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JUNE 5-9, 2022 Dallas, Tx

2022 Abstracts

38th Annual Meeting of the American Society for Metabolic and Bariatric Surgery

June 5 – 9, 2022
Hyatt Regency
Dallas, TX

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 results 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 declaims 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.

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Top Papers Session I
Tuesday, June 7, 2022
8:00 AM – 9:30 AM

A001

Cancer Incidence, Type, and Survival after Bariatric Surgery

Jared Miller *La Crosse WI*[1], Alec Fitzsimmons *La Crosse WI*[1], Andrew Borgert *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]

Background: The objective of this study was to compare the incidence of new cancer diagnoses, types of cancer at diagnosis, overall survival, and disease-free survival between bariatric surgical patients and obese patients not undergoing bariatric surgery.

Methods: This study is a retrospective cohort study that compared (1) bariatric surgical patients, September 2001 – December 2019, and (2) the control population. The control population included non-surgical obese patients (BMI >30 kg/m^2) matched by sex, age, and BMI at index surgical intervention. Statistical analysis was used to compare categorical and continuous data, cancer incidence, and overall survival between groups.

Results: The study included 2,121 bariatric surgical patients. A chronologically concurrent group of 5,528 were identified for eligibility in the control group. After matching, 1,651 bariatric patients were included (1,267 LRYGB and 384 LSG) and 2,181 matched non-surgical patients. The bariatric population's mean preoperative age and BMI were 46.1 ± 10.8 years and 46.1 ± 6.1 kg/m^2 (p=0.002). The matched non-surgical population had a mean age and BMI of 47.2 ± 10.8 years and 45.4 ± 6.2 kg/m^2 (p=0.0001). The risk of a new cancer diagnosis was significantly lower in the bariatric group compared to the matched controls (HR, 2.67; 95% CI, 2.02-3.51; p = <0.0001). The 10-year incidence (95% CI) of any new cancer in the bariatric group was 5.3% (3.9% - 7.0%), compared to 13.4% (11.5% - 15.3%) in the matched control group (p<0.0001).

Conclusion: Obese patients not undergoing bariatric surgery are more likely to develop a new incident cancer.

A010

Evaluating incident substance use disorder following bariatric surgery

Melissa Butt *Hershey PA*[1], Riley Eisler *Philadelphia PA*[1], Antoinette Hu *Hershey PA*[2], Ann Rogers *Hershey PA*[2], Andrea Rigby *Hershey PA*[2]
Penn State College of Medicine[1] Penn State Health[2]

Substance use disorder (SUD) following bariatric surgery is a significant concern. Researchers have hypothesized that patients may supplant binge eating disorder (a common comorbidity with obesity) with more rewarding, addictive behaviors for coping with adversity and stress, a phenomenon known as 'addiction transfer'. Thus, the objective of this study was to identify

new-onset cases of diagnosed SUD among post-bariatric patients and compare these rates to those in the general population as well as those diagnosed with overweight or obesity. Data for this study were extracted from TriNetX Research Platform and used to build three cohorts of adults (those who had bariatric surgery, the general population, and a population with obesity) from January 1, 2018 to June 30, 2019. Those with a history of SUD were excluded. Included individuals were followed for two years, and incident SUD was tracked. Overall, incident SUD was calculated at 6.55% (n=1544) of those who had bariatric surgery. When compared to the general population, persons who had any type of bariatric procedure had no increased risk of newly diagnosed SUD with an overall odds ratio (OR) [95% Confidence Limits; CL] of 0.89 [0.86, 0.93]. When compared to persons with obesity, bariatric patients were less likely to develop any form of SUD (OR: 0.65 [0.62, 0.67]). While bariatric surgery may be protective against SUD for those who have had bariatric surgery, efforts should still be made to address new onset SUD as well as other addictive behaviors in order to support the recovery of post-surgical patients.

