *Hamilton* [1], Krista Hardy *Winnipeg* [5], Richdeep Gill *Calgary* [6], Jeffrey Gu *Regina* [7], Radu Pescarus *Ville Mont-Royal, Montreal* [8], Laurent Biertho *Québec* [9], Elaine Lam *Victoria* [10], Amy Neville *Ottawa* [11], Boris Zevin *Kingston* [12], James Ellsmere *Halifax* [13], Shahzeer Karmali *Edmonton* [14], Timothy Jackson *Toronto* [3], Allan Okrainec *Toronto* [3], Aristithes Doumouras *Hamilton* [1], Dennis Hong *Hamilton* [1]

McMaster University[1] Cleveland Clinic[2] University of Toronto[3] Western University[4] University of Manitoba[5] University of Calgary[6] University of Saskatchewan[7] University of Montreal[8] Laval University[9] University of British Columbia[10] University of Ottawa[11] Queen's University[12] Dalhousie University[13] University of Alberta[14]

Background: In recent years, the number of guidelines published for provision of bariatric surgery and its related care has sharply increased. However, the quality of these guidelines remains unknown, leaving providers with some degree of uncertainty when using them to make perioperative decisions. This study aims to evaluate the quality of existing guidelines for the perioperative bariatric surgery care.

Methods: A comprehensive search of MEDLINE and EMBASE were conducted from January 2010-October 2022 for bariatric clinical practice guidelines in compliance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. Guideline evaluation was carried out using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) framework.

Results: A total of 42 studies were included, with 25 guidelines, 10 position statements, and 7 consensus statements. Intra-class coefficient of each AGREEII domainscores were greater than 0.9, indicating high consistency among raters. The overall median (IQR) domain scores were: 1) scope and purpose: 86% (43%-99%), 2) stakeholder involvement: 44% (6%-99%), 3) rigor of development: 36% (11%-99%), 4) clarity of presentation: 83% (49%-100%), 5) applicability: 7% (0-77%), 6) editorial independence: 50% (0%-100%), 7) overall impressions: 42% (14%-96%). Of 25 guidelines, only five guidelines achieved an overall score >70%.

Conclusion: Current bariatric surgery guidelines effectively outlined their aim and clearly presented recommendations. However, many failed to seek patient input, adequately state search criteria, use standardized evidence rating tools, and consider resource implications. Future guidelines should focus on clearly stating its methodology and differentiating guidelines from position statements to allow for evidence-based bariatric care.

A186

Comparison of single fire stapler vs multi fire staplers in laparoscopic sleeve gastrectomy

Abi James *Newark NJ*[1], Alan Saber, MD [1]
Newark Beth Israel Medical Center[1]

Background - Laparoscopic Sleeve Gastrectomy (LSG) is the most common procedure performed by bariatric surgeons. It involves multiple fires of a laparoscopic stapler across the stomach. The use of a single fire laparoscopic stapling device can potentially decrease operative time, immediate postoperative nausea and vomiting and hospital length of stay.

Methods - 132 patients who had laparoscopic sleeve gastrectomy at a single institution were selected. Operative time, requirement for postoperative antiemetics, hospital length of stay were evaluated and compared against single fire stapler, multiple fire powered stapler and multiple fire manual stapler.

Results - The use of a single fire stapler has significantly reduced operative time by at least 12 minutes in comparison to the multiple fires. Hospital length of stay is not significantly different and was on average 1.4 days. There was a minor increase in the immediate post operative nausea and vomiting overall,however this was greater in those requiring 2 or less doses of antiemetics but decreased the number of patients requiring greater than two doses

Conclusion - Single fire laparoscopic sleeve gastrectomy significantly decreases length of operating time with no increase in hospital length of stay or immediate postoperative nausea and vomiting

A187

Does (specimen) size matter? A Comparison of Weight Loss and Specimen Size in Sleeve Gastrectomy

Paula Rivera Milan [1], Olivia Haney *Staten Island NY*[1], Taylor Loui *Staten Island NY*[1], Lisa Shimotake *Chicago IL*[1], Nisha Narula *Newark NJ*[1], Indraneil Mukherjee *Staten Island NY*[1]
Staten Island University Hospital[1]

Introduction

Laparoscopic Sleeve Gastrectomy (LSG) is a common surgical treatment of obesity. During LSG, a bougie guides the resection of the greater curvature of the stomach. This study assesses if the volume of the resected stomach could serve as a predictor of post-operative weight loss.

Methods

162 patients underwent LSG at SIUH between 07/2017 and 11/2020. Specimen pathology reports were used to collect specimen height and depth/diameter. The volume was calculated with the cylinder volumetric formula. The post-operative BMI and %BMI change at 6- and 12-months was calculated. See table for demographic and measurment statistics.

Results

ANOVA was used to compare specimen size versus wight loss.

Results showed a trend towards decrease in %BMI at 6-months with increasing specimen size (p-value= 0.060, 95% CI -0.006 - 0.000). For every 100 units of volume increased in the specimen, there was a 0.3% decrease in BMI at 6-months.

Results were significant for a decrease in %BMI at 12-months with increasing specimen size (p-value= 0.024, 95% CI -0.008 - (-0.001)). For every 100 units of volume increased, there is a 0.4% decrease in BMI at 12-months.

Conclusion

Size of resected specimen may be predictive of weight loss after LSG. A statistically significant difference between the volume of resected specimen and weight loss at the 12-month evaluation was found in our small population. Additional, more powered studies, should be undertaken to further elucidate this finding.

A188

Converting Bariatric Aftercare to Televideo Improves Access to Care in an Underserved Patient Population

Denston Carey *New York NY*[1], Eduardo Somoza *New York NY*[2], Moyosore Alade *Brooklyn NY*[1], Samuel Adedeji *New York NY*[2], John Saunders *NYC NY*[1], Patricia Chui *New York NY*[1], Julia Park *New York NY*[1], Jeffrey Lipman *New York NY*[1], Peter Einersen *Mount Kisco NY*[1], manish parikh *New York NY*[1]
NYU Langone, Bellevue Hospital[1] Bellevue Hospital[2]

Background: The COVID-19 pandemic led to widespread adoption of televideo strategies to surgical practices, including bariatric surgery. We describe an effective method of safely incorporating televideo into a busy bariatric surgery practice with increased access to care.

Setting: Urban Academic Public Hospital.

Objective: To describe the effects of strategic incorporation of televideo into a bariatric surgery practice.

Methods: We conducted a retrospective review of patients undergoing bariatric surgery at two 1-year time intervals—pre-televideo (4/1/2019-3/31/2020) and post-televideo (7/1/2021-6/30/2022). Surgical volume, length of stay, 30-day readmission, 30-day reoperation, mortality, and clinic access were assessed. Multiple operational changes were made to facilitate successful incorporation of the televideo platform and to improve weekly throughput including conversion of preoperative seminars to online videos, streamlining preoperative testing to improve access to surgery, and default conversion of all postoperative in-person visits to televideo visits (close collaboration with a home nursing program and earlier discharge home). Chi-squared and Student's T tests were used for analysis.

Results: 3,718 patients were included (see table 1). 80% of post-operative visits were converted to televideo. Clinic appointment wait time decreased by 92 days and 46 days for initial and post-operative visits, respectively. Overall surgical volume increased by 192%. Length of stay decreased by 0.72 days. There was no significant difference in 30-day readmission rate or 30-day reoperation rate (table 1). There were no mortalities.

Conclusion: The strategic incorporation of televideo into this surgical practice resulted in a significant growth in volume and increased access to care in a largely underserved population.

A189

Psychometric and Behavioral Changes 6 months after Gastric Sleeve Surgery in Hispanic Females

Hugo Sandoval *El Paso TX*[1], Benjamin Clapp *El Paso TX*[2], Deborah Clegg *El Paso TX*[3], Thomas O'Neill *El Paso TX*[1], Seth Smith *El Paso TX*[4], Vishwajeet Singh *El Paso TX*[5], Maria Ahmad *El Paso TX*[2]

Texas Tech Health Science Center El Paso, Radiology[1] Texas Tech Health Science Center El Paso, Surgery[2] Texas Tech Health Science Center El Paso, Vice President for Research[3] Texas Tech Health Science Center El Paso, School of Medicine[4] Texas Tech Health Science Center El Paso, Biostatistics[5]

Background and objectives

Obesity is a major concern for the Hispanic population (81% of the adult population is obese). One of the most efficacious mechanisms for weight loss and to reduce the risk of obesity-related complications is the Sleeve Gastrectomy (SG). Weight loss and improvements in metabolic outcomes are common features follow SG. What is not known is how SG impacts eating behavior. Therefore, the aim of this study is to analyze the postoperative psychometric and behavioral changes on response to food questioners before and 6 months after SG in Hispanic females (HF).

Methods

The Eating Attitude Test (EAT) and Power of Food Scale (POF) were completed before SG and 6 months after. The EAT measures symptoms characteristic of disordered eating while POF is a psychometric evaluation to measure appetite and asses the psychological impact of living in a food abundant environment.

Results

10 HF (30-48) participated in the study. The individual responded to the surveys before and after SG. Significant behavioral modifications were observed 6 months after surgery. Specifically, reductions in concerns associated with body weight, reductions in ‘guilty’ associated with eating, and healthier eating habits were noted following SG. Survey responses were correlated with brain function as obtained by Independent Component Analysis Methods.

Conclusion

Our results indicate there are benefits of SG in HF which altered their relationship with food intake, their body habitus, which was correlated with changes in resting state functional Magnetic Resonance Imaging.

A190

Can Histopathological Analysis in Resected Sleeve Gastrectomy Specimen Help Guide Preoperative Planning?

Abby Hankins *Norfolk VA*[1], Jacob Tatum *Baltimore MD*[2], Michael McCormick *Hampton VA*[1], Joseph Mullen *Norfolk VA*[1], Mohammad Hashim *Norfolk VA*[1], ANJALI GRESENS *NORFOLK VA*[1], Andrew Rickelmann *Norfolk VA*[1]
Eastern Virginia Medical School[1] John's Hopkins[2]

Introduction: Debate exists over whether preoperative esophagogastroduodenoscopies (EGDs) for bariatric surgery patients should be a routine screening tool in asymptomatic patients. Some studies suggest EGDs can uncover pathology that would otherwise lead to poor post-operative outcomes, while others suggest findings rarely impact surgical management.

Objective: To analyze gastric specimen samples collected routinely during sleeve gastrectomy, therefore determining if routine EGD is a necessary tool in preoperative planning.

Methods: Retrospective chart review was performed on a master list of patients in our bariatric practice identified with appropriate diagnoses and procedures. Data was collected on age, gender, race, preoperative BMI and pathology results.

Results: 164 gastric specimens were sent to pathology. 52% of patients had no pathology. Most common findings were vascular congestion (20%) and chronic gastritis (17%). 1% of patients had abnormal findings capable of altering surgical management, including mass lesion and helicobacter pylori, although nonsignificant (p=0.16). Preoperative EGDs were performed on 37 of these patients due to reflux symptoms. 38% had no pathology. Most common finding was chronic gastritis (27%). 2% had pathology with potential to impact management, including Barrett's Esophagus, although nonsignificant (p=0.32).

Conclusion: Specimens were unlikely to show incidental pathology and no patients required further intervention. EGDs on symptomatic patients may find pathology in 8% of cases, although only 2% may have findings impacting choice of procedure; therefore, routine EGD is unlikely to find consequential results and, thus, should be done selectively. Further research can evaluate all bariatric preoperative EGDs to assess rate of pathology influencing surgical management.

A191

Trial of Fluorescence Guided Gastric Calibration Tube for Sleeve Gastrectomy

Sarah Assali *Pittsburgh PA*[1], Salim Abunnaja *Morgantown WV*[2], Diane Bronikowski *Morgantown WV*[2], Rebekah Guillow [2], Lawrence Tabone *Morgantown WV*[2]
Allegheny Heath Network[1] West Virginia University[2]

Introduction

Fluorescence guided (FG) surgery uses a near-infrared emitting dye or light source to improve intraoperative visualization. This study describes the first in-human use of the Endolumik FG calibration tube during laparoscopic sleeve gastrectomy (LSG).

Methods

Fifteen participants underwent LSG using the novel device. The single-use, 40-French device was used for gastric content evacuation, gastric sleeve calibration, and leak test. Surgical and anesthesia providers completed a device evaluation survey to rate their experience.

Results

Fifteen participants underwent LSG using the novel device. The single-use, 40-French device was used to evacuate gastric contents, calibrate the gastric sleeve, and test for leak. Surgical and anesthesia providers completed a device evaluation survey to rate their experience.

Of surgical team members, 100% rated their overall experience using the device compared to the standard bougie as good or very good, and rated visualization while constructing a gastric sleeve as good or very good. Additionally, 90% of surgeons were confident or very confident that the device enabled construction of a consistently sized gastric sleeve. Of anesthesia providers, 82% rated device visualization as good or very good.

Of 24 clinicians, 71% responded that surgical teams would be more likely or very likely to avoid adverse events using the device, compared to a standard, unlit device. Of the surgical respondents, the average likelihood to recommend this device to a colleague was 9.1 out of 10.

Conclusion

FG tools can improve visualization during bariatric surgery, however further study is warranted to determine if these tools can improve surgical outcomes.

A192

Patients who Undergo Sleeve Gastrectomy Experience Durable Improvement in Physical Function but Not Mental Well-being

Danny Mou *Brookhaven GA*[1], Jennifer Shin *Boston MA*[2], Anne Li *Boston MA*[2], Kirsten Dabekaussen *Haarlem* [2], Elizabeth Willard *Boston MA*[2], Neil Ghushe *Weymouth MA*[2], Ali Tavakkoli *Boston MA*[2], Eric Sheu *Boston MA*[2]
Emory University Department of Surgery[1] Brigham and Women's Hospital[2]

Background:
While patients experience substantial weight loss following bariatric surgery, body mass index (BMI) does not encompass their perception of their physical function and quality of life. The postoperative trajectories of these patient-centered metrics following sleeve gastrectomy (SG), the most common bariatric surgery performed in the U.S., are poorly understood.

Methods:
Patients who underwent consecutive primary SG across three academic hospitals were asked to complete the BODY-Q Physical Function (PF) and EQ-5D instruments between January 2020 to July 2022. The BODY-Q PF is a validated questionnaire that assesses physical function. The EQ-5D assesses mobility, self-care, usual activities, pain/discomfort, and anxiety/depression, as well as a visual analog scale (VAS) global rating of health. Instruments were administered to patients electronically preoperatively and postoperatively. T-tests were used for analysis.

Results:
Data were analyzed for 351 patients who underwent primary SG and completed the BODY-Q PF or EQ-5D. The preoperative mean age was 41.3 years, mean BMI was 46.3, and 83.3% were female. Completion rates of BODY-Q and EQ-5D were 52%. Postoperative BODY-Q scores, EQ-5D domain scores, and VAS ratings improved significantly at every time point compared to preoperative scores except for the EQ5D Anxiety/Depression score, which initially improves until 6 months postop, when it returns to preoperative levels (Figure 1).

Conclusions:
Though patients who undergo SG improve significantly in terms of physical function-related domains, their mental well-being appears to improve only transiently and then return to preoperative levels. These findings may guide pre-emptive counseling of patients during their postoperative recovery.

A193

The Impact of Socioeconomic Factors on Patient Outcomes Following Longitudinal Sleeve Gastrectomy

Thuy Duong Doan *Worcester MA*[1], Lyle Suh *Worcester MA*[2], Jeremiah Hyslip *Worcester MA*[2], Nicole Cherng *Worcester MA*[3], Richard Perugini *Worcester MA*[3]
UMASS Chan Medical School[1] University of Massachusetts Chan Medical[2] UMASS Memorial Center[3]

Socioeconomic status (SES) is increasingly demonstrated to impact health. Lower SES has been associated with higher rates of readmission and lesser weight loss following bariatric surgery, though studies have not been consistent. The goal of this study was to investigate whether Area Deprivation Index (ADI), a multidimensional evaluation of an area's socioeconomic conditions, is associated with serious adverse events, weight loss, and remission of comorbidities following longitudinal sleeve gastrectomy (LSG).

This is a retrospective, single-centered study including 312 patients with morbid obesity undergoing LSG at a metropolitan academic hospital over two years. ADI was utilized as a comprehensive indicator of income, education, employment, and housing quality. Outcomes included serious adverse events (SAE), weight-loss at 6-months postoperatively, and remission of gastroesophageal reflux disease (GERD) and type 2 diabetes mellitus (T2DM).

275 patients with Massachusetts zip code had 6-month follow-up with recorded weight. Median ADI National Ranking (ADINatrank) was 42. There was no association between ADINatrank and SAE ($p = 0.703$). Median weight loss at 6 months was 21% total body weight loss and 46.98 %EBWL, and neither measure was associated with ADINatrank ($p = 0.168$, $p=0.568$). Neither remission of GERD ($p = 0.478$) nor T2DM ($p = 0.439$) were associated with ADINatrank.

We determined that for our study population, ADI does not impact SAE, weight-loss at 6-months, or remission of T2DM or of GERD following LSG. Adequate outcomes can be achieved despite lower SES. We plan to expand upon the cohort size, and duration of follow-up to assess SES long-term impact.

A194

The effect of suture fixation of twisted sleeves on symptomatic functional stenosis and surgical revision

Felix Thibeault *Montréal* [1], Aghiles Abbad *Montréal* [2], Radu Pescarus *Montreal* [1], Ronald Denis *Montréal* [1], Anne-Sophie STUDER *Montreal* [1], Adam Di Palma *Montreal* [1], Pierre Y. Garneau *Monteral* [1]

Hôpital Sacré-Coeur de Montréal[1] University of Montreal[2]

Background: One of sleeve gastrectomy (SG)'s most dreaded complications is stenosis, which can present as narrowing at the incisura or longitudinal twist (functional stenosis). Twists may form postoperatively but are probably often present at index surgery. It is unknown whether fixating the crooked stapple line to the surrounding omentum or retroperitoneum can prevent symptomatic functional stenosis (FS).

Objective: To evaluate the effect of running suture fixation of twisted sleeves on symptomatic FS and surgical revision.

Methods: We retrospectively reviewed prospectively collected data from 110 bariatric patients (85.5% females) who underwent SG between 2018 and 2022 at our institution. The cohort had a mean age of 45.3 years, BMI of 48.4 kg/m^2 and follow-up of 14.8 months. 54 twisted sleeves were retrieved and were either fixated (group A, n=33) or not (group B, n=21) according to surgeon's preference. 54 normal non-twisted sleeves were randomly selected as controls (group C). Follow-up data was collected for clinical GERD symptoms, FS on esophagogastroduodenoscopy and reoperation for FS.

Results: Symptomatic FS developed in 3% of group A, 9.5% of group B and 3.6% of group C. Surgical revision for FS occurred in 3% of group A, 4.8% of group B and 3.6% of group C. Sleeve fixation was associated with a significant decrease in post-operative GERD symptoms (OR 0.18; 95% CI 0.05-0.71).

Conclusion: Fixation of twisted sleeves may decrease post-operative GERD symptoms. More prospective randomized data is needed to confirm the possible trend toward decreasing the occurrence of FS upon fixation of twisted sleeves.

A195

Expected Weight Loss After Completion of a Duodenal Switch Remote from Vertical Sleeve Gastrectomy.

Arturo Torices Dardon *Abington PA*[1], Bakhtawar Mushtaq *Abington PA*[1], Candice Chipman *Warminster PA*[1], Luca Giordano *wyncote PA*[1], Gintaras Antanavicius *Warminster PA*[1], Kristin Noonan *Warminster PA*[1], Mary Naglak *Abington PA*[1]
Abington Jefferson Health[1]

Background/Aim:

Failure of desired weight loss and weight regain are common after bariatric surgery given the chronic, relapsing physiology of obesity. Interventions for secondary treatments need to be characterized.

Methods:

We conducted a single institution retrospective chart review from 2012 to 2021. The inclusion criteria included completion of minimally invasive BPD/DS ≥18 months from vertical sleeve gastrectomy (VSG). The primary endpoint was percent excess body weight loss (%EBWL) at 12- and 18-months post completion.

Results:

Eighty patients met the inclusion criteria, however 47 were excluded for poor follow-up data (N=33). Analyses included means, frequencies, and percentages; analysis of variance was used to compare means between groups; patients were grouped by age, gender, race, and BMI.
72% of patients were females. The average age was 46±11yrs, average time between VSG and BPD/DS completion was 5±3years, and average BMI before completion was 46±6kg/m2.
%EBWL after BPD/DS was 37±16% at 12 months and 43±17% at 18 months.
No significant differences were noted in post completion %EBWL between patients in the younger (<40yrs) or older (≥40yrs) age groups. Lower pre-completion BMI (<45kg/m2) was associated with higher 12 month post completion %EBWL 48±18% vs 32±13% for ≥45kg/m2 (p=0.011). Self-identified African American patients demonstrated greater weight loss than self-identified White patients at 18 months post completion; 61±9 % vs. 37±15%. (p=0.0047).

Conclusion:

Patients with poor weight loss or weight regain after vertical sleeve gastrectomy can benefit from the completion of BPD/DS regardless of the time interval. Completion of DS is an effective treatment for chronic obesity.

A196

Safe Adoption of Stomach Intestinal Pylorus-Sparing Surgery (SIPS) in a Community Practice: A CUSUM Analysis of Learning Curve

Mark Jonker *Howell MI*[1], Tommy Ivanics *Detroit MI*[2], Ahmad Hider *Ann Arbor MI*[3], Hollis Hutchings *Detrioit MI*[2], Eric Davies *Howell MI*[2], Oliver Varban *Detroit MI*[2]
Trinity Health, Livingston, MI[1] Henry Ford Health System[2] University of Michigan Medical School[3]

Introduction:

Stomach intestinal pylorus-sparing surgery (SIPS) is an emerging procedure with unique technical challenges that may affect safe adoption and overall utilization.

Methods:

Data on all SIPS cases was captured in a prospective manner from a single-center, two-surgeon community practice who adopted the procedure in 2021. (n=82) Patient and surgeon characteristics, operative details and 30-day complication rates are reported, and cumulative summation (CUSUM) analysis of operative time and case volume was performed.

Results:

A total of 61 primary SIPS (pSIPS) and 21 sleeve gastrectomy to SIPS conversion (cSIPS) were performed between 3/10/2021 and 11/28/2022. All cases were performed robotically. Mean age for pSIPS and cSIPS cases was 40.0 years and 46.2 years, respectively, and mean body mass index (BMI) was 51.3 kg/m^2 and 43.1 kg/m^2. Mean length of stay was similar for both pSIPS and cSIPS (1.56 days and 1.38 days, respectively) and there were no complications in either group. Mean operative time at the console was 109 min for pSIPS and 80 min for cSIPS. Approximately 39 cases were required to achieve surgical proficiency for pSIPS and 9 cases for cSIPS. (Figure 1 and Figure 2). Surgeons had a combined total bariatric operative experience of 979 cases since 2015 (8.7% revisions). During the SIPS study period 88% of all bariatric cases were performed robotically.

Conclusions:

SIPS can be performed safely in a community practice with appropriate patient selection and by bariatric surgeons with robotic experience. Conversion cases had a faster learning curve than primary cases.

A197

Enhanced recovery after surgery (ERAS) improves clinical outcomes in adolescent bariatric surgery

Nicholas Schmoke *New York NY*[1], Tania Gennell *New York City NY*[1], Dana Schapiro *New York* [1], Ashley Hiep Catarino *NY NY*[1], Matthew Alexander *New York NY*[1], Alexander Chalphin *New York NY*[1], Robert Crum *New York NY*[2], Jeffrey Zitsman *New York NY*[1]
Columbia University[1] Columbia Univeristy[2]

Purpose: Enhanced recovery after surgery (ERAS) protocols are evidence-based, multimodal approaches to optimize patient recovery and minimize complications. The purpose of our study was to evaluate clinical outcomes following the implementation of an ERAS protocol for adolescents undergoing bariatric surgery.

Methods: We performed a single-institution retrospective review of adolescents who underwent bariatric surgery between August 2021 and November 2022. Unpaired t-tests and Fisher's exact test were used to compare means between groups and categorical factors.

Results: 43 patients were included in the study, 21 who participated in the ERAS protocol and 22 control patients. ERAS cohort was 52% female, with a median age of 17.5 years and average body mass index (BMI) of 46.3. The non-ERAS cohort was 59% female, with a median age of 16.7 years and average BMI of 44.9. There were no significant differences between baseline characteristics. Patients in the ERAS group had a shorter length of stay (1.5 days vs. 2.0 days, p = 0.01), faster time to oral intake (10.7 hours vs. 21.5 hours, p=0.001), and lower morphine milligram equivalents (13.0 vs. 26.7, p=.01). There were no significant differences between returns to the emergency department (ED) within 30 days (3 vs. 2, p= 0.66) or rehospitalizations (0 vs. 0, p = 1.0).

Conclusion: Preliminary data suggests an ERAS protocol is safe and effective in adolescent metabolic bariatric surgery resulting in shorter time to oral intake, reduced narcotic requirements, and shorter hospital lengths of stay with no increase in return visits to the ED or rehospitalizations.

A198

Impact of health factors county health ranking on short-term primary bariatric surgery outcomes

Abigail Pohl *Jacksonville FL*[1], Spencer Trooboff *Jacksonville FL*[1], Aaron Spaulding *Jacksonville FL*[1], Launia White *Jacksonville FL*[1], Michael Edwards *Ponte Vedra Beach FL*[1]
Mayo Clinic Florida[1]

BACKGROUND: This study aims to evaluate the relationship between county health ranking (CHR) and short-term primary metabolic and bariatric surgery (MBS) outcomes.

METHODS: Data source was 2010-2021 Mayo Clinic Metabolic and Bariatric Surgery Accreditation and Quality Improvement Project databases. Primary cases were identified by current procedural terminology codes 43644, 43645, 43659, 43775. Patient characteristics, procedural data, and 30-day occurrences were collected. Health factor CHR was determined by zip code and stratified into best, middle, and worst terciles. Primary outcome was morbidity. Logistic regression determined the correlation between CHR and morbidity.

RESULTS: 4,315 MBS cases were analyzed, with 64%, 27.4% and 8.6% living in the best, middle, and worst tercile of CHR, respectively. Patients in the middle and worst CHR terciles were more commonly older, non-Hispanic black or Hispanic, with pre-existing COPD, coronary intervention, partial dependence, hypertension, therapeutic anticoagulation, dialysis-dependence, IVC filter and have an ASA above three. Middle and worst CHR tercile patients were also more likely to have a sleeve gastrectomy, utilization of the robotic platform and procedure performed by a General Surgeon. Patients in the worst CHR tercile were less likely discharged to home. Sleeve gastrectomy had lower morbidity risk. ASA≥3, dialysis-dependence and COPD independently correlated with morbidity risk (***Table***). Mortality and morbidity were similar across CHR terciles. There was no significant correlation between CHR terciles and overall morbidity.

CONCLUSION: Higher risk MBS patients are more likely to be from counties with lower CHR. However, CHR was not associated with 30-day MBS morbidity.

A199

HOME HOSPITAL FOR SLEEVE GASTRECTOMY

Sherif Aly *Boston MA*[1], Thomas Tsai *Boston MA*[1], Eric Sheu *Boston MA*[1], Ali Tavakkoli *Boston MA*[2], Robert Matthews *Boston MA*[2], Kavya Pathak *Boston MA*[2], Safwan Sarker *Boston MA*[2], David Levine *Boston MA*[2], Ashley Vernon [2]
Brigham & Women's Hospital[1] Brigham & Women's Hospital[2]

Background:
Home hospital redesigns care by providing hospital-level care at home with clinician visits and continuous biometric monitoring. Prior work in medical patients has shown improved mobility, decreased readmission and cost. We sought to investigate this approach in patients undergoing sleeve gastrectomy - the most commonly performed bariatric operation with a typical 1-2 day hospital length of stay. We present our initial experience.

Methods:
Patients (21-55 years old) undergoing sleeve gastrectomy are screened for a randomized controlled trial of home hospital versus usual in-hospital care at an urban academic center. Patients must live within 10 miles of the hospital and have a caregiver at home for the first night. Exclusion criteria include BMI >55; kidney, heart or thromboembolic disease; anticoagulation; and chronic pain/NSAID allergy. Patients are monitored post-operatively for 3 hours before being transported home.