A003

Extended Postoperative Venous Thromboembolism Prophylaxis after Bariatric Surgery: A Comparison of Existing Risk Stratification Tools and 5-Year MBSAQIP Analysis

Joseph Imbus *Atlanta GA*[1], Andrew Jung *Atlanta GA*[1], S. Davis Jr *Atlanta GA*[1], Omobolanle Oyefule *Atlanta GA*[1], Federico Serrot *Atlanta GA*[1], Jamil Stetler *Atlanta GA*[1], Ankit Patel *Decatur GA*[1], Melissa Majumdar *Decatur GA*[1], Edward Lin *Atlanta GA*[1], Elizabeth Hechenbleikner *Atlanta GA*[1]
Emory University Hospital[1]

Background: Venous thromboembolism (VTE) is a leading cause of 30-day mortality after metabolic and bariatric surgery (MBS). Multiple predictive tools exist for VTE risk assessment and extended VTE chemoprophylaxis determination. This study's objective was to review existing risk stratification tools and compare their predictive abilities.

Methods: Retrospective analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database was performed (2015-2019) for all primary laparoscopic MBS cases. VTE clinical factors and risk assessment tools were evaluated: body mass index (BMI) threshold of 50 kg/m^2, Caprini risk assessment model (RAM), and three bariatric-specific tools. MBS patients were deemed high-risk based on criteria from each tool and further assessed for sensitivity, specificity, and positive predictive value.

Results: Overall, 709,304 patients were identified with a 0.37% VTE rate. Bariatric-specific tools included multiple predictors: procedure, age, race, gender, operative time, length of stay, heart failure, and dyspnea at rest; operative time was the only variable common to all three. The BMI cut-off and Caprini RAM had higher sensitivity but lower specificity when compared to 2 bariatric models while bariatric tools had a wider sensitivity range compared to specificity with overall low sensitivity (summarized in Table 1). The bariatric-specific tools would have recommended extended prophylaxis for 1.1%-15.6% of patients.

Conclusion: Existing MBS VTE risk assessment tools differ widely for inclusion variables, 'high-risk' definition, and predictive performance. Further research is needed to determine the optimal risk-stratified approach for predicting VTE events and determining the need for extended prophylaxis.

A004

Predicting serious complications following bariatric surgery in geriatric patients: Development of the GeriBari tool using the MBSAQIP database

Jerry Dang *Edmonton* [1], Valentin Mocanu *Edmonton* [1], Kevin Verhoeff *Edmonton* [1], Matthew Allemang *Chagrin Falls OH*[2], Matthew Kroh *Cleveland OH*[2], Shahzeer Karmali *Edmonton* [1]
University of Alberta[1] Cleveland Clinic[2]

Background

Elderly patients have a higher burden of disease and a greater risk of complications after bariatric surgery. The objective of this study was to develop a tool to predict serious complications in geriatric patients after laparoscopic bariatric surgery.

Methods

This was a retrospective cohort study of the MBSAQIP database, which collects data specific to bariatric surgery with 30-day outcomes from 868 centers. Individuals ≥ 65 years undergoing primary laparoscopic Roux-en-Y gastric bypass (LRYGB) or laparoscopic sleeve gastrectomy (LSG) were included.

Characteristics associated with serious complications were identified using univariate and multivariable analyses. A predictive model, *GeriBari,* was derived using a forward selection algorithm using operative years 2015, 2017, and 2019. *GeriBari*'s robustness was tested against a validation cohort of subjects from operative years 2016 and 2018.

Results

A total of 31,505 geriatric patients underwent LRYGB (26.6%) or LSG (73.4%). Overall, 1,483 (4.7%) experienced a complication, which included bleeding (1.6%), reoperation (1.5%), reintervention (1.4%), unplanned intubation (0.4%), and pneumonia (0.4%). Mortality was higher in the geriatric patients compared to younger patients (0.27% vs 0.08%).

GeriBari consists of eleven factors that predicted serious complications and stratified individuals into high (>6%) and low risk (<6%) groups (Figure 1). This tool accurately predicted events in the validation cohort with an area under the receiver operating characteristic curve of 0.65.

Conclusions

GeriBari stratifies geriatric individuals undergoing bariatric surgery based on 30-day serious complication risk. Stratifying low- and high-risk geriatric patients for adverse events allows for informed clinical decision-making prior to bariatric surgery.

A005

Medicaid Expansion: The impact of health policy on bariatric surgery

Theresa Jackson *Sacramento CA*[1], Gary Grinberg *Elk Grove CA*[1], Zhamak Khorgami *Tulsa OK*[2], Panduranga Yenumula *Sacramento CA*[1]
Kaiser Permanente South Sacramento[1] University of Oklahoma - Tulsa[2]

Background: Underutilization of bariatric surgery in uninsured and marginalized communities is well-documented. When discussing population health, healthcare access and equity are crucial components often influenced by health policy. This study aims to determine if disparities in utilization of bariatric surgery were impacted by changes in healthcare policy from the Affordable Care Act's 2014 expansion of Medicaid.

Methods: A retrospective analysis of the 2012-2018 Healthcare Cost and Utilization Project National Inpatient Sample was performed for elective Roux-en-Y gastric bypass and sleeve gastrectomy surgeries performed within the United States (US). States were grouped into regions as defined by the US Census Bureau. Medicaid as the primary payor for bariatric surgery was compared by region and year, as well as utilization by marginalized populations.

Results: Analysis included 212,776 bariatric surgeries. Medicaid as the primary payor increased from 9% to 19% from 2012 to 2018. A greater share of bariatric surgeries with Medicaid as the primary payor were in the Northeast and West, as compared with the Midwest and South. Medicaid beneficiaries in marginalized communities (Black race, Hispanic race, lowest income quartile, rural communities) made up a larger share of the bariatric surgery population over time.

Conclusion: The Affordable Care Act's Medicaid expansion improved health coverage and access to care, including bariatric surgery. An increase in bariatric surgeries among Medicaid beneficiaries correlated with the 2014 Medicaid expansion. Social and economic disparities regarding bariatric surgery have improved though more progress may be seen with the adoption of Medicaid expansion by remaining states.

IH Top Oral Abstracts
Tuesday, June 7, 2022
8:00 AM – 9:30 AM

A087

The Role of Dietitian Follow-Ups on Nutritional Outcomes Post Bariatric Surgery

Mariam Hassan *Abu Dhabi* [1], Juan Barajas-Gamboa *Abu Dhabi* [1], Oshin Kanwar *Abu Dhabi* [1], Terrence Lee-St John [1], Diana Tannous [1], Ricard Corcelles *Cleveland OH*[2], John Rodriguez *Cleveland OH*[1], Matthew Kroh *Cleveland OH*[2]
Cleveland Clinic Abu Dhabi[1] Cleveland Clinic Ohio[2]

Introduction: Current evidence recommends postoperative dietary counselling with a registered dietitian (RD) for successful outcomes after bariatric surgery (BS), however; there is limited data in the GCC region. This study evaluated the effects of the number of postoperative dietitian visits on nutritional outcomes including weight loss and micronutrient deficiencies.

Methods: BS procedures between September-2015 and June-2020 were retrospectively reviewed. Demographics, weight loss, micronutrients and number of RD visits post-op were evaluated. Linear mixed-effects modelling was used to estimate the effect of dietician visits on the improvement of outcomes. Changes between baseline and at 12-months were compared by the number of RD visits.