Results:
To date, 11 patients have been enrolled. Home hospital patients receive nurse, paramedic, and physician visits. They are continuously monitored and have 24/7 access to their care team. The surgical team conducts telemedicine rounds and orders are written electronically. Patients are seen by an internal medicine physician daily and have scheduled nursing visits to administer fluids and medications. One patient developed severe post-operative hemorrhage that was accurately diagnosed at home by vital sign changes and lab work. The patient was expeditiously transferred to the OR for exploration.

Conclusion:
In our early experience, the home hospital care model can be implemented in selected post-operative patients and appears able to respond to major surgical complications effectively.

A200

Comparison of outcomes in patients undergoing SAGB vs RYGB in 2020 and 2021

Safraz Hamid *New Haven CT*[1], Joseph Canner *New Haven CT*[1], Grace Chao *New Haven CT*[1], Karen E Gibbs *Bridgeport CT*[1]
Yale New Haven Health[1]

Background: Roux-en-Y Gastric Bypass (RYGB) is considered the gold standard for weight-loss surgery. The Single-Anastomosis Gastric Bypass (SAGB), initially described at the beginning of the century as an alternative to RYGB, has only recently been approved by the American Society for Metabolic and Bariatric Surgery. SAGB simplifies the RYGB through creation of a single anastomosis. Our goal was to compare the initial outcomes of SAGB with RYGB.

Methods: Patients who underwent laparoscopic SAGB or RYGB in 2020 and 2021 were identified in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database. We used a coarsened exact matching strategy to match patients who underwent SAGB to patients who underwent RYGB based on age, BMI, sex, operation length, race, and ASA classification.

Results: Of the 85,426 patients included in the study, 2,282 (2.7%) underwent SAGB and 83,144 (97.3%) underwent RYGB. Between 2020 to 2021, when compared with RYGB, SAGB was associated with fewer superficial surgical site infections (IRR 0.30, 95%CI [0.11, 0.81]), transfusions (IRR 0.25, 95%CI [0.11, 0.57]), ICU admissions (IRR 0.30, 95%CI [0.12, 0.71]), GI bleeding (IRR 0.29, 95%CI [0.12, 0.70]), and re-operations (IRR 0.67, 95%CI [0.47, 0.97]). There were no significant differences in rates of anastomotic leaks, deep organ/space infections, and venous thromboembolism.

Conclusion: While limited by the number of cases currently available in the MBSAQIP, the data from 2020 and 2021 suggests that SAGB may be a safe option for patients. Additional review of clinical outcomes will help to establish its place in the surgical armamentarium.

A201

Rural Bariatric Surgery: Definitions, Analysis, and Outcomes in Southwest Virginia

Bavana Ketha *Roanoke VA*[1], Arnold Salzberg *Roanoke VA*[1], ASHLEY GERRISH *ROANOKE VA*[1], Kristin McCoy *roanoke VA*[1]
Carilion Clinic[1]

Introduction: Rural bariatric surgery requires special consideration as it is characterized by increased case complexity, late presentation, and lack of access to care. We hypothesize that this leads to barriers in care of complex patients and changes in practice patterns for procedure selection. This study aims to define the characteristics and challenges for rural bariatric care in Southwestern Virginia.

Methods: We identified metropolitan, urban, micropolitan, and rural areas in Virginia by using Centers for Medicaid and Medicare services ambulance density data, census data, and rural-urban commuting area codes. Once delineated, the rural population was then compared to the non-rural population over a one-year period.

Results: 622 patients were identified in the rural population compared to 518 in the non-rural population. Patient characteristics such as BMI (48 vs 47) and average weight loss in 30 days (5.34% vs 5.18%) were similar. Obesity related co-morbidities including diabetes (8.68% vs 7.92%), OSA (39.39% vs 34.94%), HTN (50.48% vs 45.75%), and HLD (22.99% vs 20.66%) were more prevalent in the rural population. Unplanned reoperations occurred in 28 v 11 (p = 0.03) and unplanned readmissions in 21 v 19 (p= 0.34) patients in the rural vs non-rural population.

Conclusions: Rural bariatric surgery has unique challenges in presentation, treatment, and outcomes. Similar census-based methods can be applied to other states to define their rural communities. Complication rates remain nominal between the populations. This suggests that bariatric surgery can be performed safely in rural populations.

A202

A Comparative Institutional Analysis of Robotic versus Laparoscopic Revisional Bariatric Surgery

Spyridon Giannopoulos *Indianapolis IN*[1], Mohammad Kalantar *Indianapolis IN*[1], Marisa Embry *Carmel IN*[2], Dimitrios Stefanidis *Carmel IN*[1]
Indiana University School of Medicine[1] Indiana University Health North Hospital[2]

Background: Revisional bariatric surgery (RBS) is becoming more frequent and is associated with higher operative risks. Whether robotic assistance confers any benefit in RBS is unclear. We aimed to compare the outcomes of robotic RBS vs. laparoscopic RBS.

Methods: The outcomes of patients from an academic MBSAQIP center of excellence who underwent RBS from 2018 to 2020 and had 1-year follow-up were reviewed. The robotic and laparoscopic RBS outcomes were compared using univariate and multivariate linear and logistic regression models as appropriate.

Results: 116 elective cases (32.8% robotic RBS vs. 67.2% laparoscopic RBS) were included, with 93.1% of patients being female and 52.4±12.1 years old. The procedure duration was significantly longer in the robotic vs. laparoscopic RBS group (247.1±77.7 vs. 197.5±54.2; $p<0.001$). However, the 30-day emergency department (ED) visit rate and the number of visits were fewer in robotic RBS (7.9% vs. 26.9%, $p=0.019$ and 0.1±0.4 vs. 0.3±0.6; $p=0.023$, respectively) and hospital stay shorter (2.2±1.9 vs. 3.2±3.6; $p=0.093$; Table 1) compared to laparoscopic RBS. No significant differences were detected in readmissions, reoperations, reinterventions, intra- and post-operative occurrences, total weight loss, albumin and hematocrit change, glycosylated hemoglobin, and comorbidity resolution during follow-up (Table 1).

Conclusions: Robotic RBS was associated with increased procedure duration but lower 30-day ED visit rates and a trend toward decreased hospital stay compared to laparoscopic RBS. Our study findings suggest that there may be outcome benefits to using robotic assistance in revisional bariatric surgery. Randomized clinical trials are needed to better elucidate our findings.

A203

Hedonic Hunger Prospectively Predicts 24-Month Outcomes of Adjunctive Treatments Following Bariatric Surgery

Abigail Metzler *New Haven CT*[1], Caitlin Smith *New Haven CT*[1], Valentina Ivezaj *Milford CT*[1], Carlos Grilo *New Haven CT*[1]
Yale University[1]

This study examined the prognostic significance of hedonic hunger in a treatment study of scalable adjunctive treatments for loss-of-control (LOC) eating delivered six months following bariatric surgery. Hedonic hunger refers to a powerful drive to eat highly tempting foods even in the absence of physiological hunger. This construct (relevant in our palatable food abundant society) has been linked with disordered eating, yet its prognostic utility remains unknown. 140 participants in a controlled treatment study examining 12-week scalable interventions for recurrent LOC-eating following bariatric surgery were assessed at baseline, post-treatment, and at 24-month follow-ups (33 months post-surgery) by independent assessors. 89% completed post-treatment assessments and 87% completed 24-month follow-ups. Hedonic hunger was assessed using the Power of Food Scale (PFS) at baseline and used to predict outcomes (LOC-eating frequency, percent weight loss, and depression) at post-treatment and at 24-month follow-up assessed using validated measures for the treatments overall (aggregated outcomes as they did not differ across treatments). Regression analyses revealed that baseline PFS scores significantly predicted LOC-eating frequency, eating-disorder psychopathology, and depression scores (*p*-values <.05), but not percent weight loss, at post-treatment and 24-month follow-up. Among participants with recurrent LOC-eating following bariatric surgery, greater hedonic hunger at the start of adjunctive treatments delivered 6-months postoperatively significantly predicted short- and longer-term psychosocial outcomes but not weight changes. Our findings suggest the importance of developing and integrating improved methods for coping with psychological drives to consume palatable foods in our society's food-abundant environment into postoperative adjunctive interventions post-bariatric surgery.

A204

Psychological and neurocognitive correlates in adolescents undergoing laparoscopic sleeve gastrectomy

Brittany Matheson *Stanford CA*[1], Matias Bruzoni *Palo Alto CA*[1], Janey Pratt *Palo Alto CA*[1]
Stanford University School of Medicine[1]

Background: Metabolic and bariatric surgery (MBS) is an effective treatment for severe obesity. Yet, research on predictors of MBS outcomes in adolescents is limited. Thus, there is a critical need to identify pre-surgical factors that predict health outcomes and comorbidity resolution in youth.

Methods: This longitudinal study examined psychological, cognitive, and familial factors in 12-18-year-olds undergoing laparoscopic sleeve gastrectomy. Participants were recruited from the Stanford Children's Health Adolescent Bariatric Surgery Clinic from May 2020 to August 2021. Participants completed pre-MBS (baseline) and six-months post-MBS procedures assessing psychological functioning and loss of control (LOC) eating. Anthropometric data was collected from the electronic medical record.

Results: Twenty-one adolescents (M ± SD: 15.9 ± 2.00 years; 48.45 ± 5.95 kg/m^2; 57% female; 57% Hispanic) provided baseline data and twenty adolescents completed six-month follow-up (95%). At baseline, one-quarter of the sample (n=5) reported LOC eating in the prior month. Depression (n=11; 52.4%) and anxiety (n=7; 33.3%) were commonly reported. Post-MBS, LOC eating (n=2; 9.5%) and anxiety (n=0; 0%) decreased. Depression levels remained elevated (n=12; 57.1%). Baseline depression and anxiety were not correlated with total weight loss (r's=.06-.38). Adolescents with LOC eating pre-surgery had greater total weight loss compared to adolescents without LOC eating (26.3% versus 19.1%; Cohen's d=-1.28, CI: -2.375, -0.161).

Conclusion: Anxiety levels and LOC eating decreased at 6-months following MBS in adolescents, however no change in depression was noted. Future studies are needed to identify pre-surgery interventions to improve MBS outcomes in youth.

A205

Hiatal Hernia Repair After Roux-en-Y Gastric Bypass

Tiffany Vaughan *Cleveland OH*[1], Gustavo Romero-Velez *Cleveland OH*[2], Juan Barajas-Gamboa [3], Jerry Dang *Cleveland OH*[2], John Rodriguez [2], Salvador Navarrete *Cleveland OH*[2], Andrew Strong *Cleveland OH*[2], Raul Rosenthal *Weston FL*[4], Ricard Corcelles *Cleveland OH*[2], Matthew Kroh *Cleveland OH*[2]

Case Western Reserve University School of Medicine, Cleveland, OH[1] Cleveland Clinic, Cleveland, OH[2] Cleveland Clinic, Abu Dhabi, UAE[3] Cleveland Clinic Florida, Weston, Fl[4]

Introduction:

Hiatal hernia (HH) with pouch migration after Roux-en-Y Gastric Bypass (RYGB) is a rare, yet serious complication that requires surgery. The aim of this study was to evaluate the resolution of symptoms in patients with HH repair after prior RYGB.

Patients and Methods:

A retrospective study was conducted from 2010 to 2022. Patients with HH repair alone after prior RYGB were included. Patients undergoing concurrent revisional bariatric procedures were excluded. Baseline characteristics and surgical outcomes were evaluated.

Results:

Forty-four patients were included. Median time from index RYGB to HH repair was 5 years. The median BMI at HH repair was 30 kg/m^2. From reports available, four patients had concomitant HH repairs at initial operation. The most common presenting symptoms of hernia were dysphagia (48%), gastric reflux (39%), and abdominal pain (36%). The median size of HH was 4 cm. 98% of HH repairs were completed laparoscopically and 2% robotically. Nonabsorbable suture was used in 98% of patients, with bioabsorbable mesh in 30%. The median follow-up time was 28 days (range 12-117). 70% of patients reported full resolution of symptoms, 23% partial resolution, and 7% no resolution. At follow up, 2% had evidence of radiologic recurrence and 2% symptomatic recurrence.

Conclusions:

This is the largest series of hiatal hernia repair alone after previous RYGB. HH with pouch migration after RYGB commonly manifests with dysphagia and reflux. Surgical repair yields a high rate of symptom resolution in the short term. Longer follow-up is needed to evaluate durability of this intervention.

A206

Surgical management of proximal leak after sleeve gastrectomy

Ryan Chin *Bronx NY*[1], Ya Zhou *Bronx NY*[1], Diego Camacho [1]
Montefiore Medical Center[1]

The Nissen-sleeve is an alternative procedure to the roux en Y gastric bypass to treat patients with obesity and GERD. This procedure has shown to have promising weight loss results with a relatively low complication rate. Early postoperative proximal leaks have been reported, with overall good outcomes with early surgical intervention. This is a case of a 51-year-old female with obesity and Nissen fundoplication who underwent a sleeve gastrectomy at an outside hospital. Her outside course was complicated by necrosis of the fundoplication, subsequent resection, and proximal sleeve leak. She underwent multiple stents and endoscopic suture repairs but continued to have worsening sepsis and an uncontained leak. She was taken for laparoscopic total gastrectomy with a postoperative course complicated by esophageal stump dehiscence managed with endoscopic esophageal drain placement. The patient has been recovering at home on parental nutrition and is planned for esophagojejunostomy reconstruction in December 2022. There is no clear etiology of this complication, however, it is possible that the sleeve created torque on the wrap leading to an ischemic complication. This case illustrates that while Nissen-sleeve procedures are feasible, the roux en Y gastric bypass remains the gold standard for patients with obesity and GERD. Additionally, the safest approach in complex cases such as this would be to take down the fundoplication at the initial sleeve operation and to transfer complex cases to a tertiary center for management of complications.

A207

Intragastric Satiety-Inducing Device Combined with Photodynamic Therapy to Treat Obesity

Ji Won Kim *Seoul* [1], Hee Kyong Na *Seoul* [1], Do Hoon Kim *Seoul* [1], Jin Hee Noh *Seoul* [1], Jinmi Park *Seoul* [1], Hwoon-Yong Jung *Seoul* [1], Jung-Hoon Park *Seoul* [1]
Asan medical center[1]

An intragastric satiety-inducing device (ISD) is a minimally invasive approach to induce satiety by continuously pressing the stomach and stimulating ghrelin-producing cells. Photodynamic therapy (PDT) can be combined by generating singlet oxygen under laser irradiation to enhance the effects of ISD. This study aimed to investigate the efficacy and safety of PDT plus ISD to suppress weight gain in a mini pig. Characteristics of chlorin e6 (Ce6), photosensitizer for PDT, samples were evaluated including photo-responsive cell death. Ce6 was conjugated with polymer to homogeneously coat on the disk portion of the ISD. Twelve mini pigs were randomized into control, single PDT, ISD, and ISD plus PDT groups with three in each. The therapeutic effectiveness was assessed by comparing weight changes, hormone levels, and histological examination. Cell death increased 3.2-fold at concentration of 5 μg/mL compared to the absence of laser irradiation. All ISD migrated into the stomach at 2-3 weeks. The results of study, ISD plus PDT proved to be the most effective for wight loss. Their changes of body weight (control: 28% vs ISD plus PDT: 4%, $p < 0.001$), ghrelin (control: 4% vs ISD plus PDT: -35%, $p < 0.001$) and leptin levels (control: 8% vs ISD plus PDT: 35%, $p < 0.001$) were significantly affected. Histological examination results were similar. Photoreactive ISD can be easily accessed via minimally invasive approach and effectively stimulated ghrelin producing cells. Combination therapy was safe and effective to suppress weight gain by reducing ghrelin hormone secretion in a mini pig model.

A208

Conversion of standard Roux-en-Y gastric bypass to distal bypass for weight loss failure and metabolic syndrome: 7-year follow-up and evolution of technique to reduce nutritional complications

Kayla Ikemiya *Fresno CA*[1], Morgan McGrath [1], Amarita Klar *Fresno CA*[2], Keith Boone *Fresno CA*[2], Kelvin Higa [2], Pearl Ma [2]

Fresno Heart and Surgical Hospital[1] UCSF Fresno/ALSA, Community Health Partners[2]

Introduction: Standard proximal Roux-en-Y gastric bypass (RYGB) results in inadequate weight loss in up to 35% of cases. Short to intermediate-term studies involving the conversion of standard RYGB to type 1 distal bypass have shown improved and sustained additional weight loss and impact on obesity-related comorbidities, particularly metabolic syndrome. This study aims to assess long-term sustainment of weight loss, comorbidity remission, and nutritional complications of type 1 distalization as a revision of RYGB.

Methods: A retrospective review of all patients who underwent conversion to distal RYGB at a single center from 2010 to 2016 was performed. RYGB was modified by dividing the Roux limb at the jejunojejunostomy and transposing it distally to create a total alimentary limb length of 400 cm.

Results: Ninety-six patients underwent type 1 distalization with an average weight and BMI of 244.0 lbs and 40.57 kg/m2, respectively. At 7 years postoperative, there was a significant decrease in BMI to 34.2 kg/m2 ($p= 0.0001$, n=33). Additionally, 66.7% and 42.9% of patients achieved remission of diabetes and hyperlipidemia, respectively. There was no significant difference between albumin and protein levels at 7 years postoperative compared to pre-distalization ($p= 0.147$), suggesting a lack of nutrition deficiencies.

Conclusion: Revision of proximal RYGB to type 1 distalization results in substantial improvement in weight loss, greater remission of comorbidities, and maintenance of nutritional levels long-term.

A209

Evaluating Outcomes among Surgeons who Changed their Technique for Gastric Bypass: A State-Wide Analysis from 2011 to 2021

Ahmad Hider *Ann Arbor MI*[1], Hollis Hutchings *Detrioit MI*[2], Aaron Bonham *Ann Arbor MI*[3], Amir Ghaferi *Milwaukee WI*[4], Jonathan Finks *Ann Arbor MI*[3], Anne Ehlers *Ann Arbor MI*[3], Jeffrey Friedman *Gainesville FL*[2], Oliver Varban *Detroit MI*[2]
University of Michigan Medical School[1] Henry Ford Health System[2] University of Michigan[3] Medical College of Wisconsin[4]

Introduction:
Although certain technical aspects of laparoscopic gastric bypass (LRYGB) have been found to impact postoperative outcomes, it is unclear whether surgeons who have changed their technique have experienced improvement in their outcomes.

Methods:
Surgeons (n=31) participating in a state-wide bariatric specific quality improvement collaborative were asked to complete a survey on how they perform a typical LRYGB in 2011 and again in 2021. Risk adjusted 30-day complication rates for cases in 2011 were compared to those in 2021 among surgeons who changed their gastrojejunostomy technique from end-to-end anastomosis (EEA) to either a linear staple or handsewn anastomosis (LS/HS).

Results:
A total of 13 surgeons (41.9%) changed their technique from EEA to LS/HS. Changes in technique were associated with decreased rates of surgical complications (9.9% in 2011 vs. 6.7% in 2021; p=0.0013), wound infection (4.7% in 2011 vs. 3% in 2021; p=0.0083), and strictures (2.6% in 2011 vs. 0.2% in 2021; p=0.027). In addition, surgeons who changed their technique had a significant increase in overall mean robotic volume (7.6 cases in 2011 vs. 46.8 cases in 2021; p=0.0020) during the study period.

Conclusions:
Nearly half of the surgeons changed their gastrojejunostomy technique from circular stapled to handsewn over the course of a decade. These surgeons had significant reduction in postoperative complications, including wound infection and strictures, and were major adopters of robotic surgery.

A210

'Candy cane' syndrome or internal hernia? Why is the patient having chronic pain after Roux-en-Y gastric bypass

TONNY ORACH *New York NY*[1], Maria Fonseca *Brooklyn NY*[2], Javier Andrade *Brooklyn NY*[2]
Harlem Hospital Center[1] Woodhull Medical Center[2]

Background: 'Candy cane' syndrome and internal hernia are late complications of Roux-en-Y gastric bypass with overlapping presenting symptoms. The similarity in presentation poses a diagnostic challenge requiring high index of suspicion and thorough diagnostic workup. Here we present a series of 17 patients with preoperative diagnosis of candy cane syndrome who underwent laparoscopic resection of the candy cane. 13 out of the 17 patients were found to have large mesenteric hernia defects intra-operatively.

Objective: To assess symptom resolution after resection and/or repair in patients who had 'candy cane' syndrome alone compared to those who had 'candy cane' syndrome plus internal hernia.

Methods: We conducted retrospective analysis of all patients who underwent resection of 'candy cane' between 2019 and 2021 after preoperative workup suggestive of 'candy cane' syndrome. Data was analyzed using Student's t test and χ^2 analysis where appropriate

Results: All patients presented with abdominal pain with 40% having additional symptoms of nausea, vomiting, reflux or bloating. After resection, 3 out of 4 patients who did not have internal hernia had complete resolution of their symptoms while only 6 out of 13 patients with internal hernia had resolution of their symptoms.

Conclusion: Candy cane syndrome can cause persistent abdominal pain, nausea or vomiting after RYGB. Most patients have resolution of symptoms after resection however the presence of internal hernia in addition to candy cane syndrome seems to portend poor response to resection and raises the question of whether these symptoms are due to the hernia rather than the 'candy cane'

A211

Improved Postoperative Pain Management Following Implementation of a Bariatric Enhanced Recovery Program

Stephanie L. Rakestraw *Birmingham AL*[1], Adam Lucy *Birmingham AL*[1], Lauren Wood *Birmingham AL*[1], Daniel Chu *Birmingham AL*[1], Jayleen Grams *Birmingham AL*[1], Richard Stahl *Birmingham AL*[1], Margaux Mustian *Birmingham AL*[1]
University of Alabama at Birmingham[1]

Background: Enhanced Recovery Programs (ERPs) have been introduced in many surgical specialties with improved perioperative outcomes. Multimodal, opioid-sparing analgesia and preoperative nerve blocks are key tenets of ERPs that promote better postoperative pain control. This study aimed to examine the impact of bariatric surgery ERP implementation on opioid utilization at a single institution.

Methods: A retrospective cohort study was conducted among patients undergoing minimally invasive bariatric surgery at a single institution January 2017- May 2022. After bariatric ERP implementation in January 2020, the cohort was divided into pre-ERP (2017- 2019) and post-ERP (2020- 2022) groups. The primary outcome was opioid administration, calculated by oral morphine equivalents (OMEs), compared between the pre- and post-ERP groups. ERP adherence was also assessed in the post-ERP group.

Results: 770 patients were identified, including 366 pre-ERP and 404 post-ERP patients. Groups were similar in age, preoperative BMI, and sex (**Table 1**). Postoperative opioid use was lower after ERP implementation, with significantly fewer daily OMEs in the post-ERP cohort (35.0 [19.3-55.5] OMEs/day pre-ERP vs 17.5 [9.0-36.0] OMEs/day post-ERP, $p<0.001$). There were fewer OMEs per admission post-ERP (61.5 [30.0-101.8] pre-ERP vs 25.0 [12.0-50.0] post-ERP, $p<0.001$) (**Figure 1**). Adherence was high for many ERP components (**Figure 1**), including postoperative multimodal analgesia (88.4%) and preoperative block administration (85.6%).

Conclusions: Implementation of a bariatric surgery ERP was associated with significantly reduced daily and total opioid use during the hospital admission. Increased adherence with certain ERP components, such as preoperative block administration and multimodal analgesia, may further improve perioperative pain control.

A212

Achieving Durable Compliance with Venous Thromboembolism (VTE) Prophylaxis in Bariatric Surgery: 3-year Data from a Major Academic Medical Center

Danny Mou *Brookhaven GA*[1], Melissa Majumdar *Decatur GA*[2], Victoria Delgado *Atlanta GA*[2], Elissa Falconer *Atlanta GA*[2], Katherine Fay *Atlanta GA*[2], Caroline Hall *Atlanta GA*[2], Shanza Ashraf *Atlanta GA*[2], Lin Edward *Atlanta GA*[2], Scott Davis *Altanta GA*[2], Ankit Patel *Decatur GA*[2], Jamil Stetler *Atlanta GA*[2], Federico Serrot *Atlanta GA*[2], Jahnavi Srinivasan *Atlanta GA*[2], Omobolanle Oyefule *Atlanta GA*[2], Maggie Diller *ATLANTA GA*[2], Elizabeth Hechenbleikner *Atlanta GA*[2]

Emory University Department of Surgery[1] Emory University[2]

Background

Bariatric surgery venous thromboembolism (VTE) prescribing practices vary widely. Our institutional VTE prophylaxis protocol has historically been unstandardized. We aim to: 1) create a standardized VTE prophylaxis protocol for patients undergoing bariatric surgery, 2) track protocol compliance, and 3) identify barriers to compliance and address them with iterative Plan-Do-Study-Act (PDSA) cycles.

Methods

We conducted a retrospective study at a single academic hospital for all patients undergoing bariatric surgery (1/2019–2/2022). A multidisciplinary group of bariatric clinicians reviewed the literature and developed the following standardized VTE prophylaxis protocol: 1)5000 units preoperative subcutaneous (SC) heparin, 2)40mg SC low molecular weight heparin (LMWH) 9pm on postoperative day (POD) 0, 3)40mg SC LMWH starting POD1 daily for patients with BMI<40 and twice daily for patients with BMI≥40. This protocol was distributed to all relevant clinicians. We assessed monthly compliance rates through chart review. Goal compliance was 90%. We identified underlying barriers to compliance from 2/2020 to 9/2022. We addressed these barriers interventions per the PDSA method.

Results

A total of 796 patients were included. Preoperative heparin administration rates increased from 47% pre-intervention to 96% post-intervention (Figure 1A, $p<0.0001$). There was a 23% protocol defect rate (n=182/796). Key barriers to protocol compliance included orderset timing errors (n=45), surgeon error (n=44), surgeon discretion (n=40), and patient refusal (n=26; Figure 1B). There was no change in bleeding or VTE rates during the study period.

Conclusions

A standardized VTE prophylaxis protocol improved compliance rates significantly. Persistently identifying and overcoming compliance obstacles enabled maintenance of long-term high compliance.

A214

Bariatric Surgery for Low BMI Patients, a Registry Study

Michael Fastiggi *Springfield NJ*[1], Jennifer Goodwin *Summit NJ*[1], Tina Thomas *Springfield NJ*[1], James Buwen *Springfield NJ*[1], Ajay Goyal *Springfield NJ*[1]
Overlook Medical Center[1]

Objective: Weight loss surgery has been proven to improve comorbidities and quality of life by lowering excess weight. Indications for weight loss surgery include morbid obesity with BMI ≥40, or obesity with BMI ≥ 35 with comorbidities. However, patients with a lower BMI may benefit from excess weight loss. We therefore examined the outcomes of weight loss in patients with a BMI ≥ 35 or BMI ≥ 30 with comorbidities that have weight loss surgery.

Methods: Thirty patients who underwent weight loss surgery (sleeve gastrectomy vs roux-en-Y gastric bypass) were enrolled in the study. Data was analyzed from 2017-2021. Seventy-seven percent (23/30) of patients who were enrolled had beyond six months of follow-up data available. Patients that had less than six months of data for analysis were excluded. Change in BMI, body weight, and excess body weight loss percentage (EBWL%) were analyzed.

Results: Mean BMI at study commencement was 33.47. At the time of data analysis, mean BMI was 26.56. Mean excess percentage weight loss was 55.03%. Nearly 60% of patients lost a minimum of 50% of their excess body weight. Nine of sixteen patients (56.25%) with comorbidities had improvement or resolution. There were no complications or mortalities for study participants.

Conclusions: Weight loss surgery outcomes in patients with lower BMI is comparable to traditional BMI statutes. Our study population with lower BMI showed improvement of comorbidities and excellent weight loss. Strong consideration should be given to lowering BMI threshold for weight loss surgery in accordance with societal guidelines.