Results: 220 patients were included with a mean age of 40 years. 162 (73.6%) were female. Mean body mass Index before surgery was 42.8 kg/m^2. Number of RD visits were as follows: 0-1 (39 patients), 2 (59 patients), 3 (55 patients) and 4 or more (67 patients). Baseline micronutrient were normal. In comparison to the reference group, patients with 3 RD visits post-op had 7.38% higher total body weight loss (%TBWL) ($p<0.001$) and maintained micronutrients within normal range at 12 months post-op. Mean differences of post-op values were statistically significant ($p<0.05$) for weight, vitamin B12 and vitamin D but not for the remaining micronutrients **(Table 1).**
Conclusions: Our study suggests that 3 or more dietitian visits during the first 12 months post-op are associated with improved outcomes including significant %TBWL and no micronutrient deficiencies. Larger trials with different practices and geographic variation are needed to validate this data.

A088
Does Living in a Food Desert Impact Weight Loss After Bariatric Surgery?
Lucas Keller-Biehl *Henrico VA*[1], Jennifer Salluzzo *Richmond VA*[1], Luke Wolfe *Richmond VA*[1], Jad Khoraki *Richmond VA*[1], Guilherme Campos *Richmond VA*[1]
Virginia Commonwealth University[1]

Introduction: Access to fresh, unprocessed foods is associated with healthy living. People living in food deserts have an added barrier to purchasing such foods. Our study aimed to evaluate if living in a food desert impacted one-year excess weight loss (%EWL) after bariatric surgery.

Methods: Retrospective study of all consecutive primary bariatric surgeries at our institution from 2015 to 2019. Food deserts were defined as low income and low food access based on the USDA Economic Research Service. Independent variables studied included patient characteristics (weight, BMI, gender, age, race/ethnicity, education, marital and employment status, income level, food access, and insurance status), comorbidities (sleep apnea, diabetes, hypertension, renal disease, cancer, and DVT history, heart disease, GERD, hypercholesterolemia), and surgical procedure [Laparoscopic Gastric Bypass (LRYGB) or Sleeve Gastrectomy (LSG)].

Results: 396 patients had surgery, 88.6% female, 51.3% were Black. 145 (33.6%) had LRYGB

and 316 (66.4%) LSG. 22.2% lived in a food desert, 25.8% were low income alone, 29.0% had low access alone, and 23.0% were neither low access nor low income. Linear regression did not identify food desert, income level, or food access as independently associated with %EWL. Factors independently associated with inferior %EWL were LSG ($p<0.001$), being single ($p=0.002$), black race ($p=0.008$), sleep apnea ($p=0.03$), and older age ($p=0.05$).

Conclusion: Living in a food desert, income level or food access was not independently associated with inferior %EWL one year after bariatric surgery. It suggests that patients can overcome these additional barriers to attain appropriate weight loss with surgery.

A089

Impact of Metabolic Surgery on Immunosuppressive Medication Utilization in Patients with Rheumatic Diseases

Pearl Ma *Fresno CA*[1], Ahmet Vahibe *Rochester MN*[2], Travis McKenzie *Rochester MN*[2], Kayla Ikemiya *Fresno CA*[3], Delamo Bekele *Rochester MN*[2], Robert Vierkant *Rochester MN*[2], Kelvin Higa *Fresno CA*[1], Michael Kendrick *Rochester MN*[2], Omar Ghanem *Rochester MN*[4]
UCSF Fresno, Fresno, CA[1] Mayo Clinic, Rochester MN[2] Fresno Heart and Surgical Hospital[3] Mayo Clinic, Rochester M[4]

Introduction:

Obesity is an inflammatory condition associated with higher rheumatic disease (RD) incidence, increased disease activity, and functional impairment. We hypothesized that metabolic and bariatric surgery (MBS), through weight loss, decreases immunosuppressant use in patients with RDs.

Methods:

We conducted a retrospective review of MBS procedures in patients using immunosuppressants for RDs between 2008-2020 at two academic institutions. Patient data were analyzed at 3-, 6-, 12-, and 24-month follow-up intervals. We examined paired differences in the number of medications taken at surgery relative to different post-surgical follow-up periods using McNemar tests for the prednisone-only comparisons and paired t-tests for all other comparisons.