A215

Gastric cancer after RYGB; work-up and diagnosis of gastric outlet obstruction

Sarah Pivo *Los Angeles CA*[1], Scott Cunneen *Los Angeles CA*[1], Kulmeet Sandhu *West Hollywood CA*[1], Desmond Huynh *Los Angeles CA*[1], Kenneth Park *Los Angeles CA*[1], Rabindra Watson *Los Angeles CA*[1], Miguel Burch *Los Angeles CA*[2], Emily Cain *Los Angeles CA*[2]
Cedars Sinai[1] Cedars Sinai Medical Center[2]

Introduction: Diagnosis and treatment of gastric malignancy in the remnant stomach of patients with history of Roux-en-Y gastric bypass presents a unique challenge. Patients may not present with typical symptoms of vomiting and instead are more likely to present with abdominal pain.
Methods:This is a case series of three patients who presented with gastric outlet obstruction after Roux-en-Y gastric bypass. Workup included CT scan for diagnosis of outlet obstruction and endoscopic diagnosis and therapy.
Results: These patients underwent double-balloon enteroscopy. Stents were placed to relieve obstruction at the pylorus and tissue sampling obtained to secure a diagnosis. Of these patients, two were found to have gastric adenocarcinoma; one was found to have a benign stricture.
Discussion: Patients with history of gastric bypass and gastric malignancy may present with atypical symptoms of gastric outlet obstruction; our patients all presented with vague abdominal pain and distention. As patients with gastric bypass age, these cases may become more prevalent. Further research is needed to develop screening and treatment algorithms in these patients.
Conclusions: Gastric outlet obstruction of the remnant stomach should be considered in patients with history of gastric bypass who present with atypical symptoms. Double-balloon enteroscopy is a valuable tool, both for diagnosis and therapeutic intervention, in patients who present this way after gastric bypass.

A216

Advantages of totally robotic versus laparoscopic approach for performance of the duodenal switch

Dennis Smith *Celebration FL*[1], Sharon Krzyzanowski *Celebration FL*[1], Ciara Lopez *Celebration FL*[1], Cynthia Buffington *Celebration FL*[1]
AdventHealth[1]

Background. Although the duodenal switch (DS) is highly successful in inducing long-term weight loss and disease resolution, the procedure is complex and technically challenging. The robotic platform with its 3-D vision, intuitive motion, enhanced dexterity, and ergonomics may reduce surgeon challenges and risks. Previous robotic DS studies have been primarily performed using 'robotic-assistance'. In the present study, we have examined the outcomes of a series of 'totally robotic' (TR)-DS surgeries and compared these findings to DS procedures performed laparoscopic (Lap).

Methods. TR-DS surgeries were performed using the da Vinci Xi surgical system. Study groups included 20 TR-DS patients and 20 Lap-DS controls matched for age, BMI, and gender. All surgeries were performed by the same surgeon and under ERAS protocol. Outcomes included operative times, peri- and postoperative complications, and length of hospital stay (LOS).

Results. Characteristics of the TR-DS patients and Lap-DS controls were nearly identical: BMI=49.2, 49.1; age=45.0, 45.6; major co-morbidities=2.95, 3.0. Within the TR-DS series, operative times for the first 5 cases averaged 240 min but, thereafter, declined to a mean=185.2, an operative time comparable to the Lap-DS (184.8 min). With the TR-DS procedure, surgeon satisfaction was higher and fatigue considerably less than with laparoscopy. Three 30-day readmissions/reoperations and 0 mortalities occurred with TR-DS and two readmissions/reoperations with 1 mortality for the Lap-DS. TR-DS LOS was significantly lower than Lap-DS (1.24 vs. 1.67 days; p=0.02).

Conclusion. TR-DS is safe and efficacious with a low learning curve and surgical outcomes comparable, or superior, to conventional laparoscopy.

A217

Bariatric Surgery in Patients with Irritable Bowel Syndrome: An Analysis of the Nationwide Readmissions Database

Noah Wilson *Omaha NE*[1], Danielle Dilsaver *Omaha NE*[1], Ryan Walters *Omaha NE*[1], Kalyana Nandipati *Omaha NE*[1]
Creighton University School of Medicine[1]

Background

Bariatric surgery has been reported to produce durable weight loss, with sleeve gastrectomy (SG) being the most common procedure. Although obesity is a common comorbidity of inflammatory bowel disease (IBD), the impact of IBD on short-term bariatric surgery outcomes has not been widely reported. This study assessed whether IBD was associated with adverse post-SG outcomes.

Methods

We identified SG using the 2010-2019 Nationwide Readmissions Database (NRD) and stratified by diagnosis of IBD. The SG cohort was propensity matched based on age, biological sex, body mass index, comorbidity burden, and discharge month. Primary outcomes included in-hospital mortality, post-operative complications (composite of nausea, bowel obstruction, gallstones, incisional hernia, blood-loss anemia, ulceration, organ, hemorrhage, and infection), and all-cause 90-day readmission. Secondary outcomes included length of stay (LOS) and total hospital cost.

Results

A total of 1,838 hospitalizations were matched (Table 1). The odds of complication were 67% higher for hospitalizations in which the patient had IBD (12.7% vs. 8.0%; 95% CI: 25% to 122% higher, $p < .001$; Table 1). The most common complications included nausea (4.9% vs. 2.5%, $p = .002$) and gallstones (2.2% vs. 1.1%, $p = .069$). No statistically significant difference was observed for all-cause 90-day readmissions or LOS; hospital cost was 5% higher for hospitalizations in which the patient had IBD (Table 1).

Conclusions

IBD patients undergoing SG experienced significantly higher post-operative complication rates; however, IBD may not be a significant determinant of hospital readmission. The long-term safety of SG for patients with IBD remains an open question.

A218

Robotic vs. Laparoscopic Sleeve Gastrectomy to RYGB Conversion: A Propensity Score Matching Analysis Using the MBSAQIP 2020-2021 Database

Alba Zevallos *Randallstown MD*[1], Jorge Cornejo *Randallstown MD*[2], Michael O'Laughlin *Randallstown MD*[2], Gina Adrales *Baltimore MD*[3], Christina Li *Randallstown MD*[2], Alisa Coker *Baltimore MD*[3], Raul Sebastian *Randallstown MD*[2]
Department of Surgery,Northwest Hospital[1] Northwest Hospital[2] Johns Hopkins Hospital[3]

Introduction

Robotic revisional bariatric surgery has become increasingly popular across MBSAQIP centers. Our study aims to evaluate those trends and compare 30-day outcomes between robotic and laparoscopic SG to RYGB conversions.

Methods

To assess trends, the conversion/revision MBSAQIP variable was utilized to track case volume over the last 7 years. The 2020-2021 MBSAQIP database was then analyzed using the variable "conversion". Patients with robotic and laparoscopic conversion of SG to RYGB were identified. The cohorts were matched for 16 preoperative characteristics using propensity score matching analysis. Then, 30-day outcomes and bariatric-specific complications between robotic and laparoscopic SG to RYGB conversions were compared.

Results

Robotic secondary bariatric surgery increased from 8% in 2015 to 24% in 2021 (Figure 1). There were 1,871 and 6,842 cases of robotic and laparoscopic SG to RYGB conversions, respectively. Propensity-matched cohorts were 1,870 and the outcomes indicated that patients who underwent robotic SG to RYGB had significantly fewer unplanned ICU admissions (0.5% vs. 1.2%, p=0.019) and blood transfusions (1.1% vs. 1.9%, p=0.045) compared to the laparoscopic approach. The robotic approach had longer operative times (175.73 $\pm$ 71.80 min vs. 140.07 $\pm$ 68.73, p=0.013) and greater stricture formation (0.6% vs. 0.3%, p=0.031).

Conclusion

A robotic approach to secondary bariatric surgery has tripled in the past seven years. Robotic conversion of SG to RYGB can be performed safely with similar 30-day outcomes compared to a laparoscopic approach. While the robotic approach may take longer, there may be benefits observed in fewer unplanned ICU admissions and bleeding complications.

A219

Indications for Gastrojejunostomy Revision and the Diagnosis and Surgical Management of Candy Cane Syndrome

Ishna Sharma *Rochester MN*[1], Avantika Lakshmi Narasimhan *Rochester MN*[1], Kabir Mehta *Hazard KY*[1], Omar Ghanem *Rochester MN*[1], Todd Kellogg *Rochester MN*[1]
Mayo clinic[1]

Introduction

While the extant literature has considered surgical revisions of gastric bypass (RYGB) as a group, few have reported on the specifics of gastrojejunostomy (GJ) revision after RYGB. The aim of this study is to determine the relative incidence, indications, and workup for GJ revision and specifically for so-called candy cane syndrome (CCS).

Methods

Data was obtained through retrospective review of our institutional MBSAQIP database specifically examining GJ revisions performed from 2014-2021. Presenting symptoms, preoperative imaging, revision strategy, intraoperative findings, and postoperative outcomes were reviewed.

Results

Thirty-four GJ revisions were identified: 11 for short Roux limb/bile reflux, 6 for CCS requiring resection of the blind end of the Roux limb, 6 for ulceration, and the remainder for various indications. All 6 patients with presumed CCS had symptoms of postprandial epigastric pain and regurgitation of undigested food. Symptom improvement occurred in 2 after resection. In contrast to the nonresponders, both patients exhibiting improvement had a dilated blind limb and preferential filling on contrast UGI. The average blind limb length in patients whose symptoms improved was 7 cm, and 5.9 cm for those who did not improve.

Conclusion

There are multiple indications for GJ revision after RYGB, including CCS. Patients presenting with postprandial epigastric pain, regurgitation of undigested food, and who have a dilated blind limb that preferentially fills on contrast UGI appear to benefit from blind limb resection.

A220

Risk stratification of obstructive sleep apnea in adolescent bariatric surgery candidates

Michelle Kanney *Houston TX*[1], Stephanie Sisley *HOUSTON TX*[1], Stacy Flach *The Woodlands TX*[2], Shawn Stafford *The Woodlands TX*[2], Daniel Hsu *Houston TX*[1]
Baylor College of Medicine[1] Texas Children's Hospital[2]

Introduction: Screening for obstructive sleep apnea (OSA) represents a key element of the preoperative assessment of adolescent patients undergoing bariatric surgery. Yet no reliable screening tools exists to risk stratify patients to determine the need for polysomnogram.

Objectives: The aim of this study was to develop a risk-stratification model for OSA screening in adolescent patients seeking bariatric surgery.

Methods: Retrospective review of 111 medical records of participants seen in our institution's bariatric surgery program. Participants were divided into two groups, no/mild versus moderate/severe OSA (defined by obstructive apnea hypopnea index (OAHI) of <15 and $\geq$15, respectively). Demographic, anthropometric, metabolic, polysomnographic and co-morbidity related data were compared between groups. Regression models were used to determine clinical characteristics associated with OSA.

Results: Of the 111 participants studied (mean age 16.1 ± 1.3 years; 73.9% female), 60/111 (54.1%) had no/mild OSA and 51/111 (45.9%) had moderate/severe OSA. Those with moderate/severe OSA had significantly higher BMI (53.2 vs. 48.7 kg/m2, $p< 0.007$), lower 25-hydroxyvitamin D levels (15.4 vs. 18.6 ng/mL, $p<0.01$), and were more likely to be male (60.8% vs. 15.8%, $p<0.004$). Receiver operator analysis (ROC) of these clinical variables yielded an area under the curve receiver (AUC) of 0.68.

Conclusion:
Male gender, BMI $\geq$ 53 mg/kg2, and severe vitamin D deficiency were identified as independent predictors of moderate/severe OSA. However, the value of using them combined as a screening tool was only modest. Therefore, until reliable screening measures are developed, baseline polysomnography should be included in the preoperative assessment adolescent bariatric surgery candidates.

A221

Sleeve Gastrectomy Revision to Roux-en-Y Gastric Bypass in a Predominant Hispanic Population

Angela Lomas *Edingburg TX*[1], Jesus Garcia *McAllen TX*[2], Robert Alleyn *Edinburg TX*[3], Michael Martinez *Mcallen TX*[3], Ambrosio Hernandez *Edinburg TX*[3], Manish Singh *Edinburg TX*[4], R. Armour Forse *Edinburg TX*[3]
University of Texas at Rio Grande Valley[1] University of Texas Rio Grande Valley[2] Doctors Hospital at Renaissance[3] Doctors Hospital at Renaisance[4]

Background: Sleeve gastrectomy (SG) is the most common bariatric operation. Patients with a SG can develop weight gain or gastroesophageal reflux disorder (GERD) post operatively. These developments may lead to patients requesting a revision to alleviate symptoms or achieve desired weight loss. This study evaluated the use of revision Roux-en-Y gastric bypass (RYGB) for SG patients with weight regain and GERD in a predominantly Hispanic population.

Methods: This is a retrospective study of 61 patients who underwent revision of a SG to a RYGB. Patient's charts were reviewed and summarized with data calculated as the mean +/- standard error of the mean.

Results: 18 SG patients had revision to a RYGB for weight gain. Their pre revision weight was 262±9 lbs. with a last visit weight of 208±8 lbs. There were 44 SG patients who had RYGB revision for only GERD symptoms. 34 (77%) of these patients resolved their GERD with the RYGB. The 10 who continued with GERD required additional surgical procedures. 23 (45%) of the patients with GERD post SG had GERD symptoms prior to their SG.

Conclusion: In this predominantly Hispanic population, revision of a SG to a RYGB for weight regain resulted in an average of 54 lbs. weight loss. Revision for GERD symptoms resulted in 77% resolution of GERD symptoms. Gastric bypass should be considered for weight gain or GERD post SG. Patients with GERD symptoms pre bariatric surgery should consider a RYGB over a SG.

A222

Roll the dice: To Void or Not. Increasing same day discharges for post-operative bariatric surgery patients

Megan Sebek *Temple TX*[1], Amanda Parker *Florence TX*[1], Crystal Bohac *Temple TX*[1]
BSWH[1]

Purpose:

No criteria or data was found in regard to postoperative voiding requirements for bariatric patients going home the same day of surgery. The aim of this project was to determine if sending patients home without voiding postoperatively would result in positive outcomes.

Participants and Setting:

The setting for this quality improvement project was a 636 bed academic medical center in Texas. Data was collected from 1 surgeon patient population before expanding to 3 surgeons comprising the entire center's bariatric same day surgery population.

Methods:

Data was collected to determine any urinary complications postoperatively following same day bariatric surgery in patients who did not void in the hospital setting.

Outcomes:

Patients originally scheduled to go home the same day of surgery but required admission due to not meeting home criteria guidelines were evaluated. 60 percent of those admissions were due to the patient not voiding postoperatively. *There was no statistical significance noted in postoperative urinary complications when sending home patients prior to voiding postoperatively.

Conclusions/Implications for Practice (And now):

Discharge criteria for same-day bariatric surgery has now been changed to remove the postoperative void requirement after surgery. The implementation of interventions identified as best practices through clinical nurses' affiliation with ASMBS and TABS resulted in a 16% overall decrease in overnight admission secondary to urinary retention from October 2021 to January 2022.

Key words: bariatric surgery, post operative voiding, same day surgery, outpatient surgery

A223

The Insulin Response to Oral Glucose Tolerance Tests did not Diminish Following Prolonged Stimulation of the Vagus Nerve Celiac Branch in the Study of a Novel Bioelectronic Treatment for Type 2 Diabetes Mellitus

Jon Waataja *San Clemente CA*[1], Charles Billington *Minneapolis Minnesota*[2], Sayeed Ikramuddin *Minneapolis MN*[3]

ReShape Lifesciences Inc., San Clemente, CA[1] VA Medical Center, Minneapolis MN[2] University of Minnesota, Minneapolis MN[3]

Despite medication, surgery, and diet; type 2 diabetes mellitus (T2DM) remains challenging to effectively treat. We are developing a new therapeutic concept of using vagal neuromodulation which will offer an improved treatment experience for type 2 diabetics: minimizing noncompliance and treatment costs. It involves low frequency stimulation of vagal celiac fibers innervating the pancreas with simultaneous reversible high frequency alternating current conduction block of vagal hepatic fibers innervating the liver. This method has demonstrated increased glycemic control in a Zucker rat model of T2DM as well as in an alloxan treated swine model of T2DM.

In swine experiments (n=3) glycemic control was assessed by applying stimulation and block for the duration of six 4-hour oral glucose tolerance tests (OGTTs). The total accumulative time was 24 hours which may lead to beta cell exhaustion. To test for exhaustion blood insulin was measured during an OGTT prior to and following experiments. The insulin response was quantified by calculating the area under the curve (AUC) of insulin versus time (µIU/mL*min=area unit (AU)). First to note, there was an apparent, but non-significant, increase in baseline insulin following stimulation and block experiments. (pre-experiments =10.7±2.6 µIU/mL, post-experiments=15.4±2.9 µIU/mL, p=0.28). In terms of overall response there was no significant change in AUC (pre-experiments =3906±565 AU, post-experiments=5866±698 AU, p=0.09).

These results suggest that multiple applications of stimulation of the celiac branch did not cause beta cell exhaustion using our neuromodulation technique and, with further studies, may offer new therapeutic option for T2DM.

A224

Remote Monitoring Improves Weight-Loss: a Randomized Control Trial of Sleeve Gastrectomy Patients

Lee Ying *New Haven CT*[1], Saber Ghiassi *Fairfield CT*[1], Evans Simmons [1], Michael Limosani [1], Lina Starovoitova *New haven CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Introduction: Frequent in-person follow-up has been viewed as integral to success after bariatric surgery. The purpose of this study is to assess the impact of telemedicine on postoperative weight-loss and determine if providing patients with bioimpedance scales and activity trackers improve weight-loss.

Methods: This is a randomized control study of laparoscopic sleeve gastrectomy patients. The Intervention group received a digital scale and activity tracker to monitor weight, changes in body composition, and activity. The Control group received the same standard-of-care treatment, but no devices. Actual weight-loss and weight-loss predicted using the MBSAQIP Risk/Benefit Calculator was compared between the two groups.

Results: 70 patients (38 intervention, 32 control) have been enrolled to date. 3 months after surgery, patients in the intervention group lost 15.2±1.0 kg compared to only 9.3±1.2 kg in the control group ($p<0.01$; 1A). Patients in the intervention group tend to outperform predicted percent weight loss (Intervention: 1.8±1.0% greater than predicted; Control: 2.5±1.2% less than predicted, $p<0.05$, 1B). At 3 months, patients have a significant decrease in fat mass (57.3±1.8% versus 47.4±2.3%, $p<0.01$) and a significant increase in muscle mass % (24.9±1.0% versus 30.6±1.3%, $p<0.01$; 2A). The change in fat mass % is greater than the change in muscle mass % (9.8±1.1% versus 5.7±0.6%, $p<0.01$; 2B).

Conclusions: Early results demonstrate that remotely monitoring weight-loss and activity in bariatric surgery patients improves weight loss postoperatively. Fat loss exceeds muscle gain in the first postoperative month and patients in the Intervention group have superior weight-loss compared to national benchmarks.

A225

Effectiveness of Early Preoperative Weight Loss as a Predictor of Bariatric Surgery Outcomes in Patients along the Texas-Mexico Border

R. Armour Forse *Edinburg TX*[1], MONICA BETANCOURT-GARCIA *Edinburg TX*[1], Kristina Vatcheva *Brownsville TX*[2], Victor Lopez *The bronx NY*[1], Horus Ortega *Weslaco TX*[2], Manish Singh *Edinburg TX*[1], Robert Alleyn *Edinburg TX*[1], Ambrosio Hernandez *Edinburg TX*[1]
Doctors Hospital at Renaissance[1] University of Texas Rio Grande Valley[2]

Background: The Hispanic population along the southern Texas-Mexico border is 80% overweight or obese, making it the "fattest in America." The region has a high prevalence of obesity-related morbidity and mortality and experienced one of the nation's highest COVID-19 mortality rates. Considering a regional increase in bariatric surgery, the aims were to determine the use of pre-operative weight loss in predicting surgical success and evaluate the efficacy of Roux-en-Y gastric bypass (RYGB) versus sleeve gastrectomy (SG).

Methods: Pre-operative weight measurements and data for 7 follow-up visits at various intervals (1, 3, 6, 9, 12, 18, and 24 months) were collected for 281 patients from a single hospital site. Surgical success was defined by weight loss and comorbidity reduction.

Results: Patients who lost any preoperative weight had a significantly higher mean %TBWL and those who lost at least 5% of their weight before surgery had on average 7.06±0.76% higher TBWL ($p<0.0001$) at 24 months post-surgery compared to those who gained weight. Compared to the SG group, patients who underwent RYGB had significantly higher mean %TBWL and showed significant improvements in total cholesterol, LDL, HDL, triglycerides, HbA1c, and systolic blood pressure during the study period.

Conclusion: In this Hispanic population with traditional lifestyles, patient commitment to modify lifestyle behaviors appears to be an indicator of long-term surgery success. Pre-operative weight loss could be a modifiable target for patients undergoing bariatric surgery. In evaluating the efficacy of RYGB versus SG, in this patient population, the RYGB consistently had better outcomes across all variables.

A226

The environmental impact of telemedicine on the preoperative evaluation for bariatric surgery

Rachel Sillcox *Washington DC*[1], Saurabh Khandelwal *Seattle WA*[1], Jay Zhu *Albuquerque NM*[2], Judy Chen *Seattle WA*[1]
University of Washington[1] University of New Mexico[2]

Introduction

Health care associated activities account for 10% of United States' greenhouse gas emissions. Using telemedicine for bariatric surgery evaluations decreases emissions and reduces patient travel burden during the multiple required interdisciplinary visits. After adopting telemedicine during COVID, our clinic continues to utilize telemedicine for preoperative bariatric evaluations. We evaluated the reduced environmental impact associated with this practice.

Methods

A single institution retrospective review of patient evaluations from January-June 2021 was conducted. Patients undergoing workup for sleeve gastrectomy (SG) and roux-y-gastric bypass (RYGB) were included. Preoperative visits were classified as in-person or telemedicine. Carbon emissions were calculated using the EPA's validated formula of 404g CO2 per car-mile.

Results

55 patients underwent SG (42%) or RYGB (58%) in this time period. The median number of total provider, dietician, and social worker telemedicine visits per patient was 7 (5-16), while the median number of in-person visits was 1 (1-4). Telemedicine saved 433 in-person visits and the associated travel in this brief evaluation period. This reduced emissions by 10,517kg CO2 which represents an 84% reduction in carbon emissions.

Conclusion

Implementation of telemedicine for bariatric preoperative evaluations reduced patient travel and carbon emissions. Other benefits such as reduced time from initial evaluation to surgery and cost savings warrant future evaluation. We encourage bariatric providers to use telemedicine as we believe this eases patient burden and, with wider adoption, could significantly reduce our carbon footprint.

A227

The MBSAQIP in the surgical literature.

Benjamin Clapp *El Paso TX*[1], Maria Ahmad *El Paso TX*[1], Mohammad Yousaf *El Paso TX*[1], John Marr *El Paso TX*[1], Kedzie Arrington *El Paso TX*[1], Omar Ghanem *Rochester MN*[2]
Texas Tech HSC Paul Foster School of Med[1] Mayo Clinic Rochester Minnesota[2]

Introduction: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) has collected data on over 1 million patients since it came online in 2015. The MBSAQIP reports on over 200,000 de-identified cases from 902 participating centers to the MBSQIP data registry yearly. Our objective was to examine the impact of the MBSAQIP on the surgical literature.

Method: PubMed was queried using keywords "MBSAQIP" and "Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program." Letters to editors, duplicates, commentaries, and retracted articles were excluded. Studies that mentioned MBSAQIP but did not use the PUF were also excluded.

Results: A total of 340 items were returned. After exclusions, 241 studies were reviewed. Fifteen articles were noted to have used MBSAQIP to create or modify risk calculators/ predictive models. 26 were on robotic surgery and 14 compared procedures. 24 papers evaluated patient characteristics and outcomes, 17 discussed outcomes and racial disparities. 15 studies looked at outcomes by age, and 5 by BMI. There were 17 on complications. 11 studies were on revisions/conversions. 10 studied sleeve gastrectomy specifically. There were 11 total on OAGB, DS/SADI and ESG. Seven were on GERD/hiatal hernia. Six papers evaluated DVT/PE.

Conclusion: The MBSAQIP is a valuable resource that has generated a wealth of studies in the literature. It has allowed for intense analysis of clinical issues and fostered a culture of safety and quality improvement.

A228

Weight Loss Trend in Different Body Mass Index Categories of Single-Anastomosis Duodeno-ileal Bypass with Sleeve Gastrectomy Patients

Amit Surve *South Salt Lake City UT*[1], Daniel Cottam *Salt Lake City UT*[2], Samuel Cottam *Salt Lake City UT*[1], Walter Medlin *Salt Lake City UT*[1], Legrand Belnap *Salt Lake City UT*[1]
Bariatric Medicine Institute[1] Bariatric Medical Institute[2]

Background: Weight loss trajectories in different body mass index (BMI) categories of single-anastomosis duodeno-ileal bypass with sleeve gastrectomy (SADI-S) patients have yet to be studied extensively.

Objective: The study aimed to compare peak weight loss and weight-loss failure (WLF) rates between different BMI categories of SADI-S patients.

Setting: Single private institute, United States.

Methods: Data from 977 patients who underwent a primary SADI-S by four surgeons from June 2013 through September 2021 were retrospectively analyzed. WLF was defined as excess weight loss less than 50% at the last follow-up beyond 18 months postoperatively. Patients were categorized according to their preoperative BMI (30-35, 35-40, 40-45, 45-50, 50-55, and > 55 kg/m^2) (Table. 1). Logistic regression was used to determine variables that are predictive of WLF following surgery.

Results: In total, 977 patients were included. Statistically significant differences were noted between the BMI groupings for age, and preoperative weight and BMI. Peak weight loss in regards to %EWL was highest in the BMI 30-35 category and lowest in the BMI >55 category. The peak %TWL was also significantly different between the BMI groupings. Overall, WLF was noted in 13.4% of patients. (Table.1). Only preoperative BMI was found to be predictive of WLF on logistic regression ($p < .001$ Odds= 1.071).

Conclusions: SADI-S is a viable surgery for patients with obesity, regardless of preoperative BMI. WLF may occur in patients with BMI >40; however, it is improbable in patients with BMI <40.

A229

Title: Outcomes After Sleeve Gastrectomy Utilizing a Single-fire 230 mm Stapler: A Single Institution Study Authors: Maria Durdach, MD, Liam Knott, MD, Aaron Hoffman, MD, Christina Sanders DO, MBA

Maria Durdach *Buffalo NY*[1], Christina Sanders *Orchard Park NY*[1], Liam Knott *Williamsville NY*[1], Aaron Hoffman *Buffalo NY*[1]
University at Buffalo[1]

The sleeve gastrectomy remains the most utilized procedure for surgical weight loss in the United States. Despite its simple concept, there remains a high variability in the technique. Recently, a novel single-fire 230 mm stapler was developed to aid standardizing and streamlining the sleeve gastrectomy. An early multisite study of the novel stapler has shown the stapler is safe and effective in pouch creation. We present our 1-year outcomes of the first 50 patients undergoing sleeve gastrectomy using the single-fire 230 mm stapler.

A retrospective review of the first 50 patients undergoing sleeve gastrectomy with the single-fire stapler was performed. In all cases, the stapler was positioned 1 cm from the gastroesophageal junction, 3 cm from the incisura, and 6 cm from the pylorus. A 38 Fr bougie was passed into the antrum prior to firing the stapler. There were no significant differences between operative times or length of hospital stay. There were no leaks, no patients requiring blood transfusion or reoperation for post-operative bleeding, no readmissions within 30 days of surgery, and no incisional hernias. One patient was treated for a wound infection and 1 patient had a post-operative hematoma at the 19 mm stapler trocar site. These data support that the single-fire stapler is safe and effective at sleeve gastrectomy creation. Preliminary data suggests that there may be greater excess body weight loss and decreased rates of postoperative GERD compared to other techniques used for sleeve gastrectomy at our institution.

A230

Retrograde filling of the afferent limb, a very rare complication of Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy (SADI-S): A video case report

Carlos Bernuy *Lima* [1], Sergio Ordinola *Lima* [1], Sheydi Colla *Lima* [1], Mario del Pino [2]
Universidad Peruana Cayetano Heredia[1] Rio Grande Regional Hospital[2]

Introduction*:* We present a video case report of a patient undergoing successful robotic enterolysis and gastro-enteropexy to treat symptomatic retrograde filling of the afferent limb following robotic SADI-S.

Presentation of case*:* A 58-year-old man presented to the ER with recurrent episodes of post-prandial nausea and vomiting 2 months after undergoing robotic SADI-S. An UGI showed preferential retrograde filling of the afferent limb with simultaneous development of symptoms after the contrast was ingested. A robotic diagnostic laparoscopy was performed after conservative management failed.

Management*:* Laparoscopy showed adhesions that pulled the efferent limb just distal to the anastomosis cranially while the afferent limb lied in a dependent position. Adhesiolysis of the anastomosis and pexy of the afferent limb to the antrum was performed. Symptoms resolved and the patient was discharged home tolerating a full liquid diet the next day. He has remained symptom free during follow up.

Discussion*:* Symptomatic retrograde filling of the afferent limb is an uncommon complication caused by adhesions pulling the efferent side of the anastomosis in a cranial direction which causes preferential filling of the afferent limb after liquid or food ingestion. Symptoms resemble those of dietary indiscretion or partial bowel obstruction and include post-prandial nausea, vomiting, and abdominal pain. Initial treatment is conservative, but failure requires additional work-up and sometimes surgical intervention. Gastro-enteropexy of the afferent limb prevents it.

Conclusion*:* Symptomatic retrograde filling of the afferent limb after SADI-S is an unusual complication that can be confirmed by UGI. Surgery is needed if conservative treatment fails.

A231

Gastro-Esophageal Reflux Disease and Bariatric Surgery: A Love - Hate Relationship

Seyed Mohammad Kalantar Motamedi *Indianapolis IN*[1], Spyridon Giannopoulos *Indianapolis IN*[1], Wendy Li *Indianapolis IN*[1], Don Selzer *Indianapolis IN*[1], Dimitrios Stefanidis *Carmel IN*[1]
Indiana University School of Medicine[1]

Gastro-Esophageal Reflux Disease (GERD) is a common comorbidity in patients with severe obesity. Bariatric surgery often resolves GERD but de-novo GERD may also develop postoperatively. The aim of this study was to describe the relationship of GERD and bariatric surgery. Method: Data of all adult patients from an academic MBSAQIP center who underwent primary Sleeve Gastrectomy (SG) or Roux-en-Y Gastric Bypass (RYGB) between 2018-2020 with at least one year of follow up were reviewed. Criteria for GERD diagnosis was the dependence to anti-reflux medications. Frequency and contributing factors of GERD resolution or denovo GERD development was assessed. Results: Of 339 patients, 124(36.6%) had undergone SG and 215(63.4%) RYGB. The overall rate of GERD at the time of surgery was 34.5% while at the 12-month follow-up it decrease significantly to 26.5% (P=0.006). GERD resolution achieved frequently and comparably after both RYGB (50%) and SG (43.5%) (OR=1.3 (0.5- 3.2); P=0.31). Denovo GERD was seen in 14.5% of the patients and it occurred less among RYGB vs SG patients (11.8% vs 18.4% OR=0.6 (0.3-1.3);P=0.22). Conclusion: Although preoperative GERD resolves in about half of the patients after bariatric surgery, new onset GERD occurs in a substantial number as well. While we identified a trend toward improved outcomes after RYGB compared with sleeve gastrectomy differences were not statistically significant. The risk factors for either conditions are different and not necessarily the opposite of each other. Further study of risk factors for lack of GERD resolution or de-novo GERD development is needed.

A232

Feasibility and Outcomes of Simultaneous Gastric Bypass (RYGB) with Paraesophageal Hernia (PEH) Repair in Elderly Patients

Karl Hage *Rochester MN*[1], Jorge Cornejo *Jacksonville FL*[2], Jonathan Allotey *New Orleans LA*[3], Rocio Castillo-Larios *Jacksonville FL*[2], Michael Caposole *New Orleans LA*[3], Mazen Iskandar *Waxahachie TX*[4], Todd Kellogg *Rochester MN*[5], Carlos Galvani *New Orleans LA*[3], Enrique Elli *Jacksonville FL*[2], Omar Ghanem *Rochester MN*[1]

Department of Surgery, Mayo Clinic, Rochester, Minnesota[1] Department of General Surgery, Mayo Clinic, Jacksonville, Florida[2] Division of Minimally Invasive Surgery and Bariatric, Tulane University, New Orleans, LA, USA[3] Department of Surgery, Baylor Scott and White Medical Center, Waxahachie, TX, USA[4] Division of Breast, Endocrine, Metabolic, and GI surgery, Mayo Clinic, Rochester, Minnesota, USA[5]

Background: The incidence of PEH increases with BMI and age. Hiatal hernia repair/antireflux surgery alone portends increased risk of recurrence and does not address comorbidities. The safety and feasibility of simultaneous PEH and RYGB is not well elucidated in patients aged 65 years and older.

Methods: A multicenter retrospective review of patients who underwent simultaneous PEH repair and RYGB at $\geq$ 65 years from 2008-2022 was performed. Patient demographics, hernia characteristics, postoperative complications and weight loss data were collected. A Fisher's exact t-test was used to analyze the categorical variables. Data are summarized as mean ± standard deviation.

Results: A total of 40 patients were included (82.5% female, age 69.2 years; BMI 39.4 kg/m^2) with a mean follow-up of 32.3 months. Average hernia size was 5.8 cm. Mesh was not used in 37 cases (92.5%), with only 3 (7.5%) reported recurrences. Postoperative complications (n=7) and mortality rates (n=1, 2.5%) as well as readmission (7.5%), reoperation (5%) and reintervention (7.5%) rates at 30-days were reported. We noted a 27% diabetes remission after surgery. There was a statistically significant resolution in GERD ($p<0.001$), hypertension ($p=0.019$) and sleep apnea ($p=0.014$). Mean BMI at 3, 6 and 12 months was 33.5, 30.7 and 29.3 kg/m^2 respectively and mean %TWL was 25.4%.

Conclusions: Simultaneous PEH repair and RYGB is safe and efficient in the elderly. Patient selection is crucial to reduce postoperative complications and obtain favorable outcomes such as weight loss, low risk of hernia recurrence and considerable comorbidities resolution.

A233

Endoluminal vacuum (EVAC) therapy as a salvage procedure for difficult anastomotic leak post Roux-en-Y gastric bypass.

Pranav Balakrishnan *Huntington WV*[1], Armein Rahimpour *Huntington WV*[1], Darren Nease *Huntington WV*[1], Yinan Wei *Huntington WV*[1], Semeret Munie *Huntington WV*[1]
Marshall University[1]

We present a case of a woman in her 60s, with a history of a gastric sleeve resection, over 50% excess body weight loss, and subsequent severe gastroesophageal reflux disease refractory to maximal medical therapy, who underwent a conversion of a sleeve gastrectomy to a Roux-en-Y gastric bypass with hiatal hernia repair. On postoperative day 5, she was evaluated at our emergency department for vomiting and inability to tolerate oral intake. Imaging revealed a large retrocardiac hiatal hernia and extraluminal contrast extravasation.

She was taken to the operating room after resuscitation, where the gastric pouch and roux limb were found to have significant edema with recurrence of the hernia. This was able to be reduced and a frank perforation was found at the posterior aspect of the anastomosis. A covered metal stent was placed by the gastroenterologist and drains were left in place.

In the ICU, nasojejunal feeds were stopped given suspicion of backflow with persistent leak. A decision was made to remove the stent and place an endoluminal vacuum (EVAC). After three subsequent vacuum-sponge changes, the perforation was found to have healed. Patient was tolerating a diet on discharge.

This case is an example of a complication where a multidisciplinary approach to a difficult leak resulted in recovery with the use of EVAC. We believe this is a valuable tool to have in our armamentarium for difficult to manage leaks.

A234

Adjustable Gastric Banding is beneficial for adolescent patients with obesity, even when weight recurrence occurs. Results based on a 10-year operative experience.

Jun Tashiro *New York NY*[1], Akash Gujral *New York NY*[1], Akshitha Adhiyaman *Stony Brook NY*[1], Christine Fielding *New York NY*[1]
NYU Grossman School of Medicine[1]

Laparoscopic adjustable gastric banding (LAGB) is an effective method of weight loss therapy in adolescents with obesity. A total of 119 patients consented to a long-term follow-up for outcomes after their weight loss surgery.
Over ten years, 110 (m=36, f=74) of the initially recruited patients had LAGB procedures. Mean age, weight, and BMI at the time of surgery were 16.1± 1.01 years, 298.8± 57.7 lbs., and 47.6±6.8 kg/m2, respectively.
Reoperation was required in 24.6 % of patients, after an average of 7.8±3.6 years after LAGB surgery. Out of these 27 patients, 10 underwent Roux-en-Y Gastric Bypass, 7 underwent Sleeve gastrectomy, 4 band replacement or revision, and 6 had band removals alone.
Total weight loss after 5 years was 22.1%, with a 22.7% reduction in BMI. Patients who followed up for a 9-year time point (n=30) maintained 19.1% TWL and a 19.3% reduction in BMI.
LAGB can offer long-term weight loss or a first-stage treatment option in adolescents with obesity, who may need a secondary intervention as an adult. LAGB confers the benefits of reversibility and revisability in a population which needs life-long treatment.

ClinicalTrials.gov Identifier: NCT00587301

A235

Evaluation of liposomal bupivacaine on inpatient opioid consumption in patients undergoing bariatric surgery.

Pranav Balakrishnan *Huntington WV*[1], Marco Custodio *Chesapeake VA*[2], Mariah Morris *Huntington WV*[1], Arrin Brooks *Morgantown WV*[3], Thomas Adams *Huntington WV*[1], Jenalee Corsello *Tampa FL*[1], Darren Nease *Huntington WV*[1], Semeret Munie *Huntington WV*[1]
Marshall University[1] Marshall Univsersity[2] West Virginia University[3]

Background: Excessive opioid consumption increases the risk of addiction and adverse drug events and should be limited. Liposomal bupivacaine (LB) has been associated with reduced postoperative opioid consumption in other surgery was included for perioperative multimodal pain control for patients undergoing bariatric surgery at our institution. The effect of LB on inpatient opioid consumption has not been extensively evaluated in patients who have undergone bariatric surgery.

Objective: Evaluate opioid consumption in patients undergoing laparoscopic sleeve gastrectomy before and after implementation of LB as part of perioperative, multimodal pain control bundle.

Setting: Academic medical center, United States

Methods: A retrospective, pre/post quasi-experimental study was conducted to identify the effect of LB in patients (n=483) who had undergone laparoscopic sleeve gastrectomy between 03/01/2017 and 06/30/2019. Intervention took place 03/07/2018, with no-LB (n=198) before and LB (n=285) after this time. Patients (n=362) were propensity score-matched (PS) 1:1 with inpatient morphine milligram equivalents (MME), ketorolac, intravenous acetaminophen, and baseline demographics compared. Multivariate linear regression was used to assess the impact of variables on opioid consumption.

Results: Compared to no-LB, LB was associated with fewer median MME in the total (100.0 vs 173.8 mg, $p<0.001$) and PS (100.0 vs 170.0 mg, $p<0.001$) populations. In the multivariate analysis, LB was associated with a 94.84mg (95% CI, -114.10 - -75.58, $p<0.001$).

Conclusions: Liposomal bupivacaine given in the perioperative setting was associated with a significant decrease in post-operative, inpatient opioid consumption. It is unknown if these findings extend to the consumption of opioids in the post-discharge setting.

A236

The short-term outcome of One Anastomosis Gastric bypass (OAGB) – Mini Gastric Bypass (MGB) – Single center experience.

Wael DIMASSI *montreal* [1], Abdullah ALMUNIFI *Riyadh* [2], Wassim Abi Hussein *Montreal* [1], Alexis Deffain *Montreal* [1], Anne-Sophie Studer *Montréal* [1], Radu Pescarus *Ville Mont-Royal, Montreal* [1], Ronald Denis *Montréal* [1], Pierre Garneau [1]

University of Montreal[1] Department of Surgery ,College of Medicine, Majmaah University, Saudi Arabia[2]

Introduction:

Mini gastric Bypass (MGB) procedure was first described in 1997. Modifications to the technique were described in the literature, like anti-reflux anchoring to prevent bile reflux. However, the efficacy and safety outcomes of this procedure remain debatable. Our study aim is to evaluate the short-term effects of Mini gastric bypass (MGB) for weight regain and reflux post-sleeve.

Method:

A Prospective study was conducted in a single institution University Center in Montreal for 38 patients who underwent OAGB with anti-reflux stitches technique with a biliary limb length of 150 cm for BMI between 40-45, 175 cm for BMI between 45-50, and 200 cm for BMI >50.

Results:

Of 38 patients, there is 33 female (87%) and five male (13%). The median age is 48, mean preop BMI is 43.5. Surgery was done by laparoscopy (76 %) or robot (24 %). There were 26 patients (68%) who had GERD symptoms before the procedure.

Upon short-term follow-up between 1 to 9 months, the mean BMI was 35, EWL% was 33%, and there was an improvement in GERD symptoms. Only five (13 %) of the 26 patients had persistent symptoms, with 3 having biliary reflux. One patient had a conversion to RYGBP.One patient developed very early anastomotic stricture which necessitated revision of anastomosis.

Conclusion:

OAGB has excellent short-term outcomes regarding weight loss as revisional surgery and resolving GERD symptoms post-sleeve with a low complication rate. Further studies are necessary to evaluate the long term results.

A237

Evolution of Gut Microbiome After Roux-en-Y Gastric Bypass

Hassan Heshmati *Anthem AZ*[1], Camille Beniga [1]
Endocrinology Metabolism Consulting, LLC[1]

Background: Changes of gut microbiome (GM) including low microbial gene richness (MGR) combined with compositional and functional alterations can promote obesity. Roux-en-Y gastric bypass (RYGB) is an effective procedure for achieving major and sustained weight loss and metabolic improvement in severe or morbid obesity. This review presents the evolution of GM after RYGB, one of the most widely used bariatric surgery interventions.

Methods: A systematic search of literature was conducted using the search terms severe obesity, morbid obesity, GM, dysbiosis, RYGB, diet, prebiotics, probiotics, and weight loss.

Results: Subjects with severe or morbid obesity have dysbiosis with important decrease in MGR. Low MGR is strongly correlated with high adiposity, inflammation, insulin resistance, and type 2 diabetes. Through multiple mechanisms including reduced stomach size, changes in gastric pH, alteration in bile acid metabolism, modifications of gut hormones, and malabsorption, RYGB significantly reshapes GM (e.g., increase in MGR, increase in Bacteroidetes and Proteobacteria phyla, and decrease in Firmicutes phylum). Concomitant diet and medications can impact GM outcome after RYGB. GM improvements caused by RYGB influence the extent of weight loss. There is no full correction of MGR with RYGB, even after 5 years, and additional treatments with diet, prebiotics, and probiotics may be necessary to optimize the results.

Conclusion: Severe or morbid obesity is frequently associated with low MGR and compositional and functional alterations of GM. RYGB significantly improves GM richness, composition, and functionality, and promotes a drastic weight loss. However, MGR may remain permanently low after RYGB requiring additional medical treatments.

A238

EVOLUTION OF PERIOPERATIVE PROTOCOLS AT AN ACADEMIC BARIATRIC PROGRAM AND ITS IMPACT ON LENGTH OF STAY-ANALYSIS OVER 7 YEARS

Julia Button *New York NY*[1], Amy Holmstrom *New York NY*[1], Alfons Pomp *Montreal QC*[1], Gregory Dakin *New York NY*[1], Cheguevara Afaneh *New York NY*[1], Omar Bellorin *New York NY*[1]
NYP Weill Cornell[1]

Introduction:
A dramatic reduction in length of stay (LOS) was experienced worldwide after the introduction of laparoscopic bariatric surgery. Numerous protocols have been put in place to expedite patient recovery ever since. We present the evolution of perioperative protocols in an academic bariatric program over the course of 7 years.

Methods:
A retrospective analysis of the LOS of primary bariatric patients was studied between 2016 to 2022. Inclusion criteria included primary sleeve gastrectomy (SG) and gastric bypass (GB) patients. Revisional bariatric surgery, lap band and duodenal switch patients were excluded.

Results:
A total of 1823 patients were included; 1274 (75%) underwent primary SG and 449 (25%) underwent GB. LOS decreased throughout the study period each year in both combined and cohort analyses. Combined LOS went from 2.5 days in 2016 to 1.5 days in 2022 (R^2= 0.97). PCA use, Foley catheters and routine UGI studies were part of standard post-operative care in 2016 resulting in LOS of 2.4 days in SG and 3.1 days in GB patients. Routine tranversus abdominis plane (TAP) blocks, PO pain control, avoidance of Foley catheters and elimination of routine UGI studies became standard practice in 2018 decreasing LOS time to 1.8 and 2.0 days for SG and GB patients, respectively. Most recently in 2020, a discharge checklist and patient fluid tracker were incorporated with reduction LOS to 1.5 days for both SG and GB patients.

Conclusion:
LOS can be effectively shortened in a large academic center by implementing pre and post operative standardized protocols.

A239

A multi-modal pain protocol as a bariatric surgery opioid mitigation strategy

Rachel Licea *Bay Shore NY*[1], Jacqueline Lopez *Bay shore NY*[1], David Pechman [1], Dominick Gadaleta *Great Neck NY*[1], Andrew Bates *Locust Valley NY*[1], Don DeCrosta *Bay Shore NY*[1]
South Shore University Hospital[1]

Background:
New persistent opioid use following bariatric surgery is associated with worse outcomes and lower patient satisfaction. 10% of opioid naïve patients report new persistent opioid use one year after bariatric surgery (vs 6% of general surgery patients). The 3rd Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program aims to reduce the utilization of opioids with bariatric surgery.

Objective:
To present our experience as a newly accredited bariatric center for excellence using a multi-modal pain protocol to mitigate opioid utilization following bariatric surgery.

Methods:
A retrospective analysis was performed of patients who underwent bariatric surgery at South Shore University Hospital (SSUH) from December 2019 – December 2021. Patients on chronic opioids 30 days preoperatively or who used narcotics within 7 days of surgery were excluded. A multi-modal pain protocol included preoperative education, non-opioid analgesics prior to induction, intraoperative avoidance of opioids, and postoperative use of nonopioids daily with opioids only for breakthrough pain. The mean morphine milligram equivalent (MME) per year used during inpatient, prescribed at discharge, and used outpatient was recorded. Patients were surveyed regarding satisfaction.

Results:
126 opioid-naïve patients underwent bariatric surgery at SSUH. The mean MME used inpatient was 23.5 (2019-2020) and 22.15 (2020-2021). From 2020-2021, one patient received opioids in the PACU; 14 (16.5%) patients received 0 opioids while inpatient, including PACU. All patients were discharged without opioids. Patient satisfaction remained high.

Conclusions:
Our institution was able to effectively minimize opioid utilization in opioid naïve patients following bariatric surgery using a multi-modal pain protocol.

A240

Comparison of need for proton pump inhibitor between Vertical Sleeve Gastrectomy and Roux-en-Y gastric bypass at long term follow up.

Aviv Ben-Meir *Willoughby OH*[1], Alexandrea Fistek *Austinburg OH*[2], Courtney Holbrook *Willoughby OH*[2]

University Hospitals Lake West Medical Center[1] University Hospitals Lake West[2]

INTRODUCTION

This study is a single surgeon comparison of VSG vs RYGB performed between January and December of 2018 without variation in technique to evaluate use of proton pump inhibitor (ppi) at most recent follow up. Patients were excluded if they were on ppi at initial consultation, if they had a concurrent hiatal hernia, if they are currently smoking, if they did not have greater than one year follow up, or if they are on steroids at most recent follow up. No revisions or conversions were included.

METHODS

We performed a retrospective database analysis of our electronic medical record to conduct this chart review. The first 10 patients that met the above criteria each for VSG and RYGB were included in the study.

RESULTS

None of the patients analyzed were on a ppi at time of initial bariatric operation nor did they have a hiatal hernia identified at time of operation. The first 10 patients meeting the above criteria were analyzed. Average follow up in months was 37 for VSG, 29 for RYGB. 70% of VSG patients and 0% of RYGB patients were on a ppi at time of most recent follow up.

CONCLUSIONS

In this chart review of patients without reflux requiring a ppi or hiatal hernia at time of initial bariatric surgery, RYGB appears to be a more effective method of preventing future need of ppi.

A241

Oversewing of the Staple Line: Evidence form Randomized Controlled Trials.

Abdul-rahman Diab *Tampa FL*[1], Theo Sher *Tampa FL*[1], Salvatore Docimo *Coram NY*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida[1]

Introduction:
Staple line reinforcement can be divided into 4 categories: Oversewing/suturing, gluing, buttressing, and omentopexy/gastropexy. The aim of this study is to compare the outcomes of staple line oversewing/suturing versus control (no staple line reinforcement) during sleeve gastrectomy.

Methods:
Literature search was done according to the PRISMA guidelines. Meta-analysis was done using the RevMen 5.4.1 software. Statistical method used was Mantel-Haenszel. Analysis model used was random effects regardless of the heterogeneity (I^2).

Results:
Meta-analysis of randomized controlled trials comparing oversewing/suturing versus no staple line reinforcement revealed statistically significant decrease in leaks (OR 0.45, CI 0.21, 0.96) and postoperative bleeding (OR 0.29, CI 0.15, 0.55), and statistically significant increase in excess weight loss at 12 months (MD 6.58, CI 2.14, 11.02) and operative time (MD 17.46, CI 12.53, 22.38). In addition, analysis revealed statistically insignificant increase in wound infections (OR 2.57, CI 0.48, 13.75) and stenosis/stricture (OR 1.34, CI 0.22, 8.00), and statistically insignificant decrease in abscess formation (OR 0.54, CI 0.12, 2.38), re-operation(s) (OR 0.41, CI 0.12, 1.43), and length of stay (MD -0.08, CI -0.24, 0.09).

Conclusion:
Although oversewing/suturing decreases the incidence of leaks and bleeding, the mean increase of 17.5 minutes in operative time is excessive. Studies comparing between oversewing/suturing and other staple line reinforcement techniques are warranted, as other techniques might be equally effective with less operative time. However, it is interesting that oversewing/suturing resulted in an increase in excess weight loss at 12 months.

A242

Effectiveness of Revisional Surgery for Gastroesophageal Reflux Disease after Primary Bariatric Surgery

Spyridon Giannopoulos *Indianapolis IN*[1], Seyed Mohammad Kalantar Motamedi *Indianapolis IN*[2], Marisa Embry *Carmel IN*[3], Dimitrios Stefanidis *Carmel IN*[2]
Indiana University[1] Indiana University School of Medicine[2] Indiana University Health North Hospital[3]

Background: Gastroesophageal reflux disease (GERD) is a common problem after bariatric surgery with some patients requiring a reoperation due to inadequate symptom control with medications. We aimed to assess the GERD outcomes after revisional bariatric surgery.

Methods: The outcomes of patients from an academic MBSAQIP center of excellence who underwent elective revisional surgery for GERD after a primary bariatric procedure between 2018 and 2020 were reviewed. Basic descriptive statistics were used for the interpretation of the results.

Results:47 patients with GERD following bariatric surgery were included in the study, with 93.6% being female and 51.6 ± 1.7 years old. In 53.2% of patients, GERD was the only indication for surgery, while in 46.8%, weight recurrence, inadequate weight loss, and marginal ulcers were present in addition to GERD. Revisions consisted of conversion of sleeve gastrectomy (SG) to Roux-en-Y gastric bypass (RYGB) (57.5%), band to RYGB (14.9%), vertical banded gastroplasty (VBG) to RYGB (14.9%), band to SG (6.4%), and RYGB revision (6.4%). 17% of patients experienced perioperative complications, 21.3% were readmitted, 6.4% underwent an intervention, one was reoperated (2.1%) and there was no mortality. While >90% of patients saw improvement in their GERD symptoms postoperatively, 56.8% were still on PPIs at 6 months and 76.2% at 1 year postoperatively.

Conclusions: While reflux symptoms improve in the majority of patients after revisional surgery for postoperative GERD, most patients remain on PPIs 1 year later. Further clinical trials are needed to determine the type of surgery that maximizes GERD resolution for this patient population.

A243

Magnetic Sphincter Augmentation for the treatment of symptomatic gastroesophageal reflux prior to bariatric surgery. A two stage approach for the elimination of symptomatic gastroesophageal reflux disease prior to bariatric surgery.

Helmuth Billy *ojai CA*[1], shreyash Pradhan *Ventura CA*[2]
Ventura Advanced Surgical Associates[1] Community Memorial Hospital Ventura[2]

Utilization of magnetic sphincter augmentaiton (MSA) for the treatment of symptomatic acid reflux has become a common procedure. Gastroesophageal reflux disease, hiatal hernia and preoperative esophagitis are often contraindications when considering patients for sleeve gastrectomy or duodenal switch operations.

5 patients were identified during preoperative bariatric surgery evaluation who demonstrated significant gastroesophageal reflux and hiatal hernia on upper GI swallow. All patients required PPI therpay to control reflux symptoms. All patients underwent preoperative endoscopic evaluation and esophageal motility studies prior to placement of magnetic sphincter augmentation. Incidentally discovered and known hiatal hernias were repaired at the time of MSA placement. All patients underwent successfull MSA placement without complication. Postoperative upper GI swallow confirmed resolution of preoperative reflux findings in all patients. Patients were maintained on PPI therapy during the interval time between their MSA placement and their bariatric operation.

All 5 patients completed the second stage to bariatric surgery. one patient underwent successful SADI, one patient decided to undergo RYGB and three patients underwent successful sleeve gastrecotmy. Postoperative upper GI swallow revealed the absence of any demonstratable hiatal hernia or reflux following bariatric srugery. All patients remained free of refllux symptoms. All patients were able to discontinue PPI therapy within 30 days of bariatric surgery.

Hiatal hernia and PPI dependent GERD might not necessarily be a contraindication to proceeding with sleeve gastrectomy or SADI in patients who are appropriate candidates for MSA. as a first stage operation prior to bariatric surgery.

A244

Outcomes of handsewn versus stapled gastrojejunostomy in roux-en-y gastric bypass: single center experience Cristina Guerra, MD; Andrea Robertson, RN; Michael Seger, MD; Frank Duperier, MD; Richard Englehardt, MD

Cristina Guerra *Coweta OK*[1], Richard Englehardt *San Antonio TX*[2], Michael Seger *San Antonio TX*[2], F. Terive Duperier *San Antonio TX*[2], Andrea Robertson *Converse TX*[3]
University of Texas at Houston/ BMI of Texas[1] Attending[2] Foundation Surgical Hospital[3]

Background: As morbid obesity increases in prevalence, the most successful treatment for weight loss and comorbid condition resolution is metabolic surgery, including the roux-eny gastric bypass (RNYGB). There is no consensus between handsewn or stapled gastrojejunostomy (GJ) preferred. We compared the patient outcomes between handsewn versus stapled GJ to evaluate stricture development.

Methods

This is a single-institution retrospective analysis of 563 patients who underwent RNYGB between 2020 to 2022. All patients were followed for a minimum of three months. A total of 423 patients underwent stapled GJ and 133 underwent handsewn GJ. Our primary outcome was stricture formation requiring balloon dilation.

Results

There were 423 patients in the stapled groupand 133 in the handsewn group. (Demographic findings table 1). Both groups were comprised of primary and revisional surgeries.
the post operative findings included nausea, emesis, gastritis, dehydration, abscess, and GERD. The significant outcomes included; 2 leaks (0.4%), 33 strictures (7.8%), 16 foreign body removal (3.7%), and 9 marginal ulcers (2.1%) in the stapled group versus no leaks, 5 strictures (3%), and one marginal ulcer (0.75%) in the handsewn group. The statistically significant differences were rates of foreign body removal and dehydration. Table 2)

Conclusions

In this single institution study, although not achieving statistical significance, clinically significant stricture rates were more common in the stapled GJ anastomosis.

A245

The Learning Curve for Robotic Sleeve Gastrectomy: Docking Time

Loan Mai *Plainsboro NJ*[1], Wai Yip Chau *Plainsboro NJ*[1]
Penn Medicine Princeton Health[1]

Introduction: The da Vinci surgical system has been shown to reduce postoperative pain and length of stay in patients with obesity in addition to improvement in ergonomics and visualization for surgeons. Nationally, the adoption rate for robotic surgery in obesity has increased to 38% in 2022 from 17% in 2020 with a predicted adoption rate of approximately 50% by the end of 2023. This growth is likely due to the FDA approval of the Sureform 60 mm stapler from Intuitive Robotics in 2018. This study evaluates the learning curve for robotic sleeve gastrectomy from the time of incision to head-in on the console.