Results:

We identified 56 patients with RDs who underwent MBS (mean age =53 years, mean follow-up =19 months). Sixty four percent of patients had Roux-en-Y gastric bypass, 30% sleeve gastrectomy, and 5% duodenal switch. Rheumatoid arthritis was the most common RD (43%), followed by psoriasis (18%), and lupus (11%) [Table1]. Mean percent total weight loss and Δ BMI were 34.2% and 10.3 kg/m² at 24 month follow-up. At 24 months, 11 patients (31%) stopped prednisone (p-value 0.004) and 13 (36%) showed a reduction in immunosuppressants (Disease-Modifying Anti-Rheumatic Drugs (DMARDs) or glucocorticoids) (p-value 0.01). One patient started glucocorticoids postoperatively and 2 had an increase in immunosuppressants [Table2]. At the last encounter, 5 patients were off immunosuppressants and all medication classes, except biological DMARDs, showed significant reductions.

Conclusion:
There is significant decrease in utilization of immunosuppressants after MBS in patients with RDs. Further studies are needed to confirm correlation.

A090
Sleep and Aberrant Eating Behaviors in a Sample of Pre-Surgical Candidates
John Young *University MS*[1], McCall Schruff *Oxford MS*[2], Danielle Maack *Oxford MS*[3]
University of Mississippi[1] Univeristy of Mississippi[2] Delta Autumn Consulting[3]

Background:
The prevalence of sleep disturbances in bariatric surgical candidates is high and could contribute to non-optimal eating habits during periods of non-sleep. The current study evaluated the relationship between sleep, binge eating, and night eating as measured during pre-surgical psychological evaluations.

Methods:
The sample (which is being added to continuously) included 54 surgery-seeking patients (BMI M = 46.38 (±8.59); 90.7% female) who completed standardized measures. These included the Pittsburgh Sleep Quality Index (PSQI), Binge Eating Scale (BES) and Night Eating Questionnaire (NEQ). Bivariate and partial correlations between variables were calculated and a mediating model with PSQI as the predictor, NEQ as the outcome, and BES as the mediator was also tested.

Results:
All variables were significantly correlated (rs 0.47 - 0.61), although the mediation model yielded non-significant indirect effects. Subsequent partial correlations remained significant when accounting for BES in the relationship between NEQ and PSQI but not when accounting for PSQI in the relationship between BES and NEQ.

Conclusion:
The tendency to binge eat explained less variance in aberrant night eating behaviors than the simpler, more concretely observed lack of sleep. This has potential implications for pre-surgical screening and treatment, in that sleep disturbances typically entail much briefer, more direct interventions than binge eating. Additionally, patients are less likely to bias their responses about sleep in comparison to binge eating, which affords advantages to accurate identification of symptoms.

A091
Disordered eating behaviors and cognitions are prospectively associated with BMI following bariatric surgery
Leslie Heinberg *Cleveland OH*[1], Ross Crosby *Fargo ND*[2], James Mitchell *Chaska MN*[2], Christine Peat *Chapel Hill NC*[3], Scott Engel *Fargo ND*[2], Kristine Steffen *Moorhead MN*[4]
Cleveland Clinic Foundation[1] University of North Dakota[2] University of NC at Chapel Hill[3] North Dakota State University[4]

Background: Eating pathology is very common among patients being assessed for bariatric surgery (up to 50%), and there is evidence that behaviors may persist after surgery and impact weight loss outcomes. Eating-related problems associated with less weight loss and/or weight regain include binge eating, grazing, and loss of control eating. However, studies are limited by small samples, cross-sectional data or limited follow-up and lack of rigorous measures that focus solely on eating disordered behaviors.

Methods: Participants (Mean age=42.55 (SD=10.58); 80.9% female; 75.2% Caucasian; 18.4% African-American; 8.5% Latinx) with a mean BMI=46.01 (SD=7.28) kg/m^2 were assessed using the Bariatric Surgery Version of the Eating Disorders Examination (EDE-BSV) pre-operatively (N=141) and at 1- (n=118), 6- (n=113) and 12-months (n=103) following a gastric bypass or sleeve gastrectomy. A multi-level repeated measures general linear model was run using eating disordered behaviors and cognitions at each visit to predict BMI at the next assessment.