Method: Robotic-assisted sleeve gastrectomy was completed in 37 consecutive patients from July 2018 to July 2019 at a single institution under one surgeon and two different bariatric surgery fellows. The time from incision to head-in on the console (docking time) was evaluated in a standard 4-port robotic sleeve gastrectomy.

Results: The average time was 22.8 minutes from incision to head-in for robotic sleeve gastrectomy in 37 cases. After 19 cases, the average time decreased significantly to 16.5 minutes. The minimal time was 14 minutes while maximal time was 38 minutes.

Conclusion: The da Vinci surgical system offers substantial benefits to surgeons with an improvement in ergonomics and visualization especially in patients with obesity. After 19 consecutive cases, the learning curve demonstrated a decrease in the average time from incision to head-in on the console.

A247

Shortening of the Common Channel: Further Weight Loss after Gastric Bypass Surgery

Chelsea Price *Tempe AZ*[1], Jonathan Jimenez *Mesa AZ*[1], Rob Schuster *Phoenix AZ*[1]
Tempe St. Luke's Hospital[1]

Morbid obesity is a growing problem affecting millions of Americans. Bariatric surgery is an effective method to combat obesity in those who have failed diet and exercise attempts. Unfortunately, some patients do not experience satisfactory weight loss after bariatric surgery. We are currently trialing shortening of the common channel as a method for weight loss in patients who have previously undergone Roux-en-Y gastric bypass. Our aim is to quantify the weight loss after shortening of the common channel to determine if it is a satisfactory method of furhter weight loss after Roux-en-Y gastric bypass. Between 2020-2021 16 patients underwent shortening of the common channel. Weight loss, body mass index (BMI) and excess weight loss (%EWL) were recorded at 3,6,9 and 12 months postoperatively. The mean weight prior to shortening of the common channel was 238 lbs +/- 29. BMI prior to shortening of the common channel was 41 kg/m^2 +/- 4. Patients lost 14 lbs (n=10), 28 lbs (n=6) and 57 lbs (n=4) at 3,6,9, and 12 months respectively. At 9 months and beyond, patients experienced an 11-point reduction in their BMI, from an average BMI of 41 kg/m^2 preoperatively to 29.5 +/- 5.6 (n=8). After 9 months patients had a 75% reduction in excess weight. Shortening of the common channel offers reasonable weight loss in patients who have unsatisfactory weight loss post-gastric bypass, but care should be taken as there is a high risk for malnutrition. Furhter follow-up is needed to evaluate long-term weight loss and malnutrition.

A248

Robotic Revisional Bariatric Surgery: Does the Primary Procedure or the Indication of Revisional Procedure influence the postoperative outcomes?

Jorge Cornejo *Jacksonville FL*[1], Rocio Castillo-Larios *Jacksonville FL*[1], Naga Swati Gunturu *JACKSONVILLE FL*[1], Enrique Elli *Jacksonville FL*[1]
Mayo Clinic Florida[1]

Background: Over the last few years, revisional bariatric surgery (RBS) rates have increased up to 20%. This study aims to determine whether the primary bariatric procedure or the indications for robotic RBS influence postoperative outcomes.

Methods: Initially, the patient-related characteristics and postoperative outcomes for the primary bariatric procedure and the indication of revisional procedure were individually analyzed. Then, a logistic regression analysis was performed using the primary procedure and the indication of RBS as covariates to identify which was an independent predictor factor for peri- and postoperative outcomes.

Results: In the initial analyses, conversion from SG to RYGB as a primary bariatric procedure and reflux as an indication of revisional BS showed worse postoperative outcomes. Consequently, these two variables were used in the logistic regression analysis for postoperative outcomes, in which patients undergoing LSG were 4.15 times more likely to present early complications (p=0.03, 95% CI: 1.07-16.06) and to present an incomplete resolution of GERD (p=0.01, 95% CI: 0.05-0.68). Patients with reflux as an indication of RBS were 7.76 times more likely to have a TBWL < 25% at 12 months (p=0.01, 95% CI 1,42-42.43) after surgery.

Conclusion: LSG was an independent predictor for early complications and incomplete resolution of GERD after RBS, meanwhile, reflux was an independent factor for lower TBWL at 12 months.

A249

The Effect of the COVID-19 Pandemic on Perioperative Outcomes in Bariatric Surgery.

Thatcher Healy *Portland OR*[1], Nancy Puzziferri *Portland OR*[1], Andrea Stroud *Portland OR*[1]
Oregon Health and Science University[1]

Objective: To determine the effect of decreased surgical volume during the COVID-19 pandemic on bariatric perioperative complications.

Background: The COVID-19 pandemic greatly impacted surgical volumes for elective surgeries, including those in bariatric surgery. Previous studies suggest greater surgical volumes are associated with lower rates of perioperative complications. We evaluated the impact of decreased surgical volume on bariatric perioperative complications during COVID.

Methods: We retrospectively compared bariatric perioperative complications for patients who underwent surgery pre-COVID (3/2019-3/2020) to patients who underwent surgery during-COVID (3/2020-3/2021). The primary outcome was number of perioperative complications during the study period. With MBSAQIP database 90-day surgical follow-up data, an independent sample *T-test* was performed to compare the rates of perioperative complications between the cohorts.

Results: During the study period, there were 305 patients who underwent surgery pre-COVID and 198 who underwent surgery during-COVID. There was a greater average number of patients with diabetes mellitus and preoperative venous thrombosis requiring therapy pre-COVID than during-COVID (p=0.008, p=0.007, respectively). During-COVID patients had a significantly greater average BMI (49.0 versus 46.7; p=0.007). Unplanned admissions to the ICU in the pre-COVID group were significantly greater (0.02 versus 0.00; p=0.029). Other measured perioperative complications compared (n=7/8; 87.5%) showed no significant differences.

Conclusions: Contrary to previous findings, our study shows a decreased perioperative complication rate despite decreased surgical volume.

A250

Sleeve Gastrectomy With Versus Without Fibrin Gluing of The Staple Line. A Meta-Analysis.

Abdul-rahman Diab *Tampa FL*[1], Bilal Koussayer *Tampa FL*[1], Salvatore Docimo *Coram NY*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida[1]

Introduction:
Staple line reinforcement can be divided into 4 categories: Oversewing, gluing, buttressing, and omentopexy/gastropexy. The aim of this study is to compare the outcomes of staple line gluing (fibrin gluing), versus control (no staple line reinforcement) during sleeve gastrectomy.

Methods:
Literature search was done according to the PRISMA guidelines. Meta-analysis was done using the RevMen 5.4.1 software. Statistical method used was Mantel-Haenszel. Analysis model used was random effects regardless of the heterogeneity (I^2).

Results:
Meta-analysis of observational studies comparing fibrin glue versus no staple line reinforcement revealed statistically insignificant decrease in leaks (OR 0.37, CI 0.07, 1.99) and postoperative bleeding (OR 0.24, CI 0.02, 2.34), statistically insignificant increase in re-operations (OR 1.32, CI 0.40, 4.42), and statistically significant decrease in operative time (MD -4.21, CI -6.81, -1.62). Meta-analysis of randomized controlled trials comparing fibrin glue versus no staple line reinforcement revealed statistically insignificant decrease in leaks (OR 0.44, CI 0.09, 2.15), postoperative bleeding (OR 0.61, CI 0.17, 2.17), and length of stay (MD -0.01, CI -0.42, 0.40), and statistically insignificant increase in readmissions (OR 1.42, CI 0.67, 3.02), and operative time (MD 2.28, CI -2.51, 7.08).

Conclusion:
This review's limitation is the small number of studies published on this matter in the literature. Studies with larger sample sizes might be able to statistically prove that the application of fibrin glue can reduce leaks and postoperative bleeding.

A251

Pre-operative Transdermal Scopolamine Application in Sleeve Gastrectomy Patients

Olivia Haney *Staten Island NY*[1], Alexander German *Whitestone NY*[2], Temitayo Adegbenro [2], Paula Rivera Millan *Staten Island NY*[1], Aravinda Abeysekera *Charlotte NC*[1], Lisa Shimotake *Chicago IL*[1], Indraneil Mukherjee *Staten Island NY*[1], Angela Glasnapp *Scotch Plains NJ*[3], Taylor Loui [4]

Staten Island University Hospital[1] CUNY School of Medicine[2] NYBG[3] SIUH[4]

Background

Postoperative nausea and vomiting (PONV) after bariatric surgery is a common issue. The general surgery literature has shown that a preoperative Scopolamine patch is effective in safely preventing PONV. Our protocol was modified to include a preoperative scopolamine patch for each laparoscopic sleeve gastrectomy patient. Seeing that this had not been studied in the bariatric surgery population, we proposed this study to evaluate if this change to our protocol was effective in preventing PONV.

Methods

After obtaining IRB approval we performed a retrospective chart review. Demographic information was collected and analyzed. The use of any rescue antiemetic and subjective PONV was examined. The control and study group each included 30 patients.

Statistical analysis was performed to determine significance ($p<0.05$.)

Results

There was no statistical difference in the demographics, except surgery duration (114 vs 86 minutes, $p <0.0007$.)

There was a trend towards decreased nausea at 6 hours postoperatively (60% vs 37%, $p<0.1$) in the study group. However, there was no difference between number of postoperative antiemetics given between the two groups.

The length of stay was the same (30.66 vs 29.99hrs, $p<0.25$) for both groups.

Conclusion

In our preliminary study, there was no significant change in postoperative nausea or need for postoperative antiemetics with the administration of a preoperative scopolamine patch in patients undergoing a laparoscopic sleeve gastrectomy. Further studies should be performed to further elucidate any significant benefits of adding a scopolamine patch to preoperative bariatric surgery protocols.

A252

A unique case of gastric band tubing eroding into the vaginal cuff.

Pranav Balakrishnan *Huntington WV*[1], John Roth *Huntington WV*[1], Thomas Adams *Huntington WV*[1], Darren Nease *Huntington WV*[1], Yinan Wei *Huntington WV*[1], Semeret Munie *Huntington WV*[1]

Marshall University[1]

While placement of laparoscopic adjustable gastric bands (LAGB) is falling out of favor, bariatric surgeons frequently manage complications from previously placed bands. We present here, the case of a woman in her 40s with a history of adjustable gastric band placement at an outside hospital in 2009, who presented to her gynecologist's office with reports of pain during vaginal intercourse. Her partner also reported feeling a hard tubular foreign body in her vagina. On vaginal exam with her gynecologist, there was evidence of white tubing, which broke off during evaluation. She was sent over to the bariatric surgeon as there was suspicion of this being related to her gastric band.

Of note, six years prior, she had a band port site hernia which was repaired with mesh. This subsequently became infected, requiring explantation of the mesh and port, with the tubing left in place with hopes to salvage it in future. She was then lost to follow up.

The patient was evaluated at the bariatric surgery clinic. Imaging showed gastric band tubing embedded in the vaginal cuff. She was taken to the operating room and the catheter and band were removed without incident.

Gastric band tubing-related complications are few and far apart, with variable clinical presentations making diagnosis extremely challenging. In the case of our patient, having a detailed discussion regarding LAGB reconnection surgery or revision surgery could have resulted in complete hardware removal years prior and avoided this complication.

A253

Emergency Department Visits Versus Outpatient Infusions for Dehydration Following Bariatric Surgery: a Cost Analysis

Jessica Becker *Wilkes Barre PA*[1], Tristan Seton *Wilkes Barre PA*[1], Mark Mahan *Danville PA*[1], Ryan Horsley *Scranton PA*[1], Alexandra Falvo *Scranton PA*[1]
Geisinger[1]

Postoperative Emergency Department (ED) utilization is generally poorly understood but known to be a significant source of financial burden in the current healthcare system. Often, these ED visits are for concerns that could be addressed in a different, less overburdened setting. Following bariatric surgery, one of the most common reasons for ED presentation is dehydration. There is limited literature analyzing costs associated with post-bariatric dehydration.

A retrospective review of a prospectively maintained database was conducted for all patients within a single healthcare system who underwent bariatric surgery between January 2018 and November 2019. Patients who presented to the ED or an outpatient infusion center for IV fluids within 30 days of surgery were included in the study. A cost analysis was conducted comparing overall cost of ED versus hydration visits.

There were 4703 primary bariatric surgeries procedures performed with 476 ED presentations. Average cost per ED visit was found to be $842 (median $548, IQR $2972). Overall, ED visits for IVF hydration were associated with a higher mean cost than outpatient infusion center visits. Additionally, the majority of patients who presented to the ED with dehydration did not require admission.

While ED visits for IVF following bariatric surgery are common, analysis of the associated costs is limited. Our study supports the hypothesis that patients who present with dehydration following bariatric surgery are likely better served in an outpatient setting, where the cost of treatment, impact on resources, and inconvenience to the patient are significantly reduced as compared to the ED.

A254

Association of demographic and preoperative clinical factors to weight loss response after bariatric surgery

Sahil Patel *Oakland CA*[1], Jie Yin [1], Chen Jiang *Oakland CA*[1], Brandon Cowan *Oakland CA*[2], Sanjoy Dutta *South San Francisco CA*[1], Catherine Schaefer *Oakland CA*[1], Rouzbeh Mostaedi *Richmond CA*[1], Helene Choquet *Oakland CA*[1]
Kaiser Permanente Northern California[1] UCSF-East Bay[2]

Purpose: Bariatric surgery is the most effective long-term treatment for severe obesity, yet the degree of weight loss after surgery is variable. Socio-demographic and preoperative clinical factors could contribute to total body weight loss (TBWL) after bariatric surgery.

Methods: We conducted a retrospective longitudinal study on 9,824 patients who underwent Roux-en-Y gastric bypass or sleeve gastrectomy between January 2009 and March 2015. We evaluated whether socio-demographic factors (age, sex, race/ethnicity, socio-economic status) and preoperative clinical factors (BMI at surgery, weight loss, diabetes, hypertension, and sleep apnea) contribute to postoperative TBWL. Postoperative TBWL trajectory group analyses were first conducted, and each patient was assigned to one of the groups: low weight loss (LWL), average weight loss (AWL), or high weight loss (HWL). Then, socio-demographic and preoperative clinical factors were tested independently in binary logistic regression models (comparing LWL vs. AWL+HWL groups), and added to a multivariable model when showing statistical significance ($P<0.05$).

Results: We detected significant inter-individual variability in postoperative TBWL with 29.1%, 47.3%, and 23.6% of patients assigned to the LWL, AWL, and HWL group, respectively. The probability of belonging to the LWL group was significantly lower in women, younger patients, and non-Hispanic whites. Patients showing a reduced postoperative TBWL had a lower BMI at surgery (but lost less weight before surgery) and were more likely to have preoperative co-morbidities than patients exhibiting an AWL or HWL response.

Conclusions: Study findings could help improve support and follow-up of patients who experience inadequate weight to achieve desired benefits from this surgery.

A255

Case Report: Hiatal Hernia with Gastric Fundus Herniation and Obstruction After Sleeve Gastrectomy

Amber Chen-Goodspeed *Flushing NY*[1], Angelina Kim *Flushing NY*[2], Ingrid Schmiederer *Queens NY*[2], Joel Ricci-Gorbea *Flushing NY*[3]
New York Presbyterian - Queens[1] Resident[2] Department of Surgery,[3]

INTRODUCTION

As the most common bariatric surgery in the U.S., laparoscopic sleeve gastrectomy benefits and potential complications such as bleeding, infection or leak, are well-studied. We present a case of a 78-year-old female who presented with obstruction due to sleeve herniation into the mediastinum 3 years after laparoscopic sleeve gastrectomy.

CASE PRESENTATION

A 75 year
-old woman with obesity (BMI 46), obstructive sleep apnea and osteoarthritis underwent a laparoscopic sleeve gastrectomy without complication in 2019. Intraoperatively, no hiatal hernia was visualized at that time. In 2022, the patient presented to the emergency department with obstructive symptoms, found to have migration of the gastric sleeve into the mediastinum with obstruction at the diaphragmatic hiatus **(Images 1-3)**. She underwent robotic-assisted repair of the herniation with her original surgeon. After extensive lysis of adhesions, the fundus was reduced into the abdomen and the hiatal hernia was repaired **(Images 4-6).** A portion of devascularized, chronically obstructed stomach was resected to avoid postoperative perforation or necrosis. Patient was discharged on postoperative day 4 on a clear liquid bariatric diet. She has followed up in the outpatient office without issue.

DISCUSSION

Bariatric centers have increasingly standardized protocols to ensure patient safety. To our knowledge, this case, which describes migration of a laparoscopic gastric sleeve leading to obstruction and herniation of the gastric fundus 3 years after the index operation, is unique and warrants further study as a possible complication of sleeve gastrectomies. This may impact long-term surveillance of patients under bariatric surgeons' care.

A256

32-Fr Vs 40-Fr Bougie Size During Sleeve Gastrectomy: What does the Randomized Controlled Trials Tell Us? A Meta-Analysis.

Abdul-rahman Diab *Tampa FL*[1], Bilal Koussayer *Tampa FL*[1], Salvatore Docimo *Coram NY*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1]
University of South Florida[1]

Introduction:
One of the most debated issues in the practice of sleeve gastrectomy (SG) is the size of the bougie used during procedures. While larger size (50-Fr to 60-Fr) bougies initially used in SG are generally avoided these days, it has been suggested that the optimal size should be well below 40-Fr.

Methods:
Literature search was done according to the PRISMA guidelines. Meta-analysis was done using the RevMen 5.4.1 software. Statistical method used was Mantel-Haenszel. Analysis model used was random effects regardless of the heterogeneity (I^2).

Results:
Meta-analysis of randomized controlled trials comparing 32 Fr vs 40 Fr Bougie use during sleeve gastrectomy revealed statistically insignificant increase in length of stay (MD 0.29, CI -0.25, 0.83), vomiting (OR 3.17, CI 0.61, 16.55), readmissions (OR 2.52, CI 0.43, 14.57), re-operations (OR 1.40, CI 0.17, 11.77), leaks (OR 1.48, CI 0.23, 9.59), bleeding (OR 1.05, CI 0.21, 5.21), overall complications (OR 1.43, CI 0.54, 3.81), and excess weight loss percentage (EWL%) at 6 months (MD 2.19, CI -2.76, 7.14). In addition, analysis revealed statistically insignificant decrease in operative time (MD -1.15, CI -5.73, 3.42), surgical site infections (OR 0.65, CI 0.22, 1.94), diabetes resolution (OR 0.76, CI 0.20, 2.87), hypertension resolution (OR 0.85, CI 0.18, 4.06), and obstructive sleep apnea resolution (OR 0.46, CI 0.04, 5.78).

Conclusion:
No significant difference was observed. This review's limitation is that it is based on small number of randomized controlled trials, as only few are available in the literature.

A257

Establishment of a Patient Education Curriculum: An Innovative Treatment Pathway for Pediatric Severe Obesity

Janey Pratt *palo alto CA*[1], Rachel Herdes *Palo Alto CA*[2], Matias Bruzoni *Palo Alto CA*[2]
Stanford University[1] Stanford University school of Medicine[2]

Introduction

Metabolic and Bariatric surgery (MBS) is the most effective and durable treatment for children with severe obesity. Our Institution established an adolescent MBS program in 2004. In 2016 we developed a bilingual standardized pediatric obesity education session.

Methods

The session was designed to educate patients referred for severe obesity about MBS and medical treatments. It was delivered in English or Spanish by a medical professional using a power point presentation (updated annually). Sessions were offered in-person until March 2020 and then virtually. A retrospective chart review of the patients who attended the education sessions thru 7/2022 was performed. Variables collected included demographic data, treatment choice and anthropometric measurements.

Results

247 patients were included in the study: 50% Hispanic, 53% female, 45% male and 2% transgender. The average BMI was 47.6 kg/m^2; average age 14.9 (8-21) years. After attending 72% chose surgical treatment, 4% elected medical treatment, and 24% dropped out. The average time from education session to surgery was 13 (3-66) months. The average follow-up after surgery was 16 (0-58) months. Hispanic males had the highest drop-out rate following an education session. After MBS patients lost an average of $10kg/m^2$, while those in the medical program lost 1 kg/m^2 and those who dropped out gained 1 kg/m^2.

Conclusion

Pediatric patients with severe obesity who attended an educational session about MBS and medical treatment of obesity were likely to choose MBS. Children who underwent MBS had significantly better weight loss than those who drop out or chose medical management alone.

A258

Sleeve Stenosis Caused by Calcified Seroma from Biosynthetic Mesh Used in Hiatal Hernia Repair

Joe Radzevich *Brooklyn NY*[1], Ryan Anderson *Brooklyn NY*[1], Alexander Gonzalez-Jacobo *Atlanta GA*[1], Michael Davrayev *Cupecoy NY*[2], Danny sherwinter *Brooklyn NY*[3]
Maimonides Medical Center[1] American University of the Caribbean[2] Mount Sinai Brooklyn[3]

We present a 51-year-old male who presented with severe reflux and asthma 4 years after sleeve gastrectomy with hiatal hernia repair using biosynthetic mesh. Initial workup included upper endoscopy which showed severe sleeve stenosis at the proximal gastric body as well as grade III esophagitis. A CT scan of the abdomen showed a small hiatal hernia, thickened distal esophagus and a calcified circular fluid collection near the proximal stomach.

The patient underwent robotic assisted Roux-en-Y gastric bypass with excision of mesh and hiatal hernia repair. Intraoperatively, it was evident that the sleeve stenosis was caused by a well encapsulated seroma at the site of previous mesh that was densely adherent to the proximal stomach and esophagus. Pathology demonstrated a 4.4 x 3.2 cm mass composed of fibroadipose tissue with signs of chronic inflammation and foreign body giant cells.

The patient recovered well postoperatively with complete resolution of reflux symptoms. This case represents a rare cause of sleeve stenosis and well as a rare complication of biosynthetic absorbable mesh.

A259

Marginal ulcer erosion into left gastric artery after RYGB

Megan Shepherd *Knoxville TN*[1], Matthew Mancini *Knoxville TN*[2]
University of Tennessee Medical Center[1] University of Tennessee Medical Center,[2]

Marginal ulcers can be a complication after Roux-en-Y gastric bypass (RYGB) surgery and are more common in patients that are noncompliant with NSAIDs and smoking. A 37-year-old female presented with sudden onset large volume hematemesis. She underwent a RYGB thirteen years previously at a facility in another state and undergone a c-section three months prior to arriving at our facility. She denied any NSAID, alcohol, or tobacco use. She underwent upper endoscopy and a bleeding visible was noted and epinephrine was injected around the ulcer. This was not sufficient to control the bleeding and she underwent surgical repair with ligation of the left gastric artery (LGA) and revision of the gastrojejunal anastomosis. The LGA is the main blood supply to the gastric pouch after RYGB. She required a take back for final closure and upon inspection no ischemic changes were noted to the gastric pouch. She required TPN for a short period of time before she was able to tolerate oral nutrition. She was also noted to have pleural effusions and required bilateral chest tube for drainage. Once she was tolerating adequate oral intake, she was able to be discharged home. This is an abnormal presentation of a marginal ulcer and was done over a decade after her initial surgery without any of the well-known causes of marginal ulcers. Although the LGA is the main supply of the gastric pouch this demonstrates that there are other blood supply sources to the pouch and can maintain viability of the gastric pouch.

A260

Teenagers obesity

Alaa Eldin Badawy *Alexandria IL*[1], Mohamed Badawy *Alexandria* [2]
Alexandria university hospital[1] Medical Research Institute, Alexandria u[2]

Background:
Obese teenagers refuse that part of their body should be removed during surgery, others also fear sleeve gastrectomy complications.
Objective:
The idea is to combine gastric plication with single loop Gastric antral anastomosis to the ileum (Bi-partition) for obese teenagers, then observe weight loss and co-morbidity.

Method:
Overweight teenagers of BMI >30, who (or parents) refused other bariatric procedures were subjected to the study.
Greater gastric curve was dissected, instead of using staplers, interrupted sutures 2/0 round needle was used in the inner row, prolene 2/0 round in continuous mode for the second row, leaving the antrum for the single loop anastomosis 3 cms wide, that was done with the ileum 230 cms distal to the duodeno-jejunal flexure.

Results:
During 30 months ten teenagers were followed. mean age 15.7 +/- 3.8 , Hospital stay of one day. Excess weight loss quite comparable to sleeve gastrectomy, pre-operative weight was 97 +/- 23.7 kg that was reduced to 91.45+/- 13.6 k.gm after 3months, then to 83.3+/-11.9 k.gm in 6 months , further decrease to 75.8 + 12.7 k.gm after one year, more decrease after 18 months to 71.5 + 9.1 kg, still more decrease after 24 months to 67+ 7.8 kg . Only one case of post-operative leakage occurred that was at the site of entrotomies, suture closure was done on exploration.

Conclusion:
Single anastomosis gastric plication ileal bypass, is a new promising modality for teenagers seeking low cost, safe, reversible and effective bariatric surgery.

A261

The Impact of the COVID-19 Pandemic on Elective Bariatric Surgery Outcomes, Complications and Readmission Rates

Jennifer Allison *Memphis TN*[1], Samantha Kassner *Memphis TN*[2], John Gwin *Memphis TN*[2], Andrew Fleming *Memphis TN*[2], Matthew Davis *Memphis TN*[2]
UTHSC[1] University of Tennessee HSC[2]

Introduction

With the continuing waves of the COVID pandemic, the relationship between bariatric surgery and the COVID pandemic should continue to be assessed. The goal of this study was to evaluate the impact of COVID on post operative bariatric patient outcomes and complications.

Methods

Patients undergoing elective gastric bypass and sleeve gastrectomy between April 2019 and October 2021 were reviewed retrospectively. Admissions after March 1, 2020 were defined as COVID admissions. Patient characteristics and outcomes were evaluated.
Univariate analyses were performed comparing patients before and during COVID using two-tailed t-tests, Mann-Whitney tests, and Fisher's exact tests as appropriate. Factors associated with readmission were analyzed using simple logistic regression and multiple logistic regression with calculation of odds ratios (OR) and 95% confidence intervals.

Results

A total of 213 patients were identified with 65 having surgery before the COVID era and 145 during the COVID era. By univariate analysis, there was no difference in preoperative weight, BMI or comorbidities between patients before and during the COVID era. Patients during the COVID era had a significantly shorter LOS, however there were no differences in readmission rates, days to readmission, complications or reoperation. LOS was associated with overall readmission by simple logistic regression (OR 1.51), but not multiple logistic regression. Gastric bypass was the only factor associated with overall and 30-day readmission by multiple logistic regression (OR 0.028; OR 0.0362).

Conclusions

Patients who underwent elective bariatric surgery during COVID-19 had decreased LOS, but no differences in readmission rates, days to readmission, complications or reoperation.

A262

Short Term Weight Loss Comparison Between Biliopancreatic Diversion Duodenal Switch (BPD/DS) and Single Anastomosis Duodenal Ilial Bypass with Sleeve Gastrectomy (SADI-S)

Justin Eagleston *Charlotte NC*[1], Kyle Thompson *Charlotte NC*[1], Keith Gersin *Charlotte NC*[1], Selwan Barbat *Charlotte NC*[1], Timothy Kuwada *Charlotte NC*[1], Abdelrahman Nimeri *Charlotte NC*[1], Roc Bauman *Concord NC*[1]
Atrium Health[1]

BACKGROUND:
Preoperative planning regarding alternatives for metabolic and bariatric surgery is critical. The MBSAQIP calculator currently does not compare between BPD/DS and SADI-S and limits patient-surgeon discussion. The aim of this study was to compare the differences in outcomes between BPD/DS and SADI-S.

METHODS:
This is a retrospective review of our institutional MBSAQIP registry data evaluating patients after primary BPD/DS and SADI-S for outcomes. Study period was from February 2016 to July 2022.

RESULTS:
Our study included 297 patients, 187 BPD/DS and 110 SADI-S. There were no significant differences between preoperative demographics and comorbidities between the cohorts. Preoperative BMI was similar between the BPD/DS and SADI-S cohorts, 51.8 vs. 51.1. Minor complications including 30-day readmission, reintervention, reoperation, and mortality were not significant between the cohorts. Length of stay was longer in BPD/DS compared to SADI-S, 2.1 days vs 1.5 days ($p = 0.03$). Operative time was longer in the BPD/DS group vs the SADI-S group, 253.4 minutes vs 195.1 minutes ($p = < 0.01$). There was no significant difference between weight loss or BMI change between the cohorts at one year. There was no significant difference between weight loss or BMI change between the cohorts at one year. BPD/DS had -16.7 BMI points, 47.5 kg loss vs -17.1 BMI points, 50 kg loss for SADI-S ($p = 0.67$ and 0.36 respectively).

CONCLUSION:
Outcomes of BPD/DS and SADI-S at one year are similar. Future studies are needed to provide further evidence of the similarity in weight loss between the operations.

A263

Is BMI > 70 Too Heavy for Bariatric Surgery?

Robert Ross *Baton Rouge LA*[1], Clinton Stillwell *New Orleans LA*[2], Denise Danos *New Orleans LA*[3], Michael Cook *New Orleans LA*[2], Vance Albaugh *Baton Rouge LA*[1], Philip Schauer *Baton Rouge LA*[1]

Pennington Biomedical Research Center[1] LSU School of Medicine, New Orleans[2] LSU School of Public Health, New Orleans[3]

Introduction

Outcomes of patients with extreme obesity (EO, BMI≥70kg/m^2) have not been reported leaving open the question of an upper weight limit for safe bariatric surgery. The purpose of this study was to determine if bariatric surgery can be performed safely in patients with extreme obesity.

Methods

All available MBS Accreditation and Quality Improvement Program (MBSAQIP) data were used to characterize the study cohort (2015–2021). Thirty-day outcomes for BMI≥70kg/m^2 (n=12,441) vs. BMI<70kg/m^2 (n=1,316,112) were assessed.

Results

EO was present in ~1% of MBSAQIP patients with mean BMI of 77.2 (range 70-148.6, median 74.7). Patients with EO had a greater frequency of diabetes, hypertension, sleep apnea, COPD, and immobility compared to those with BMI <70. Sleeve gastrectomy was the most common operation for both groups. Postoperatively, patients with EO had 41% higher readmissions (5.45% vs 3.87%), 8% higher reoperation (1.56% vs 1.45%), 23% higher reintervention (1.63% vs 1.32%), and longer average length of stay and unplanned ICU admissions (2.0 vs 1.6 days and 2.3% vs 0.7%, respectively). Infection (1.46% vs 0.99%), venous thrombosis (0.26% vs 0.20%), cardiac arrest (0.13% vs 0.04%) and mortality (0.13% vs. 0.04%) were also increased in patients with EO.

Conclusions

Patients undergoing bariatric surgery with extreme obesity (BMI≥70kg/m^2) have a significantly higher risk of postoperative morbidity and mortality compared to patients with BMI<70kg/m^2. However, morbidity and mortality of bariatric surgery even in patients with extreme obesity is reasonably low indicating that such patients are not “too heavy for bariatric surgery”.

A264

Perception of Primary Care Physicians on the Role of Bariatric Surgery for the Management of Obesity

Brandon Smith *La Crosse WI*[1], Katelyn Mellion *La Crosse WI*[1], Joshua Pfeiffer *La Crosse WI*[1], Brandon Grover *La Crosse WI*[1]
Gundersen Health System[1]

Introduction:

Bariatric surgery is a highly effective therapy for obesity and some primary care physicians are reluctant to refer patients for surgical evaluation. The primary objective of this study is to identify the attitudes, knowledge, and perceptions of primary care physicians regarding bariatric surgery and identify referral barriers.

Methods:

A prospective cohort study was conducted through an anonymous survey of primary care physicians at two institutions. The intentionally constructed survey included 30 questions.

Results:

In all, 55 of 81 surveys were completed (67.9%). Each responder reported having bariatric surgery patients in their practice. Although 74.5% are familiar with bariatric surgery indications, 92.6% reported referring less than 10% of their patients with BMI >35 for bariatric surgery consultation. For diabetes specifically, 49.1% rarely or never discuss bariatric surgery as a management option. Reasons for bariatric non-referral include concerns regarding psychosocial issues (60.4%), follow-up care (26.4%), complication risk (32.1%), lack of appointment time to discuss obesity (47.2%), and apprehension of offending patients (24.5%). Financial burden was also a perceived barrier by 84.9%. Overall, 40% of those surveyed do not feel competent to discuss bariatric surgery with patients and 70.9% would gain comfort in referring patients if they had more bariatric surgery education.

Conclusion:

The perception of bariatric surgery amongst primary care physicians is variable. While the majority are familiar with bariatric surgery indications, several remain hesitant to provide discussion or referral. Reasons for non-referral are multifactorial. The results of this study encourage further quality education on bariatric surgery for primary care physicians.

A265

Gastroesophageal Junction Adenocarcinoma 1-Year after Sleeve Gastrectomy

Kevin Brown *New Haven CT*[1], Daniel Boffa *New Haven CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Introduction: Gastroesophageal malignancy after sleeve gastrectomy is rare. Early recognition and treatment are critical for long-term survival.

Methods: A 70-year-old Caucasian male with a BMI of 46 and history of Afib, Hypertension, Diabetes, and OSA underwent an uncomplicated laparoscopic sleeve gastrectomy with a normal intra-operative endoscopy. By 10 months postop, patient had reduced BMI to 30.5 and resolved his diabetes. Eleven months postop, he presented with emesis to solid foods progressing to liquids. With symptoms progressing despite medical treatment for GERD, endoscopy showed severe stenosis at the GE junction. EUS showed a circumferential mass positive for adenocarcinoma with invasion into the muscularis propria.

Results: Patient had adenocarcinoma of the distal esophagus HER 3+ and MMR proficient, clinical T2N1. He underwent esophageal stent placement followed by neoadjuvant chemotherapy and radiation including FOLFOX. He tolerated FOLFOX poorly and was changed to carboplatin/taxol + Radiation Therapy which was complicated by a localized perforation managed with antibiotics. After PET scan of esophageal mass indicated response to therapy, he underwent an open distal esophagectomy, total gastrectomy with Roux-en-Y esophagojejunostomy and placement of feeding tube. Pathology revealed poorly differentiated invasive adenocarcinoma of the GE junction and cardia with negative margins. His nadir weight during treatment was 24.3.

Conclusion: In the US, this represents only the second adenocarcinoma following a sleeve gastrectomy and the first in a non-immune compromised patient. Previous case series indicate an additional 15 cases worldwide with average diagnosis at 33 months. This case illustrates the need for both pre- and postoperative endoscopy.

A266

Single center study of de novo gastro-esophageal reflux disease after sleeve gastrectomy

Hein Maung *Melbourne* [1], Arun Dhir *Bundoora* [1], Dee Zhen Lim *Boxhill* [1], Krinal Mori *Epping* [2], Benjamin Keong *Bundoora* [1]
Northern Health[1] Northern Helath[2]

Laparoscopic sleeve gastrectomy (LSG) has gained significant popularity as a preferred bariatric surgical procedure due to technical ease, low complication rates, and safe long-term profile. GERD (gastroesophageal reflux disease) remains one of the most common undesirable side effects of LSG, with some multi centre papers quoting rates between 20% to 80% at 36 months post LSG. The multi centre analysis of data is made more complex due to differences in surgical technique, bougie size and methods of GERD assessment. Our study aims to determine the incidence of GERD in a single centre where the variability of surgical technique as a confounding factor has been eliminated. This provides a more 'representative' risk for GERD post LSG as a primary bariatric procedure.

METHODS: Our study is a retrospective cohort study, utilizing data from a group of patients from a single surgeon practice. Eligible patients that underwent LSG from 2014 to 2018, were invited to participate in the study. For the purposes of the study, endoscopic assessment was considered the gold standard. Outcomes were measured based on clinical, endoscopic and histological findings.

RESULTS: Of the 23 patients in the study, 39.13% of patients had de novo silent reflux at endoscopy or biopsy an average of 56.3 months from their LSG. Only 2 patients (8.7% incidence) had signs of oesophagitis on endoscopic examination and chronic inflammation on histology, while 7 patients (30.43%) had histological evidence of mild inflammation indicating oesophagitis in the absence of endoscopic evidence.

A270

Google Trends Analysis to Gauge National Public Interest in Weight Loss Medications

Yeon Choi *San Antonio TX*[1], Emerson Thomas *San Antonio TX*[1]
University of the Incarnate Word SOM[1]

Purpose: With increased prevalence of obesity, a wider range of options and multidisciplinary strategies to treatment have become available. Weight loss medications (WLM) have shown to be effective options for management of weight loss, and data from several studies suggests that WLMs can also be utilized to assist with weight regain post-bariatric surgery. Our purpose is to analyze the temporal trends of public online searches of terms related to weight loss medications to assess public interest.

Methods: FDA approved WLMs (generic+brand names) were used, along with the search term "weight loss medication". These terms included "Phentermine/Topiramate+ Qsymia", "Naltrexone-Bupropion+ Contrave", "Semaglutide+ Wegovy", "Liraglutide+ Saxenda", "Orlistat+ Xenical", "Phentermine+ Adipex-P+ Lomaira", "Benzphetamine+ Regimex", "Diethylpropion+ Tenuate", and "Phendimetrazine+ Bontril". Google Trends was utilized to obtain and analyze Relative Search Volume (RSV) from 2004–2021 for US- trends.

Results: Analysis showed increase in search term volume for weight loss medication via 2.2-fold ($P<0.0001$). Increases were seen in Phentermine/Topiramate+Qsymia, Naltrexone-Bupropion+Contrave, and Liraglutide+Saxenda by 7.3-,17.4-, and 32.0-fold ($P<0.01$,$P<0.001$, and $P<0.00001$). Decreases in search term volume were found for Orlistat+Xenical, Phentermine+Adipex-P+Lomaira, Benzphetamine+Regimex, Diethylpropion+Tenuate, and Phendimetrazine+Bontril by 4.0-,1.8-,5.5-,3.1-, and 6-fold ($P<0.0001$,$P<0.0001$,$P<0.01$,$P<0.000001$, and $P<0.0000001$).

Conclusion: Search query interest for WLM has increased since 2004, specifically with most long-term usage medications. With climbing obesity prevalence, a variety of treatment options have become available, with a rise in collective public interest and education of weight loss medicine. This data may serve to guide treatment strategies and indicate public and patient interest in pharmacological treatment options, allowing for incorporation of multidisciplinary approaches.

A271

Dynamic satiety stimulators for metabolic disease treatment

Neil Jia *Cambridge MA*[1], Giovanni Traverso *Cambridge MA*[1]
Massachusetts Institute of Technology[1]

Lack of persistent weight loss may limit current intragastric balloon therapy. Static balloons, those that do not change in volume appear to be associated with accommodation with plateauing of weight loss in large mammals. Here we report a novel endoscopically administered gastric resident device that supports dynamic satiety induction to approximate the natural satiety induction process associated with episodic meal ingestion. The device expands pre-prandially and occupies the gastric cavity, then shrinks to a minimal volume after the meal. We have developed two gastric residency and dynamic expansion mechanisms based on robotic and balloon approaches. The system is programmed to stimulate satiety autonomously over the course of treatment without manual assistance. We have conducted preliminary evaluation *in vitro* and *in vivo* in the swine model. This system enables a minimally-invasive dynamic satiety induction to support weight loss.

A272

A Descriptive Review of a Multidisciplinary Approach to Patients with Obesity in a Native American Cohort

Stephanie Garcia *Tulsa OK*[1], Carah Horn *Tulsa OK*[2], Zhamak Khorgami *Tulsa OK*[2], Robert Lim *Tulsa OK*[2], Geoffrey Chow *Tulsa OK*[2]
University of Oklahoma- Tulsa[1] University of Oklahoma-Tulsa[2]

Background: Native American patients have high rates of obesity and related comorbidities. The goal of this study is to review the outcomes of Native American patients after they undergo bariatric surgery through a multidisciplinary program.

Methods: A retrospective review of Native American patients who underwent bariatric surgery from June 2021 to August 2022 and who are part of a comprehensive bariatric program were included. All patients met National Institutes of Health consensus statement guidelines. Patient comorbidities, operative details, percentages of weight loss, BMI change, and improvement or resolution of diabetes mellitus at 6 month intervals were compared.

Results: A total of 38 patients were included in this study. Of the patients studied, 16 had a diagnosis of diabetes and a total of 18 patients were treated with anti-obesity medications. Mean preoperative weight and BMI were 142.61 kg and 46.93 kg/m^2, respectively. Surgical intervention included primary RYGB (58%), Sleeve gastrectomy (32%), SADI (8%), and conversion to RYGB (3%). At 6 months, percent change from the highest recorded weight average for the cohort was –13% , BMI 42.63 kg/m^2. Post-operatively patients with diabetes had an average HbA1c of 5.6%.

Conclusion: Multidisciplinary combined therapy is successful in Native American patients with obesity. Native American patients undergoing bariatric surgery have high rates of DM, and low rates of perioperative complications. More research is needed to determine how bariatric surgery improves the lives of patients with obesity and how to improve access to comprehensive bariatric programs.

A273

Investigating postoperative readmissions: Who is at risk in the first 30 days following bariatric surgery?

Asena Markal *Gainesville FL*[1], Frank Miralles [1], Dan Neal [1], Gwendolyn Crispell *Gainesville FL*[1], Kyle Hazen *Gainesville FL*[1], Tamara Lux *Gainesville FL*[1], Jeffrey Friedman *Gainesville FL*[1], Crystal Johnson-Mann *Gainesville FL*[1]
University of Florida[1]

Background
Readmission rates after bariatric surgery can increase hospital costs and negatively impact quality metrics. The purpose of this study was to evaluate risk factors for 30-day readmission following bariatric surgery at a single Metabolic and Bariatric Surgery Accreditation Quality Improvement Project (MBSAQIP) accredited center.

Methods
A retrospective review was performed of the prospectively maintained MBSAQIP database at a single center between January 2020 and June 2022.

Results
482 patients underwent bariatric procedures during the 30-month study period. 42 patients were readmitted within 30 days of surgery (8.7%). 86.3% of patients were female (N = 416), and 13.7% were male (N = 66); 60.6% were White (N= 292), 33.2% were Black (N=160), and 6.2% were other/unknown. 6.4% identified as Hispanic (N= 31). Most patients underwent laparoscopic sleeve gastrectomy (51.5%). Length of stay (LOS) was the strongest risk factor for any 30-day readmission following bariatric surgery (p =0.0001). Patients with LOS >1 were almost 3 times more likely to be readmitted within 30 days of their procedure. There was no statistical difference in LOS = 2 or LOS >3. On multivariate analysis, increasing age (OR 1.03, 95% CI 1.004-1.056, p= 0.023) and Black race (OR 2.0, 95% CI 1.21-3.22, p=0.007) were associated with LOS >1 day.

Conclusion
Increased length of stay greater than 1 day is a risk factor for hospital readmission within 30 days following bariatric surgery, even in the absence of postoperative complications.

A274

Efficacy of Preoperative Anti-Obesity Medications in Primary Versus Revisional Bariatric Surgery Patients

Karan Grover *Cleveland OH*[1], Shravan Sarvepalli *Cleveland OH*[1], Daniel Praise Mowoh *Cleveland OH*[1], Hamza Nasir Chatha *Islamabad* [2], Katherine O'Boyle *Chardon OH*[1], Megan Purcell *Parma OH*[1], Latonya Fore *cleveland OH*[1], Leena Khaitan [1], Mujjahid Abbas *Cleveland OH*[1]

University Hospitals[1] Shifa College of Medicine[2]

Background: The efficacy of anti-obesity medications (AOM) for preoperative weight loss has been well studied in patients undergoing primary bariatric surgery though there is a paucity of data in patients undergoing revisional surgery. We aim to compare the efficacy of AOM between these two groups .

Methods: We retrospectively reviewed the charts of patients who had been prescribed AOM for preoperative weight loss for primary and revisional bariatric surgery from 2017 to 2022 at a single academic bariatric surgery center.

Results: Of 70 patients identified, 53 (34.6%) received AOM for preoperative weight loss in primary bariatric surgery, 17 (11.1%) for preoperative weight loss in revisional bariatric surgery. Mean age in primary and revisional patients at the initial visit to the medical weight loss clinic was 43.0 years vs. 47.3 years ($p=0.51$) and mean BMI 48.6 kg/m2 vs. 41.0 kg/m2 ($p<0.01$). The average duration of time between dates of the initial visit and primary and revisional surgery was 466 days vs. 657 days ($p=0.077$). Preoperative weight changes in primary and revisional groups was -8.9 lb vs. -1.3 lb ($p=0.28$) representing a mean BMI percentage change of -2.3% vs. -1.1% ($p=0.26$), respectively. 2.3 AOM vs. 2.1 AOM were prescribed in primary and revisional groups ($p=0.57$) with adverse drug reactions occurring in 23 vs. 2 patients, ($p<0.05$) respectively.

Conclusion: There appears to be no significant difference in preoperative weight loss between primary and revisional bariatric surgical patients, though adverse drug reactions may occur more commonly in primary bariatric surgery patients.

A275

Sleeve Gastrectomy after Splenic Artery Embolization, a case report

Hannah Palmerton *Lakewood WA*[1], Albert Nakayama [2], Beau Prey *Joint Base Lewis-McChord WA*[2], Christopher Porta *Tacoma WA*[2]
Madigan Army Medical Center[1] Madigan Army Medical Center[2]

The laparoscopic sleeve gastrectomy (LSG) has become an exceedingly common, reliable bariatric surgery for weight loss and improvement of metabolic comorbidities. The incidence of splenic related complications is low, and as such has not been widely studied. The objective of this case review is to demonstrate a safe and thoughtful approach to LSG after splenic artery embolization (SAE). This case represents a unique circumstance in which the vascular supply to the spleen had been compromised and risk of infarction and further complications created a more complex medical decision making process. In this patient, no adverse outcomes developed, indicating elective sleeve gastrectomy is a safe and feasible procedure after SAE, but the risks should be discussed, imaging reviewed for collateral vessels, pre-operative administration of vaccines imperative, and several key steps taken intra-operatively.

A276

The swallowable intragastric balloon: a retrospective analysis of safety and effectiveness for the treatment of overweight and obesity

Arianna Portmann-Baracco *lima* [1], Luciano Poggi *LIMA* [2], Andrea Davila Luna *Lima* [1], Grazia Bernui Vigo *Lima* [1]
Cayetano Heredia University[1] British American Hospital[2]

Introduction: The Allurion (formerly Elipse) intragastric balloon (IGB) is a newly developed non-invasive treatment for overweight and obesity that does not require endoscopy. We aimed to evaluate the safety and efficacy of Allurion IGB and its impact on weight loss.

Methods: We included 267 patients who underwent Allurion Balloon insertion between March 2021 and May 2022. Measurements of weight, body mass index (BMI), muscle mass, body fat percentage, and visceral fat percentage were collected at baseline and monthly for the next 4 months. Incidence of nausea and vomiting was assessed 24 hours after balloon insertion and data on complications at any time of the treatment was collected.

Results: The mean age of patients was 40 and 67.3% were females. 1.1% of patients were unable to swallow the device and 42.5% required stylet assistance. According to the Rhodes Index of Nausea, Vomiting and Retching 8.5%, 40.4%, 31.4%, 15.4%, and 4.3% had none, mild, moderate, great, and severe symptoms. 19.6% of patients required intravenous fluids, 1.1% underwent endoscopic removal due to intolerance, 1 patient had pancreatitis, and 1 patient had spontaneous hyperinflation. Overall (4 months after placement), patients had a body weight loss (BWL) of 9 Kg and %BWL of 10.3%. The overall %BMI loss, muscle mass, body fat percentage, and visceral fat percentage were 10.5%, 5.5%, 11.5%, and 11.3%.

Conclusion: The Allurion intragastric balloon is an effective and safe treatment for obesity with more than 98% of tolerability and 10.2% total weight loss.

A277

Small Bowel Obstruction from Intraluminal Blood Clot in LVAD Patient after Laparoscopic Roux-en-Y Gastric Bypass

Daniel Farinas Lugo *Orlando FL*[1], John Hoff *Winter Park FL*[1], Gustavo Bello [1]
AdventHealth[1]

Bariatric surgery among morbidly obese heart failure (HF) patients is a relatively new phenomenon. Patients with end-stage HF may be precluded from obtaining a heart transplant due to morbid obesity. Roux-en-Y gastric bypass can offer a pathway for these patients to qualify for heart transplant through surgical treatment of their obesity. Complications in this patient population can range from bleeding, internal hernias, and anastomotic leak. We present the case of a 34-year-old female with a left ventricular assist device (LVAD) who underwent a laparoscopic Roux-en-Y gastric bypass, complicated by a small bowel obstruction secondary to an intraluminal blood clot. She returned to the operating room on postoperative day two for an exploratory laparotomy, where an intraluminal blood clot was discovered at the jejunojejunostomy. This was evacuated via an enterotomy on the biliopancreatic limb. The enterotomy was closed primarily without the need for anastomotic revision. The patient recovered well and was discharged home on her oral anticoagulation. In a patient population with severe concurrent cardiac comorbidities, it is critical to maintain awareness of all potential complications when undergoing bariatric surgery. This can help clinicians take prompt action and avoid significant morbidity and potentially mortality.

A278

GLP-1 Receptor Agonist Use for Weight Loss Management After Bariatric Surgery

Brenda Lin *Boston MA*[1], Claire Stauffer *Boston MA*[1], Ann Smith *West Roxbury MA*[1]
VA Boston Healthcare System[1]

Modified long-acting analogues of native glucagon-like peptide 1 receptor agonists (GLP-1 RA) have recently been approved for the treatment of obesity. This study is a review of a cohort of VA patients who required adjunct treatment for obesity with GLP-1 RAs (semaglutide or liraglutide) after bariatric surgery. Patients included in this study have either weight recurrence or less than expected weight loss following bariatric surgery (defined as either loss of <2 body mass index (BMI) points after 3 months post-op, loss of <8-12 BMI points for sleeve gastrectomy 9 months post-op, or loss of <10-15 BMI points for gastric bypass 9 months post-op). The cohort currently includes 57 patients who met inclusion criteria for GLP-1 RA treatment, 44 (75.9%) of whom underwent sleeve gastrectomy and 13 (24.1%) of whom underwent Roux-en-Y gastric bypass, with a mean of 33 months between surgery and initiation of GLP-1 RA. Median time since initiating GLP1-RA treatment is currently 4 months, with mean BMI decrease at 2 and 6 months following GLP-1 RA initiation of 1.54 and 3.67 points, respectively. Given the relatively recent introduction of GLP-1 RAs for the treatment of obesity, as well as the current lack of data regarding the use of GLP-1RAs in the post-operative bariatric population, this study provides valuable insight into the efficacy of a new therapy in this specific population. Our early results demonstrate that this therapy is well-tolerated and effective in patients who have difficult to manage weight recurrence or plateau following bariatric surgery.

A279

National Internet Search Interest in Bariatric Surgery: A Google Trends Analysis

Yeon Choi *San Antonio TX*[1], Brandon O'Connor *San Antonio TX*[1]
University of the Incarnate Word SOM[1]

Purpose: Obesity has become an increasing public health issue, with a rising prevalence in both children and adults. Bariatric surgery is an effective treatment for obesity and obesity related conditions, and with widened access for surgical options, it is important to understand prospective patient and public interest in surgical management strategies. This study aimed to analyze and compare the temporal trends of public online searches of terms related to bariatric surgery.

Methods: A list of search terms were generated related to bariatric surgery, including "Weight loss surgery + Bariatric surgery", "Sleeve Gastrectomy + Gastric Sleeve", "Lap Band + Adjustable Gastric Band", and "Roux-en-Y + Gastric Bypass". Google Trends was utilized to obtain relative search volume (RSV) for the search terms and was analyzed for long term (2004 – 2021) trends in the United States.

Results: Trend analysis showed "weight loss surgery + bariatric surgery" and "sleeve gastrectomy + gastric sleeve" increased 1.6- and 48.7- fold respectively (both $P<0.00001$), whereas, "lap band + adjustable gastric band" and "Roux-en-Y + gastric bypass" decreased 2.1- and 1.8- fold respectively (both $P<0.001$).

Conclusion: Search query interest for bariatric surgery has increased since 2004, with sleeve gastrectomy having the largest gain in volume. As obesity becomes more prevalent, there has been a greater public interest in self-education in surgical weight loss. This data may serve to provide perspective on current and future public and patient interest and open discussion on demand and increased potential for usage of surgical management strategies for obesity.

A281

Optimizing Clinical Decision Making and Outcomes In Sleeve Gastrectomy Patients With Postoperative Bleeding: A QI Initiative

Charmaine GENTLES *Manhasset NY*[1], Andrea Bedrosian *Great Neck NY*[2], Larry Gellman *Great Neck NY*[2], Dominick Gadaleta *Great Neck NY*[2]
Northwell Health North Shore University Hospital[1] Northwell Health North Shore University[2]

Background

In 2018, North Shore University Hospital was identified in Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) risk-adjusted Semi-Annual Report (SAR) report as "need improvement" in SG serious event with observed rate of 2.29% and re-operative rate of 1.71% in the10th decile.

Aim

We aim to identify correctable factors in patients with hemorrhage after sleeve gastrectomy and reduce re-operative rate to <1% over the next 3 years.

Study Design & Population

175 patients with primary sleeve gastrectomy between January 1, 2021- December 31, 2021 were identified. Relevant comorbidities such as hypertension, diabetes, and obstructive sleep apnea were examined in these patients. Patients with a diagnosis of upper gastrointestinal bleeding, or acute blood loss requiring blood transfusions, returned to operating room, or readmitted within 30 days after discharge were reviewed.

Result

Mean age was 41.5 years and BMI 44.01kg/m2 respectively, with 126 (72%) females and 49 (28%) males. Mean length of stay was 1.4 days. 2.3% (4) of patients were identified with bleeding with a re-operative rate of 1.7% (3). 50% alf of these patients received blood transfusions of two or more units. Two patients transferred to SICU, one patient was a 30-day readmission. Hypertension, diabetes, and OSA identified as risk factors that may have influenced postoperative bleeding. On return to OR, no clear source of bleeding identified.

Conclusion

It is unclear if acute GI bleeding may have been prevented. We planned to use the SLEEVE BLEED Risk Predictive Calculator to optimize clinical decision making to improve postoperative outcomes.

A282

Feasibility and Safety of Laparoscopic 3-port Sleeve Gastrectomy in Asian Morbidly Obese Patients

Sang Hyun Kim *Seoul*
Soonchunhyang University Seoul Hospital

The aim of this study was to evaluate the feasibility and safety of laparoscopic 3-port sleeve gastrectomy in morbidly obese patients.
We conducted a retrospective review of the electronic medical records of all patients who underwent laparoscopic 3-port sleeve gastrectomy (LSG-3) and conventional 4-port sleeve gastrectomy (LSG-4) between May 2021 and May 2022 at a single institution. Operative time, estimated blood loss, number of cartridges used, length of postoperative hospital stay, intra- and postoperative complications, readmission, and reoperation rate was assessed.
Sixty-eight patients (31 patients undergoing LSG-3 and 37 patients undergoing LSG-4 were enrolled in this study. Body weight and BMI was significantly higher in LSG-4 group than in LSG-3 group, respectively (123.0±29.4 vs. 104.3±20.2kg, p=0.003 and 43.8±9.3 vs. 37.8±7.2, p=0.004). Operative time was significantly shorter in LSG-3 group than LSG-4 group (108.7±17.8 vs. 120.8±23.7, p=0.023). Estimated blood loss and number of cartridges used is not significant between two groups (16.1±17.8ml and 5.8±0.8 in LSG-4 vs. 12.1±11.5ml and 5.5±0.6 in LSG-3). The length of postoperative stay was significantly shorter in LSG-4 than LSG-3 (2.4±0.6 vs. 2.9±1.2, p=0.034). there was no difference between two groups in terms of intra- and postoperative complications, readmission, and reoperation rate. Only 1 case in LSG-3 group was reoperated due to postoperative bleeding. 4 cases were converted LSG-3 to LSG-4 for liver traction (2 cases), better vision (1 case), and bleeding control (1 case).
LSG-3 is feasible and safe in Asian morbidly obese patients.

A283

Humidified insufflation versus non humidified insufflation. Comparison on the frequency of camera fogging, affect on operative time and laparoscopic visualization during laparoscopic gastric bypass and laparoscopic sleeve gastrectomy.

Helmuth Billy *ojai CA*[1], shreyash Pradhan *Ventura CA*[2]
Ventura Advanced Surgical Associates[1] Community Memorial Hospital, Ventura[2]

Laparoscopic insufflators utilizing C02 insufflated at room temperature often result in fogging of the laparoscopic necessitating frequent removal of the the laparoscopic lens and application of an antifog solution to maintain optimal visualization. After the introduction of a high flow insufflator capable of incorporating continuous humidified C02 at our institution, we compared the incidence of critical fogging that occurred between procedures that were done with a traditional room temperature insufflator and an insufflator capable of providing humidifed C02.

25 patients undergoing RYGB and sleeve gastrectomy were randomly selected from a pool of over 100 operations that had been recorded and archived at our institution. Insufflators utiliized on these 25 patients were standard room temperature insufflators using non humidified or heated C02. The second cohort of 25 patients were randomly selected from a pool of over 100 RYGB and sleeve gastrectomy cases which were also archived at our institution but had utlized an insufflation system capable of providing continuous humidfied C02 during the laparoscopic procedure.

All 50 cases were reviewed by two surgeons and the frequency and duration of scope removal and application of antifog solution was recorded. Smudging that had occured during scope transfers to various trocars during the performance of each operation were excluded. The incidence of spontaneous fogging that requred application of an antifog solution were compared between the two groups

Utilization of humidfied insufflated CO2 resulted in decreased episodes of scope removal and decreased application of antifog solution during laparoscopic RYGB and sleeve gastrectomy.

A284

Intragastric Balloon Therapy Is Re-Emerging: An Up-To-Date Analysis

Samir Narula *Brooklyn NY*[1], Elliot Banayan *Brooklyn NY*[1], Brian Gilchrist *Brooklyn NY*[1], Pratibha Vemulapalli *brooklyn, Ny 11201 NY*[1]
The Brooklyn Hospital Center[1]

Intragastric balloons (IGB) were first used to facilitate weight loss in 1985 but were subsequently taken off the market due to mediocre outcomes and a myriad of complications. In 2015 the FDA approved the first model of second generation IGBs. This study aims to elucidate the postoperative outcomes, safety, and use of IGBs since 2015.

A cohort study was performed using prospective data from the MBSAQIP registry. This included all IGB and non-IGB procedures from 2015 to 2020, excluding emergent and revisional/conversion surgeries. Statistical analysis was performed using STATA.

660,387 patients were included, 3254 (0.49%) underwent IGB placement. These patients were more likely female, older, and had lower BMIs, rates of comorbidities and ASA classifications. No MACEs or mortalities occurred after IGB placement. At 30 days postoperatively the average decrease in BMI was similar between groups. There was a decline in performing IGB procedures from 2015 to 2020, however the relative proportion increased to 4.05% from 0.62%.

Despite clinically insignificant weight loss during the study period of one month, compared to other weight loss procedures IGB placement is quicker, has fewer complications, lower rates of readmission and no reported mortalities or major cardiac events. IGBs can be used as a primary weight loss procedure or a bridge to non-IGB bariatric surgery. Although the number of procedures performed has decreased since 2015, the data from 2020 was limited by COVID-19 but may still suggest an increase relative to other procedures. IGBs remain an underutilized tool in the bariatric surgeon’s armamentarium.

A285

Quantifying constipation after sleeve gastrectomy to enhance patient outcomes and symptom management

James Giannone *Staten Island NY*[1], Andrea Bivona *Staten Island NY*[1], Alexandra Bronis *Staten Island NY*[1], Bao Nasri *Newark NJ*[2], Stephanie Donnellan *Staten Island NY*[1], Michael Zemaitis *Staten Island NY*[1], Alexander Barkan *Staten Island NY*[1]
Richmond University Medical Center[1] Rutgers New Jersey Medical School[2]

Background:
Constipation is a significant symptom that affects patients following abdominal surgery and has been reported in up to 40% of hospitalized individuals. Those who have undergone sleeve gastrectomy (SG) are particularly at risk due to their post-surgical state but more specifically from the physiologic and dietary changes they experience. This self-reported observational study sought to quantify the incidence of post-SG constipation as a means to justify medication administration and program pathway changes.

Methods:
The sample, which is still open and accruing, included surveys from 28 pre-operative patients and 26 patients status post sleeve gastrectomy. The patients were asked to complete a pre-op and post-op (at any scheduled follow-up appointment) symptom survey. The questions were accessed via a QR code in the office and completed electronically.

Results:
In this population, 17% of patients reported having two or less bowel movements per week pre-operatively, which increased to 60% post-operatively. It was also noted that the number of patients using a once-daily bowel movement assist medication tripled after surgery.

Conclusion:
The incidence of constipation was shown to increase after SG and by demonstrating this symptom in our patients, it supported a change in the post-operative pathway to increase the daily dosage of bowel assist medication and institute a more robust bowel regimen. Using a structured method to identify areas for improvement in our surgical pathway promotes improved patient outcomes through preventative management and more targeted follow-up care.

A286

Resolution of sigmoid esophagus from pseudoachalasia associated with prior laparoscopic gastric band placement

Yosuke Sakurai *Huntington WV*[1], Tyler Bayliss *Hurricane WV*[1], Abigail Murphy-Scharf *Huntington WV*[1], Pranav Balakrishnan *Huntington WV*[1], Semeret Munie *Huntington WV*[1]
Marshall University Joan Edwards School of Medicine[1]

A 53-year-old male with a history of laparoscopic adjustable gastric banding (LAGB) 15 years ago presented to the clinic due to persistent dysphagia for two years despite the deflation of the band. On investigation, an upper gastrointestinal series demonstrated dilated tortuous sigmoid esophagus measuring 6.6cm in diameter (Fig. 1A). Esophagogastroduodenoscopy revealed inflamed mucosa, a tortuous esophagus, and a high lower esophagus sphincter pressure. A biopsy of the distal esophagus did not show any evidence of malignancy. Those findings were consistent with a diagnosis of pseudoachalasia secondary to LAGB, resulting in a sigmoid esophagus. The patient underwent gastric band removal with rapid resolution of symptoms. Postoperative barium study showed improvement of dilatation (Fig.1B). At three months postoperative follow-up, high-resolution manometry demonstrated normal motility. Pseudoachalasia is a known complication following a gastric band placement, which is reversible with band removal. However, subsequent development of sigmoid esophagus is uncommon. In patients with achalasia, sigmoid esophagus is considered a late-stage of achalasia and associated with worse outcomes with myotomy compared to earlier-stage achalasia. Sigmoid esophagus may require esophagectomy. Although there are case reports of mega esophagus resolving after band removal, from our literature search this is the first case that we know of that has shown resolution of sigmoid esophagus and showed normalization of esophageal motility after band removal in such a severe pseudoachalasia case.

A288

Weight Loss Medication Treatment Pathway in the Pre-Operative Phase for Adolescent Patients

Jessica Williams *Hartford CT*[1], Christine Finck *Hartford CT*[2], Melissa Santos *Hartford CT*[2]
Connecticut Children's[1] Connecticut Children's Medical Center[2]

The use of Bariatric surgery and anti-obesity medications (AOMs) for children and teens has expanded rapidly in the last decade with life-changing outcomes for patients with obesity. The use of AOMs on the way to Bariatric surgery has begun to gather attention in the literature, with a focus to date on adult patients[i]. Meaningfully, the use of AOMs before surgery can reduce pre-operative Body Mass Index (BMI), thereby improving surgical outcomes, improve overall weight loss potential and help patients with motivation. To date, no data or best practices have been published on the use of AOMs prior to adolescent bariatric surgery.

The goal of this proposal is to provide an overview of a pathway for AOM use for adolescents in the pre-surgical period prior to bariatric surgery. An overview of the adult literature and the use of AOMs in non-surgical populations will be reviewed. Our preliminary work using AOMs for adolescents undergoing bariatric surgery including approach, logistics and lessons learned will be discussed. Several case examples will be used to illustrate findings. We will review how AOM use is integrated smoothly into the already busy pre-operative preparation period.

i. Vosburg, R. Wesley et al. "Literature Review on Antiobesity Medication Use for Metabolic and Bariatric Surgery Patients from the American Society for Metabolic and Bariatric Surgery Clinical Issues Committee." Surgery for Obesity and Related Diseases 18.9 (2022): 1109-119. Web

A289

Early Experience and Engagement with a Bariatric Patient Digital Application

Lucian Panait *Chaska MN*[1], Vishal Kudav *Chaska MN*[1], Frank R. Bisceglie *New Haven CT*[2]
Bhatti Weight Loss Center[1] Medtronic[2]

Background: We continue to see inadequate patient compliance and retention within metabolic and bariatric surgery (MBS). As technology advances, we have seen solutions come to market to address these challenges. Our objective was to evaluate features and benefits of a MBS patient digital application. We hypothesize that use of such an application will increase patient retention and satisfaction and streamline the practice processes.

Methods: We reviewed our 2-year experience utilizing the GoFurtherTM (GF) digital application designed for MBS patients within our newly established bariatric private practice. This digital platform is a customizable on-line bariatric surgery patient tracking system with virtual weight management options. Patients were enrolled in either a basic on-demand offering of GF or a more comprehensive version with on-line dietician and psychologist visits dependent upon the patients' insurance as well as needs.

Results: Since our practice inception, 58 patients were invited to join the platform, 14 have not joined yet and most are lost to follow-up. Of these, 33 underwent bariatric surgery and 11 are still completing the bariatric surgery program prerequisites. Patients who completed the process expressed satisfaction with the app usage and enjoyed seeing their completion stages and remaining steps left in real time.

Conclusion: The continued challenges and barriers that MBS face has led to new technological advancements to support the practices as well as patients they serve. MBS programs adopting such virtual patient engagement platforms are likely to have higher patient retention rates and conversions to surgery, decreased staff burden and increased patient satisfaction.

A290

Bariatric Surgery in Elderly Patients

Abdullah ALMUNIFI *Riyadh*
Department of Surgery, College of Medicine, Majmaah University, Saudi Arabia

Background: Both obesity and life expectancy are increasing worldwide. The present study aimed to report the outcomes of bariatric surgery in patients≥65 years of age.

Methods: A retrospective review of prospectively collected data from patients aged ≥65 years who underwent LRYGP and LSG in our institute from 2006 to 2016. The data analyzed included age, preoperative and postoperative weight, body mass index, postoperative complications, and co-morbidities.

Results: A total of 47 patients≥65 years (66.5 ± 0.2 years) underwent bariatric surgery in our institute. Of these 47 patients, 21 patients (44.68%) had undergone LRYGP, 20 patients (42.55%) LSG, and six patients (12.76%) conversion of the gastric band (5 patients) and Maison (one patient) to LRYGP.

The mean preoperative weight and body mass indexes were 109.06 ± 2.33kg and 40.93±0.74 kg/m2, respectively. The median length of follow-up was 12 months (range 1–48). The overall complication rate was 23.4%. No mortality occurred.

For 21 patients, the mean percentage of excess weight loss and body mass index was 77.5± 6 % and 29.7±1 at 12 months.

The resolution of diabetes mellitus, hypertension, and Obstructive sleep apnea syndrome was 70%, 57%, 75%, and 100 %, respectively.

Conclusion: Bariatric surgery in carefully screened patients ±65years can be performed safely and improve co-morbidities.

A291

Dysphagia and Acid Reflux following Abdominoplasty Requiring Conversion of a Sleeve Gastrectomy to a Roux-en-y Gastric Bypass

Daiji Kano *Greenville SC*[1], Kathryn Schlosser *Greenville SC*[1], Shanu Kothari *Greenville SC*[1], John Scott *Greenville SC*[1]
Prisma Health[1]

Abdominoplasty is increasingly performed following successful weight loss from bariatric surgery. The risk of complications after abdominoplasty may be increased in patients who have undergone bariatric surgery compared to those who have not. The known complications are mainly wound-related, such as seroma formation, necrosis, and infection. It is also known that abdominoplasty results in increased intraabdominal pressure, which could theoretically cause or worsen dysphagia or acid reflux by compressing an already at-risk anatomy, such as a narrowed gastric tube after vertical sleeve gastrectomy (VSG). However, the data is sparse on the risk of dysphagia or reflux following abdominoplasty in the bariatric surgery population. We present two patients who developed dysphagia/reflux following abdominoplasty after successful weight loss from a laparoscopic VSG. The first patient is a 38-year-old female who experienced 75% excess weight loss after her VSG. She continued to do well and underwent abdominoplasty approximately 6 years later. She began to complain of dysphagia shortly following the abdominoplasty. Upper gastrointestinal contrast study demonstrated an abrupt angulation at the incisura without complete obstruction (Figure 1). An upper endoscopy demonstrated a twist at the incisura, consistent with the contrast study (Figure 2). The second patient is a 45-year-old female who experienced 42% excess weight loss. She underwent abdominoplasty approximately 2 years after her VSG. She began to complain of acid reflux only after the abdominoplasty. We theorized that the increased intraabdominal pressure from the abdominoplasty changed the anatomy of their sleeves and caused a kink, resulting in dysphagia/reflux.

A292

Learning curve of gastric cancer expert surgeon in bariatric surgery : Analysis of 85 consecutive laparoscopic sleeve gastrectomy cases

Han Hong Lee *SEOUL*
The Catholic university of Korea

Purpose: Intraabdominal organs which are manipulated in bariatric surgery are very familiar with gastric cancer surgeons. This study is aimed to assess the learning curve of gastric cancer surgeon for bariatric surgery.

Methods: Initial consecutive cases of single surgeon with more than 1000 cases of gastric cancer surgeries were enrolled in this study. The short-term results including operation details and postoperative complication were analyzed.

Results: A total 85 consecutive laparoscopic sleeve gastrectomy cases were done from 2019 to 2022. Among them, three cases were performed with removal of adjustable gastric band. The mean age of 85 patients was 36.1±9.7 and the number of female patients was 54 (63.5%). The mean BMI was 40.9±6.1. The mean values of estimated blood loss and hospital stay after surgery were 20.5±37.7 cc and 3.3±0.5 days, respectively. There were no complications for postoperative leakage, bleeding and passage disturbance. No mortality was reported. The mean operation time for three cases of sleeve gastrectomy with adjustable band removal were 168.3±2.8 minute. In 82 sleeve gastrectomy cases, the mean operation times was 108.4±26.0 minute and the time to make a plateau for operation time was around the 30 case.

Conclusions: The learning curve of gastric cancer expert surgeon is excellent when performing bariatric surgery, especially sleeve gastrectomy.

A294

Bariatric Laparoscopic Port Closure: A Simple, Effective and Easy Technique that Prevents Incisional Hernias and Dimpling

Chelsea Price *Tempe AZ*[1], Peter Zajac [1], Rob Schuster *Phoenix AZ*[1]
Tempe St. Luke's Hospital[1]

Improved trocar site cosmesis is a desired outcome after laparoscopic surgery. Bariatric patients undergoing laparoscopic surgery have port sites that can be closed with inferior cosmetic results if proper technique is not used. We describe an inexpensive, simple, and reliable technique for adequate bariatric trocar site closure and prevention of port site skin dimpling. This technique was studied as a retrospective consecutive case series. The technique was used for closing the fascia of a single 12mm periumbilical port site in 117 consecutive bariatric laparoscopic cases. An endo fascial closure device was used to close the port site in a figure of eight fashion under direct visualization. Incisional hernia and dimpling were assessed at mean follow up times of 2 weeks, 3 months and 1 year. The technique was used on 117 bariatric laparoscopic port sites with no incidence of incisional hernia or dimpling at a mean follow up time of 2 weeks, 3 months and 1 year by surgeon physical exam. No additional instrumentation or port sites were used. No intraoperative incidents, bowel injuries or additional OR time was reported. The technique is a simple, effective and reliable way to close bariatric laparoscopic port sites and prevent dimpling.

A295

Portal Vein Thrombosis Eight Years Following Laparoscopic Sleeve Gastrectomy for Weight Loss

Alexander German *Whitestone NY*[1], Olivia Haney *Staten Island NY*[2], Indraneil Mukherjee *Staten Island NY*[3], Adam Gendy *Staten Island NY*[3]
CUNY School of Medicine[1] Staten Island Univeristy Hospital[2] Staten Island University Hospital[3]

Background: There have been documented cases of acute portal vein thrombosis (PVT) after laparoscopic sleeve gastrectomy (LSG); however, there are no reports of delayed PVT.

Clinical Case: 63-year-old female with a history of cholelithiasis, LSG, diabetes, and hyperlipidemia presented with worsening abdominal pain for four weeks. She reported severe pain in the mid-epigastrium and bilious emesis for two days. The patient was scheduled to have an elective cholecystectomy but was instructed to go to the emergency department after worsening symptoms. Abdominal CT revealed acute extensive thrombosis of the right portal veins, main portal vein, splenic vein, and superior mesenteric vein.

Discussion: The cause of PVT is multifactorial, and acute PVT can be seen after a LSG. Suggested causes of PVTs after LSG include: venous stasis from increased abdominal pressure due to insufflation, manipulation of splanchnic vasculature, and increased risk of DVT in the bariatric patient population. In a literature search, James et al[1] identified a total of 18 case reports of PVT after laparoscopic surgery. A study done by Goitein et al[2], revealed a 0.3% incidence of PVT after LSG. In this study, patients developed thrombosis in 3-42 days (median of 3.7 days.) Both studies included cases in the acute setting, and none were reported in a delayed setting (>1 year after surgery). This patient had a finding of a PVT occurring eight years after a LSG. Without other obvious causes, there is a possibility her PVT was associated with her remote history of an LSG.

A296

Preventable long-term sequela of bariatric surgery – A case of severe anemia

Tristan Seton *Wilkes Barre PA*[1], Anna Bondonese *Scranton PA*[2], Jordan Salvato *Scranton PA*[2], Mark Mahan *Danville PA*[3], Alexandra Falvo *Scranton PA*[4], Ryan Horsley *Scranton PA*[4]
Geisinger Health System[1] Geisinger Commonwealth School of Medicin[2] Geisinger Medical Center[3] Geisinger Community Medical Center[4]

In 2020, an estimated 198,651 patients underwent Bariatric Surgical operations, with Roux-en-Y gastric bypass (RYGB) accounting for 20% of these surgeries. As the prevalence of patients with a history of RYGB increases annually, the importance of lifelong adherence to postoperative recommendations cannot be understated. While RYGB is a remarkably effective procedure, the lifelong risk of anemia and micronutrient deficiencies should be stressed to patients as they are at increased risk due to their altered anatomy. In similar manner, the altered anatomy of exposed jejunum to gastric acid, lends potential for marginal ulcer formation with associated bleeding. Risk for iron deficiency anemia alone is raised as the area of maximal absorption is bypassed. Here we present a case of a 56 year old female with a history of RYGB 13 years prior who presented to the emergency department fatigued and was found to be severely anemic with a hemoglobin of 3.2g/dL. She reported no follow up with Bariatric Medicine and/or Surgery, with recent initiation of ibuprofen for back pain. She was transfused 4 units of packed red blood cells and was treated with anti-ulcer therapy. She was taken for upper endoscopy and found to have marginal ulceration. She was discharged home on proton pump inhibitors, sucralfate, and misoprostol with follow up and repeat upper endoscopy scheduled.
Ultimately this patient was at high risk for clinical deterioration due to severe anemia. She responded well to nonoperative management, emphasizing the importance of lifelong adherence to postoperative recommendations.

A297

Pre-operative Psychiatric Clearance as a Predictor of Post-operative Success in Bariatric Surgery Patients

Neal Ferrin *Kalamazoo MI*[1], Kristofer Nava *Kalamazoo MI*[2], Alain Elian *Kalamazoo MI*[2], Saad Shebrain *Portage MI*[2]
Western Michigan University[1] Western Michigan University Medicine[2]

Background/Objectives:
Pre-operative psychiatric clearance (PC) by a mental health professional for patients undergoing Bariatric Surgery (BS) is important for successful postoperative outcomes. This study aims to determine the relationship between the level of psychiatric fitness and post-operative outcomes in patients undergoing BS.

Methods/Stats:
This retrospective study includes patients who underwent BS at Ascension Borgess Hospital between 2010 and 2019. Patients were categorized based upon level of PC using a 0-3 scale (PC0=failed initial assessment/eventually passed, PC1=”fair”, PC2=”good”, PC3=”strong”). Primary outcome was percent of Excess Weight Loss (EWL) and secondary outcome was missed postoperative visits and number of compliance issues. Differences between groups were analyzed using Kruskal-Wallis and Wilcoxon rank-sum tests.

Results
We report the results of preliminary analysis. Of 885 patients, 705 (79.7%) were females. Comparing the three groups who passed initial psychiatric evaluation (PC1, PC2, PC3), no difference was noted in EWL (53.0% vs. 49.6% vs. 47.8%, p=0.35). Additionally, no difference was seen when patients missed ≥4 postop visits (28.8% vs. 24.7% vs. 30.2%, p=0.10), or had ≥3 compliance issues (41.1% vs. 39.7% vs. 38.6%, p=0.71). When comparing the group of patients with PC0 to the group with PC1−3, no difference in EWL was observed (37.9% vs. 49.7%, p=0.06).

Conclusion
Preliminary results show no significant difference in the postoperative outcomes of bariatric patients based on level of psychiatric clearance. Additionally, no difference was seen in EWL between those who received 0 designation (PC0) and other groups (PC1-3). Once completed, data will be re-analyzed to further determine existing relationships.

A298

Time between Referral for and Completion of Pre-surgical Psychological Assessments

McCall Schruff *Oxford MS*[1], John Young *University MS*[1], Danielle Maack *Oxford MS*[2]
University of Mississippi[1] Delta Autumn Consulting[2]

Background:
A psychosocial assessment is a typical part of the multidisciplinary preoperative evaluation process for bariatric surgery. The current study explored the time necessary to obtain these assessments and several potential moderators of such.

Methods:
157 surgery-seeking patients (BMI M = 46.56 (± 7.81); 79.0% female) were referred for pre-surgical psychological evaluations. Regression analyses were conducted using demographics to predict 1) whether referrals presented for assessment and 2) time between referral and completion for the group completing assessments. Additionally, the second regression was repeated using self-reported sleep, binge eating, and night eating symptoms as moderators.

Results:
Patients' demographics were neither significantly associated with completion of psychological evaluation nor time to completion for the group undergoing evaluation. Similarly, moderation analyses were not significant and there were no significant differences in patient demographics between those completing vs. not completing assessment (including age, gender, ethnicity, and BMI).

Conclusion:
Completion of the pre-surgical psychological evaluation was not associated with patient variables. This suggests that organizational behavior in arranging assessments may have a greater impact on wait times and follow-through in a multidisciplinary care context than patient characteristics. Potential considerations for systematic improvement will be discussed, including policies that integrate medical, nutritional, and psychological requirements in a standardized fashion with attention to patient ergonomics and organizational efficiency. The potential for brief, inexpensive changes to system design will also be highlighted, particularly with respect to opportunities to enhance engagement, follow-through, and long-term adherence to treatment plans.

A299

Living in neighborhoods that support physical activity (PA) and other behaviors important for cognitive health relates to meeting national PA guidelines among patients pursuing metabolic and bariatric surgery (MBS)

Yin Wu *Hartford CT*[1], Pavlos Papasavas *Hartford CT*[1], John Gunstad *Kent OH*[2], Lucas Carr *Iowa City IA*[3], Amanda Zaleski [1], Jeff Mather *Hartford CT*[1], Darren Tishler *Glastonbury CT*[1], Devika Umashanker *Glastonbury CT*[1], Connie Santana *Glastonbury CT*[1], Dale Bond *Hartford CT*[1]

Hartford Hospital/HealthCare[1] Kent State University[2] University of Iowa[3]

BACKGROUND—Being active is challenging for many patients who undergo MBS. To help patients become active requires understanding of PA barriers/facilitators. Yet, research has largely focused on individual-level factors and neglected how patients' neighborhoods support/hinder PA.

OBJECTIVE—Evaluate whether "cognability" (extent to which neighborhoods encourage PA, social connection and cognitive stimulation) relates to meeting national PA guidelines (≥150 moderate-to vigorous intensity PA [MVPA] minutes/week) among patients pursuing MBS.

METHODS—Adult patients seeking MBS at Hartford HealthCare (Connecticut, USA) completed the Physical Activity Vital Sign (PAVS) clinical PA screening tool. PAVS and zip code data were retrieved from electronic health records. Zip code data were entered into a national cognability map to obtain neighborhood cognability scores. Logistic regression estimated probability of meeting PA guidelines as a function of neighborhood cognability, controlling for BMI, sociodemographics, and COVID risk (given effects on PA and cognition) for each US census tract.

RESULTS—Of 269 participants (81.8% female; 44.3±12.7 years; 64.8% Non-White Race; 41.9±9.4 kg/m^2), 93 (34.6%) met PA guidelines. Mean neighborhood cognability score was 50.2±25.9 (range=8-100). Higher neighborhood cognability related to greater likelihood of meeting PA guidelines (OR=1.01,95%CI [1.00-1.02] *p*=.031). Participants in high-to-very high cognability neighborhoods were twice as likely to meet PA guidelines versus those in low-to-very low cognability neighborhoods (OR=2.18,95%CI [1.18-4.02] *p*=.013).

CONCLUSION—Living in neighborhoods that provided better support for PA and other brain-healthy behaviors related to increased likelihood of MBS patients being active, above and

beyond important weight, disease, and sociodemographic factors. Future PA research in MBS patients should evaluate how neighborhood-level factors support/hinder PA.

A300

Indications for Anti-Obesity Medications in Bariatric Surgery Patients

Karan Grover *Cleveland OH*[1], Daniel Praise Mowoh *Cleveland OH*[1], Shravan Sarvepalli *Cleveland OH*[1], Hamza Nasir Chatha *Islamabad* [2], Katherine O'Boyle *Chardon OH*[1], Megan Purcell *Parma OH*[1], Latonya Fore *cleveland OH*[1], Leena Khaitan [1], Mujjahid Abbas *Cleveland OH*[1]

University Hospitals[1] Shifa College of Medicine[2]

Background: The purpose of this study was to determine the indications for anti-obesity medications (AOM) in patients at our multidisciplinary weight loss clinic.

Methods: A retrospective chart review at a single academic bariatric surgery center was performed.

Results: 153 patients were prescribed AOM from 2017-2022. Mean age and BMI at the time of initial visit was 44.7 years and 45.0 kg/m2. 53 (34.6%) patients received preoperative AOM for primary bariatric surgery, 40 (26.1%) for weight stall after primary bariatric surgery, 30 (19.6%) for weight regain after primary bariatric surgery, 17 (11.1%) for preoperative weight loss in revisional surgery, and 13 (8.5%) for weight regain after revisional surgery. The weight regain after revisional surgery group required the most AOMs (mean 3.5, range 1-7), followed by the preoperative primary surgery group (mean 2.3, range 1-8), weight stall group (mean 2.1, range 1-6), preoperative revision group (mean 2.1, range 1-4), and the weight regain after primary surgery group (mean 1.9, range 1-5). AOM regimens were frequently prescribed for 3-month intervals due to insurance requirements or clinical response of the drug. AOMs prescribed were: phentermine (50.4%), topiramate (19.5%), Saxenda (12.8%), and other (17.2%). Across all indications, adverse drug reactions occurred in 34 out of 343 (9.9%) AOM regimens: ineffectiveness (2.6%), insomnia (2.3%), fatigue/fogginess (1.5%), nausea (1.5%), mood changes (1.2%).

Conclusion: AOM were prescribed for five indications in our study: preoperative weight loss for primary and revisional bariatric surgery, weight regain following primary and revisional bariatric surgery, and weight stall after primary bariatric surgery.

A302

Clinical Pharmacists Can Provide Anti-Obesity Medications to Patients Anticipating Bariatric Surgery: A New Paradigm

Veronica Arceri *New Haven CT*[1], Michael Limosani *New Haven CT*[1], Jenna Lee Lee *Southbury, CT 06488 CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Introduction: Preoperative weight loss for bariatric surgery patients has been demonstrated to enhance outcomes. Anti-obesity medications (AOM) provide an opportunity to down-stage disease. Barriers to use of AOMs include the approval process and manpower. Here we describe a new paradigm of weight loss services utilizing clinical pharmacists.

Methods: Within our health system, clinical pharmacists who are integrated into our specialty disease state clinics were recognized as enhancing patient outcomes. A need in our bariatric surgery program emerged for pre-operative weight loss. Given manpower access issues and burdensome insurance approval process, clinical pharmacists emerged as ideal health care providers and a pilot program was initiated.

Results: 24 patients have been enrolled to date in the Clinical Pharmacist Weight Management Pilot. There was significant variation in duration of therapy, highest dose achieved, and type of AOM used. There were 6 medications employed including Ozempic® (61%); Victoza® (9%); Wegovy , (4%); Saxenda ® (9%); Trulicity® (9%); and Monjaro®(9%). Median duration of therapy was 17 weeks (4-80 weeks). Initial BMI median was 57 (range: 37-74) and latest BMI prior to surgery was 53 (range: 37-71). No adverse effects were noted with medication use and 25% of patients successfully underwent bariatric surgery without any complications.

Conclusions: This pilot program successfully shows that clinical pharmacists can provide enhanced outcomes through combined therapies of AOMs and bariatric surgery. As previously demonstrated in anticoagulation and diabetes management, clinical pharmacists can both navigate the insurance drug approval process and provide therapy to a well-defined target with low adverse events.

A303

Association between Postoperative Dietary Intake and Changes in the Gut Microbiota Composition after Laparoscopic Roux-en-Y Gastric Bypass and Sleeve Gastrectomy

Karamollah Toolabi *Tehran*
Tehran University of Medical Sciences

Background: Both dietary components and bariatric surgery have been shown to alter the composition of the gut microbiota. However, few studies have evaluated the association between postoperative dietary intake and gut microbiota alterations. Therefore, the present study was designed to assess changes in gut microbiota in patients who underwent laparoscopic Roux-en-Y gastric bypass (LRYGB) and sleeve gastrectomy (LSG) and their association with postoperative dietary intake.

Methods: Forty-two adult women who were candidate for bariatric surgery participated in this study and were followed-up six months after the surgery. Dietary intake was evaluated by 3-day food records at baseline and six months following surgery. The gut microbiota was determined through detection of 16S ribosomal RNA (16S rRNA) genes sequencing.

Results: At the end of follow-up in the LSG group, a significant increase in abundance of Bacteriodetes, Firmicutes, *Bifidobacterium*, and *Ruminococcus* was found. Contrary to the abundance of *Enterobacteria* elevated in the LRYGB group, other gut bacteria remained unchanged over six months of follow-up after LRYGB. Our results indicated a lack of association between dietary intakes and changes in the composition of the gut microbiota in patients who underwent LRYGB and LSG.

Conclusion: In conclusion, our results indicated no association between postoperative dietary intake and changes in the gut microbiota. Additional studies are needed to determine whether postoperative dietary changes independent of surgical procedures can alter gut microbiota composition in patients who undergo LRYGB and LSG.

A304

Predictivity of preoperative weight loss on comorbidity resolution in bariatric patients

Angie Kim *Tampa FL*[1], Abrahim Ahmed *Tampa FL*[1], William West *Tampa FL*[1], Sharan Poonja *Tampa FL*[1], Natalie Burkert *Audubon PA*[2], Emily Coughlin *Tampa FL*[1], Abdul-Rahman Diab *Tampa FL*[3], Joseph Sujka *Tampa FL*[3], Christopher DuCoin *Tampa FL*[3], Salvatore Docimo *Coram NY*[3]

USF Morsani College of Medicine[1] USF Morsani College Medicine[2] USF[3]

Introduction: Morbid obesity presents as a health risk affecting multiple organ systems. This study aims to evaluate if preoperative weight loss has any effect on obesity-related comorbidity resolution after bariatric surgery.

Methods: A retrospective analysis was conducted with a preliminary sample of 295 patients who received bariatric surgery for weight loss at Tampa General Hospital from 2016-2018. We followed patients' preoperative weight change (calculated as excess weight loss, or EWL). The diagnosis and resolution of six comorbidities were also examined over a year (diabetes, hypertension, hyperlipidemia, obstructive sleep apnea, hepatic steatosis, joint pain). Statistical analyses were completed using SPSS.

Results: In our preliminary data, each comorbidity showed improvement at each timepoint (1 month, 3 months, 6 months, 1 year), with diabetes showing the greatest improvement of 80.0% at 1 year. Other comorbidities that showed improvement at 1 year were hypertension (61.1%), hyperlipidemia (53.3%), obstructive sleep apnea (29.3%), hepatic steatosis (63.6%), and joint pain (38.9%). Of these, EWL before surgery was significantly associated with improvement only in diabetes at 1 year ($p=.004$), with patients who showed improvement having a median EWL of .047 (.082) and patients who did not show improvement had median EWL of -0.002 (.052).

Conclusions: Prior studies have indicated that bariatric surgery is effective in the treatment of morbid obesity and the decline of comorbidities. Here, we show that the benefits of bariatric surgery on diabetes is enhanced when in conjunction with preoperative weight loss. However, preoperative weight loss is not predictive of weight-related comorbidity resolution in general.

A305

The Effect of Multidisciplinary Approaches, in Combination with Metabolic and Bariatric Surgery, on Weight Loss, Physical Function, and Health at Six-month Follow-ups.

Sunghwan Choi *Mankato MN*[1], Heidi Bednarchuk *Mankato MN*[1], Dilbar Abdurakhimova *Austin TX*[2]

Mayo Clinic Health System, Mankato[1] The University of Texas at Austin[2]

Background: The disease of obesity is associated with many serious comorbidities, and holistic approaches, including bariatric surgery, modified diet, behavioral health, and guided exercise, have earned popularity in treating this disease. This retrospective research aims to identify how much weight loss patients achieve from the integrated interventions and subsequent impacts on patients' function and health at six-month follow-up visits.

Methods: Twenty-eight patients, aged from 24 to 64, a mean BMI of 49.51kg/m2, completed a series of pre-operative treatments and six-month post-operative follow-up visits. The patient's functional status was measured by the six-minute walk test (6MTW), and health parameters included A1C, LDL, HDL, total cholesterol, and blood pressure before and after the interventions.

Results: A mean of 42.61%, 13.66%, 5.93%, 7.41%, and 4.88%/4.26% reduction was noticed in excess body weight (EBW), A1C, LDL, total cholesterol, and systolic/diastolic blood pressure, respectively. An average increase of 18.71% in 6MWT and 7.08% in HDL was observed. Changes in EBW, 6MWT, and A1C were statistically significant, with a p-value less than 0.001. An increase in 6MWT during pre-operative visits and total improvement in their 6MWT at six month follow-up visit were highly correlated (r:0.72, p-value=0.0002).

Conclusions: Multidisciplinary approaches to treat morbid obesity significantly reduce the EBW of the patients and improve patients' physical function and health.

A306

Anti-Obesity Medication Use in the Adolescent Bariatric Population: A Systematic Review

Nolan Reinhart *Tampa FL*[1], William Doyle *Tampa FL*[1], Nikhil Reddy *Tampa NY*[1], Abdul-Rahman Diab *Tampa FL*[1], Joseph Sujka *Tampa FL*[1], Christopher DuCoin *Tampa FL*[1], Salvatore Docimo *Coram NY*[1]
University of South Florida[1]

Introduction

Bariatric surgery in combination with pharmacotherapy has been proven to be successful in combatting weight regain in adults; however, there is a gap in literature relating to how anti-obesity medication can augment weight loss in adolescents before and after bariatric surgery, despite the increasing number of children undergoing these procedures.

Methods

A literature search using the PRISMA guidelines was performed in PubMed to identify studies related to the pharmacologic treatment of obesity in adolescents before and after bariatric surgery.

Results

As seen in Image 1, initial database search yielded 1275 results. Following the removal of duplicates, 879 publications remained. This was cut down to 63 sorted for our exclusion criteria. Full articles were examined and 46 were excluded due to relevance. Seventeen articles were included in our qualitative analysis. A total of 1,825 adolescents were treated with pharmacotherapy, 181 of which had a history of bariatric surgery. However, 0 studies reported weight loss data specific to these bariatric patients.

Conclusions

The absence of studies investigating use of anti-obesity medications in adolescent bariatric patients reveals a gap in current research. There is a wealth of evidence highlighting the efficacy of pharmacotherapy assisting with weight loss in adolescents with obesity, however, our literature search showed a lack of research focusing on the use of pharmacotherapy in the adolescent bariatric population specifically. Clinical trials to determine the efficacy of medications as adjunct to bariatric surgery in preventing weight regain and leading to optimal weight loss in this population is of utmost importance.

A307

Prevalence of food insecurity by type of bariatric procedure

Elizabeth Bruenderman *Durham NC*[1], Morgan Belina *Durham NC*[1], Dana Portenier *Durham NC*[1], Kunoor Jain-Spangler *Durham NC*[1], Ranjan Sudan *Durham NC*[1], Jin Yoo *Durham NC*[1], Jacob Greenberg *Durham NC*[1], Deepak Palakshappa *Winston Salem NC*[2], Keri Seymour *Durham NC*[1]

Duke University[1] Wake Forest University[2]

Background: An "obesity-hunger paradox" is characterized by a cycle of food hunger with food scarcity, followed by maladaptive eating when food is in surplus. Food insecurity is prevalent in up to 29% of patients interested in weight loss treatments and is a component of the social determinants of health, which are known to affect bariatric surgery outcomes. This study determines the prevalence of food insecurity in weight loss surgery applicants.

Methods: Between October 2017 and December 2019, adults >18 years completed the six-item USDA Household Food Security Module prior to initial appointment for bariatric surgery at a single academic center. Using standardized scoring procedures, patients were categorized as food secure (FS) (0-1) or food insecure (FI) (2-6), which included low food security (2-4) and very low food security (5-6). Surgeons were blinded to food security status. Comparisons were made between FS and FI.

Results: Of the 2,517 completed surveys, 582 (23.1%) underwent bariatric surgery. FS was present in 480 (82.5%), while 102 (17.5%) were FI. The most common procedure was Roux-en-Y gastric bypass (RYGB) (276, 47.4%), followed by sleeve gastrectomy (SG) (178, 30.6%), biliopancreatic diversion with duodenal switch (BPDDS) (91, 15.6%), and revisional bariatric surgery (37, 6.4%). Of those with FI, 54 (53%) underwent RYGB, 23 (22.5%) LSG, 18 (17.6%) BPDDS and 7 (6.9%) revisional surgery ($p = 0.29$) (Figure1).

Conclusions: Food insecurity is prevalent among patients undergoing bariatric surgery. Further research is needed to understand the impact of food insecurity on decision making and surgical outcomes.

A308

Effectiveness of a Back on Track Program for Patients with Weight Recurrence after Bariatric Surgery: Helping Improve Patient Selection for Revisional Surgery or Limiting Access to Care?

Wendy Li *Indianapolis IN*[1], William Hilgendorf *Carmel IN*[2], Caitlin Cicholski [2], Dimitrios Stefanidis *Carmel IN*[1]
Indiana University School of Medicine[1] Indiana University Health[2]

Background
Weight recurrence after bariatric surgery represents an important problem for bariatric surgeons. Our Back on Track (BOT) program was established as a lifestyle modification approach to address patients with weight recurrence and determine revisional surgery eligibility with guidance from an interdisciplinary team including fitness, nutrition, and behavioral health. The aim was to evaluate the impact of the program on patient weight and progress to revisional surgery.

Methods
Following consultation with a bariatric surgeon for weight recurrence (>15% from nadir weight loss) or insufficient weight loss (<50% EWL) after bariatric surgery, patients were referred to the BOT program for evaluation and treatment. For those who enrolled, weight was monitored during monthly meetings with the specialists, and their disposition was documented after program completion.

Results
From 2019 to 2022, 155 patients were referred and 90 (58%) attended at least one BOT session. Of those, 36 (40%) completed the program after 8.5+/-5.1 months. Participants lost an average of 1.9+/-7.2 kg compared with enrollment weight ($p = 0.043$). Patients who completed the program lost more weight than those who did not (2.44 +/-7.8 vs. 1.1+/-6.5 kg, respectively). Of all patients referred, 20 (12.9%) qualified and underwent revision bariatric surgery (RBS).

Conclusion
Participation of patients with weight recurrence after bariatric surgery in a multidisciplinary BOT program is associated with a small amount of weight loss and a high rate of attrition. Whether such a program improves patient selection for revisional bariatric surgery or limits access to care needs further study.

A309

The Power of Peer-Led Community in Combined Treatment Models

April Williams *Gig Harbor WA*[1], Edmund Chen *Plano TX*[2], Jason Smith *Jacksonville FL*[1], Natalie Tierney *Seattle WA*[1]
BariNation[1] Texas Center for Bariatrics & Advanced S[2]

The Power of Peer-Led Community in Combined Treatment Models

The disease of obesity is isolating. With only 1% of qualifying patients undergoing surgery, people believe their obesity is a decision, not a disease. How can the rate of obesity treatment grow, and how can post-operative patient-engagement rates improve?

The COVID-19 pandemic caused exponential growth in bariatric social media and patients accessing support on these platforms. However, patients self-report negative interactions on these platforms and express the need for private, peer-centered communities where expert information can be delivered, organized, and stored. We surveyed 65 members of the BariNation Membership Community to understand how and why they were using peer-led communities in the pre-op and post-op stages. Our survey showed that 95% of respondents reported feeling connected and found a sense of belonging, which increased their involvement with their surgeon-provided post-operative care opportunities. 100% of pre-operative respondents said that the community's support helped them adhere to their pre-operative diet and follow through with their scheduled procedures. 76% of respondents said they found licensed and credentialed professionals for the care their surgical team could not offer.

Like other diseases, obesity requires many adjunct treatments if the patient is to find and maintain a healthy weight. Our survey found that peer and expert-led community support can and should be integral to the combined treatment plan. It shows an increase in the number of people accessing obesity treatment who continue to interact with their medical team once primary treatment has begun.

A311

Comparison of prospective patient knowledge prior to and after completing preoperative nutrition education

Aviv Ben-Meir *Willoughby OH*[1], Nicole Thompson *Willoughby OH*[2], Courtney Holbrook *Willoughby OH*[2]
University Hospitals Lake West Medical Center[1] University Hospitals Lake West[2]

INTRODUCTION

As part of our continuous performance enhancement projects in our American College of Surgeons MBSAQIP program we developed a 27 question quiz. We wanted to use this to determine if patients are improving their basic nutrition understanding with a goal of improving long term success with weight maintenance.

METHODS

We began distributing a quiz at initial office visit for patients coming in for consultation with a bariatric surgeon at our multi-disciplinary program in May of 2021. We then gave patients that completed the preoperative process the same quiz at pre-admission testing.

RESULTS

268 patients completed their initial quiz. The average score was 76%. 99 patients completed a postoperative quiz with an average score of 87%. Of these 99 patients, we had both pre and postoperative quizzes in 73 patients. The test scores improved by 11%. 44 out of 73 patients score above the average and 29 patients scored below the average of 87% correct answers.

CONCLUSION

After completion of a preoperative process, patients answered three more questions correctly. The next steps are to compare weight loss between the groups to identify if higher score on preoperative nutrition quiz correlates with improved weight loss.

A312

Anti-obesity medications as an adjunct therapy in patients with poor bariatric surgery results

Nick Levinsky *Charlottesville VA*[1], Bruce Schirmer *Charlottesville VA*[1], Peter Hallowell *Charlottesville VA*[1], Cate Varney *Charlottesville VA*[1]
University of Virginia[1]

Background: Anti-obesity medications (AOMs) are becoming a viable therapy for patients with obesity. Poor weight loss trajectory or weight regain are complications of bariatric surgery that can often be treated with surgical conversion or revision. The effect of AOMs on patients with obesity who have a history of bariatric surgery remains unclear. We sought to evaluate 1-year outcomes for our newly established Obesity Medicine Clinic.

Objectives: Evaluate weight loss outcomes of AOMs in patients with prior bariatric surgery.

Setting: Academic center Obesity Medicine Clinic.

Methods: Retrospective chart and database review.

Results: From October 2021 – October 2022, 61 patients established care and had at least 2 follow-up visits. The majority had prior bariatric surgery (n=36, 59.0%) of which 20 (55.6%) suffered weight regain and 14 (38.9%) poor weight loss trajectory. Prior surgery patients were more likely African American (63.9% vs 36.1%, $p<0.05$). Comorbidity was similar between groups. Initial visit BMI was similar for those without surgery compared to those with prior surgery (43.5 ± 9.3 vs 41.6 ± 8.7 kg/m^2, $p=0.427$). Patients were treated with a variety of medications, similar between groups. BMI changes were similar at 1st follow-up (-1.0 ± 1.0 vs -1.2 ± 1.9 kg/m^2, $p=0.677$) and 2nd follow-up (-2.1 ± 1.6 vs -2.4 ± 2.8 kg/m^2, $p=0.624$).

Conclusions: It appears patients with prior bariatric surgery can achieve similar weight loss with AOMs compared to patients with no bariatric surgery. Further study, including multi-center randomized trials, is warranted to identify optimal treatment regimen and timing.

A313

Outcomes of metabolic and bariatric surgery in patients with Centers for Medicaid and Medicare insurance compared to patients with private insurance

Elizabeth Santone *Charlotte NC*[1], Kyle Thompson *Charlotte NC*[1], Selwan Barbat *Charlotte NC*[1], Keith Gersin *Charlotte NC*[1], Timothy Kuwada *Charlotte NC*[1], Roc Bauman *Concord NC*[1], Abdelrahman Nimeri *Charlotte NC*[1]
Atrium Health/Carolinas Medical Center[1]

Background: Insurance plan types have been shown to influence the access and utilization of bariatric surgery. Few studies have investigated whether insurance type affects postoperative outcomes of bariatric surgery. The aim of this study was to compare outcomes in bariatric surgery patients with private insurance and patients with insurance from the Centers for Medicare and Medicaid Services (CMS).

Methods: This was a retrospective review of our institutional registry data evaluating patients after primary Roux-en-Y gastric bypass and vertical sleeve gastrectomy in the study period January 2010 to July 2022.

Results: The study included 684 CMS patients and 4905 private insurance patients. Compared to private insurance patients, CMS patients were significantly older with higher BMI and higher incidence of pre-existing functional dependency or comorbidities. CMS patients were also more likely to undergo a longer procedure compared to private insurance patients (134 minutes versus 121 minutes, $p<0.01$). Short term outcomes were mostly similar between the two groups, with CMS patients more likely to visit the emergency department (16.14% of CMS patients versus 10.28% of private insurance patients, $p<0.01$). Weight loss at 1 year was significantly higher in private insurance patients compared to CMS patients (114.22 pounds versus 75.70 pounds, $p<0.01$), with change in BMI at 1 year similar between the two groups.

Conclusion: When compared to patients with private insurance, patients with Medicare or Medicaid are older, heavier, and have more comorbidities. They are more likely to experience longer operating times, postoperative ED visits, and less weight loss at 1 year.

A315

Understanding the Behavioral Rehabilitation Needs of Bariatric Surgery Patients. A Focus Group.

Angela Glauser *Sandy UT*[1], Alexandra Terrill *Salt Lake City UT*[1], Eric Volckmann *Salt Lake City UT*[1], Larissa McGarrity *Salt Lake City UT*[2], Robin Marcus *Salt Lake City UT*[1], Anne Thackeray *Salt Lake City UT*[2]
University of Utah[1] Univeristy of Utah[2]

Objectives: The purpose of this study was to explore the rehabilitation needs of bariatric surgery patients.

Methods: 90 min focus group using a semi-structured interview guide.

Design: Qualitative descriptive study.

Setting: Bariatric surgery program. University health care.

Participants: Six post-bariatric surgery patients (4 female, 2 male) were enrolled using purposive sampling. Mean age: 53.3 years. Mean number of months since surgery: 20.2.

Measurements: The focus group was both audio and video recorded and transcribed using topic and analytical coding.

Results: Four main themes emerged: 1) a need for ongoing help with healthy eating and meal planning, 2) realistic exercise ideas and instruction 3) emotional support from family, peers, and professionals, and 4) letting go of shame and fear related to weight stigma.

Limitations: Purposeful sampling was used for recruitment. Participants were selected and personally invited by the principal investigator. They were identified as patients who complied with program recommendations and were making efforts to maintain healthy lifestyle changes. It is possible that they agreed to be in the study because they generally had a positive surgery experience and held progressive views about the need to incorporate more effective post-surgery interventions.

Conclusions: Findings suggest that rehabilitation following bariatric surgery is complex in nature and patients may benefit from both pre- and post-surgery programs that address their unique needs. Weight maintenance and sustaining healthy habits post-surgery requires ongoing personal and professional assistance. Interventions should reinforce healthy eating practices, include true-to-life exercise help, and offer patients emotional support.

A316

A qualitative exploration of patients and romantic partners post-bariatric surgery: Understanding the dyadic experience, relationship health, and needs for support

Elena Henderson *Salt Lake City UT*[1], Larissa McGarrity *Salt Lake City UT*[2], Alexandra Terrill *Salt Lake City UT*[1], Anna Ibele *Salt Lake City UT*[1], Timothy Smith *Salt Lake City UT*[1], Katherine Baucom *SALT LAKE CITY UT*[1]
University of Utah[1] ASMBS, University of Utah[2]

Patients following bariatric surgery face behavioral and emotional challenges that impact the entire family, yet this has been understudied, including the role of romantic partners. Prior research from our team suggests that relationship satisfaction declines from post-surgery and decline is associated with higher levels of binge eating, anxiety, and social stress for patients. Aims: This study utilized qualitative methods to understand experiences of patients and partners post-surgery regarding emotional and relationship health. Methods: Five couples in which one partner underwent bariatric surgery at the University of Utah 1.5-3 years prior participated in separate focus groups for patients and partners. Data Analysis: Group content was transcribed and coded using directed content analysis to identify changes in relationship function from pre- to post-surgery, needs, and preferences for support. Findings: Patients and partners report the need for increased partner involvement in pre and post bariatric surgery processes, including education on lifestyle changes, learning how to shop and cook meals that both can enjoy, and strategies to support the patient. Patients and partners report a desire for communication skills to address each other's needs and goals. Patients and partners expressed enthusiasm about a dyadic intervention for enhancing resilience and well-being as individuals and partners regarding bariatric surgery. Conclusions: The findings expand understanding patient and partner needs post-bariatric surgery and suggest benefits of increased partner involvement and support. Couples experience significant changes after bariatric surgery and are interested in post-surgical relationship support to promote relational, emotional, and physical health.

A317

Implementing an Advanced Practice Provider Fellowship in a Weight Loss Center

Madalene Drummond *Nashville TN*[1], Matthew Spann *Nashville TN*[1]
Vanderbilt University Medical Center[1]

Background:

Advanced practice provider (APP) fellowship programs are increasing to train APPs for specialty practice. The obesity pandemic has elevated the need for APPs, including nurse practitioners (NPs) and physician assistants (PAs), specializing in obesity medicine. Obesity-specific education in both NP and PA graduate programs is lacking.

Objective:

Implement a 12-month APP fellowship program in a weight loss center to foster well-equipped trainees and contribute to the expanding demand for obesity treatment.

Methods:

Using evidence-based data regarding best practice in obesity medicine, and standards outlined by ANCC's Practice Transition Accreditation Program (PTAP) and Advanced Practice Provider Fellowship Accreditation (APPFA), we developed the curriculum for a medical and surgical weight loss APP fellowship program in a comprehensive academic weight loss clinic. The curriculum involves didactic work, mentored clinical rotations, and leadership development. The fellow has exposure to all areas of obesity treatment, including outpatient services and procedures, inpatient services, and the operating room. Training is under an interdisciplinary team of preceptors, including nurses, bariatric surgeons, pharmacists, social workers, dietitians, bariatricians, and APPs.

Results:

After completion of the APP fellowship focused on medical and surgical practices, the APP fellow developed the knowledge and skills to immediately function as an independent, full-time obesity medicine APP.

Conclusions:

APP fellowships are useful for training APPs in specialty practice. Given the increased need for obesity medicine providers, APP fellowships can help fulfill this demand. This program provides the APP fellow with necessary tools to practice obesity medicine within a specialty clinic or primary care practice.

A319

Outcome of Pharmacologic Treatment of Mental Health in Male Bariatric Patients

Fernando Moreno-Garcia Oklahoma City OK1, Rachel Tran Moore OK1, Maria del Carmen Trapp Oklahoma City OK2, Feranndo Mier Oklahoma City OK2, Laura Fischer Oklahoma City OK2

University of Oklahoma College of Medicine1 University of Oklahoma Health Sciences Center2

Introduction:

Studies have shown men are more likely to underreport depression and have less favorable outcomes after bariatric surgery than women. The lack of data comparing the influence of mental health factors on postoperative weight loss in men and women provides an opportunity to investigate whether depression is limiting achievable weight loss in male patients undergoing bariatric surgery.

Methods:

A retrospective, single-institution observational study looking at mental health modulators of postoperative bariatric outcomes. Beck Depression Inventory Volume 2 (BDI-II) score and psychotropic medication use served as depression severity proxies. Student's T-test and ANOVA were used for continuous data. P-values < 0.05 were considered significant.

Results:

125 patients, 107 female and 18 male, were included in this study. Average BDI-II was significantly higher in patients taking psychotropic medications ($p<0.008$, 95% CI 0.98, 6.29). Men reported worse depressive symptoms than women, however women were more likely to be using psychotropic medications (NS). In RYGB patients taking psychotropic medications, men had significantly lower excess body weight loss (%EBWL, $p=0.0061$), total weight loss (%TWL, $p=0.0049$), change in BMI (ΔBMI, $p=0.0165$), and excess BMI loss (%EBMIL, $p=0.0077$) than women. These men also had significantly lower %EBWL ($p=0.031$) than men not taking psychotropic medications.

Conclusions:

Psychotropic medication use in men is associated with worse bariatric weight loss outcomes compared to women and men not taking psychotropics. This data suggests that psychotropic medication use may not be a strategic option for treating mental health in men seeking to maximize weight loss after bariatric surgery.

A320

A Retrospective Single Center Multi Surgeon Experience on the Adjuvant Use of Semaglutide as an AOM in post MBS-Patients

Michael Kachmar Vineland NJ1, Isaac Soliman stratford NJ2, Julie Magallanes-Montone Voorhees NJ3, Karen Dong voorhees NJ3, Jessica Rardin Cherry Hill NJ3, Adam Goldstein Cherry Hill NJ3, Adeshola Fakulujo Cherry hill NJ3, Louis Balsama Cherry Hill NJ3, Marc Neff Cherry Hill NJ3
Inspira Health Network1 Rowan School Of Osteopathic Medicine2 Jefferson Health New Jersey3

Background: After MBS, many patients experience weight maintenance issues. While GLP-1 agonists are better studied in the primary treatment of obesity, their role in the MBS adjuvant setting is less understood. The July 2022 ASMBS guidelines on AOM use in MBS note no current studies have investigated semaglutide use in post-MBS patients. Similar in MoA to the better studied GLP-1 agonist liraglutide, semaglutide has been used as an anti-hyperglycemic in DM, but it was not an FDA approved AOM until June 2021. We believed semaglutide would be a favorable AOM in post-MBS patients experiencing weight regain.

Methods: Charts were reviewed to identify post-MBS administration of semaglutide in the setting of weight regain from July 2021 through Jan 2022 at a single institution. 28 patients were identified; 4 males and 24 females, mean age of 48.9 years and average BMI of 39.4. Fifteen patients completed six-month follow-up.

Results: Weight loss at six months was 20.7 lbs (95% CI 16.4-25.1 lbs). Average weight loss of males was 24 lbs compared to 20 lbs in females. Sub group analysis of older participants noted higher weight loss compared to the younger groups.

Discussion: Post-MBS patients weight regain had favorable 6-month outcomes with semaglutide. Further research is warranted to better understand sex and age related differences in response to semaglutide administration suggested by our cohort.

Conclusions: Semaglutide is a promising adjuvant treatment for obesity in the setting of weight regain in post-MBS patients. Larger investigations are warranted to better identify patients who benefit most.