Results: Significant prospective associations with BMI were found for objective binge-eating episodes, overeating episodes, all four EDE subscales (restraint, eating concerns, weight concerns, & shape concerns), and the EDE Global score, as shown in Table 1.

Conclusions: Disordered eating behaviors as well as cognitions are significantly positively associated with BMI at follow-up visits. Results suggest the importance of assessment and early intervention in the first post-operative year.

Table 1:

Predictor	Standardized Effect	Significance
Objective Binge Episodes	.133	.016
Overeating Episodes	.210	<.001
Restraint	.245	<.001
Eating Concern	.135	.014
Shape Concern	.229	<.001
Weight Concern	.181	.001
EDE Global	.266	<.001

Top Papers Session II
Tuesday, June 7, 2022
10:15 AM – 12:00 PM

A006

The effect of bariatric surgery on reducing the risk of colorectal cancer: a meta-analysis

Michal Janik *Warsaw* [1], Przemyslaw Sroczynski *Warsaw* [2], Benjamin Clapp *El Paso TX*[3], Omar Ghanem *Rochester MN*[4]

Military Institution of Aviation Medicine[1] Military Institute of Aviation Medicine[2] Texas Tech School of Medicine[3] Mayo Clinic College of Medicine[4]

Background: Literature presents conflicting results regarding the impact of bariatric surgery on the incidence of colorectal cancer. Presented meta-analysis was conducted to investigate the effect of bariatric surgery on the risk of developing colorectal cancer in patients with obesity.

Methods: PubMed and SCOPUS were searched for relevant articles. Articles published by the 26th of November 2021 were retrieved; data were extracted according to the evidence-based PICO model and analysed using a random-effects model to estimate the pooled relative risk (RR) and its 95 % confidence interval. The heterogeneity of studies was tested and quantified using Cochran's Q.

Results: The initial search yielded 327 articles. The thorough evaluation resulted in 13 papers, which were analysed. A total number of 3 233 044 patients were included in the meta-analysis. The pooled estimate of the RR was 0.63 [95% CI 0.50 to 0.79]. Heterogeneity: $Chi^2 = 107.96$, df = 12 ($P < 0.001$); $I^2 = 89\%$.

Conclusion: Patients who underwent bariatric surgery had a 37% reduction in the risk of developing colorectal cancer compared with patients with obesity who had no surgery.

A007

Independent Predictors and Timing of Portomesenteric Vein Thrombosis after Bariatric Surgery

Arthur Carlin *Clinton Township MI*[1], Oliver Varban *Ann Arbor MI*[2], Aaron Bonham *Ann Arbor MI*[3], Jonathan Finks *Ann Arbor MI*[2], Anne Ehlers *Ann Arbor MI*[2], Amir Ghaferi *Ann Arbor MI*[2] Henry Ford Health System[1] Michigan Medicine[2] University of Michigan[3]

Background : Portomesenteric vein thrombosis (PVT) is a rare but serious complication following bariatric surgery and most frequently reported after sleeve gastrectomy. Identification of risk factors for PVT could allow targeted management strategies to potentially reduce this risk.

Methods: Using a state-wide bariatric-specific data registry, we identified all patients who underwent primary bariatric surgery between 2006 and 2021 (n=102,869). Patient characteristics, procedure type and 30-day postoperative complications were analyzed with multivariable logistic regression to evaluate for independent predictors of PVT.

Results: A total of 117 patients (0.11%) developed a postoperative PVT with 12 (10.3%) associated deaths. The majority of PVTs occurred in patients who underwent sleeve gastrectomy (109, 93.2%) and most commonly occurred during the 2nd (37%), 3rd (31%), and 4th (23%) weeks after surgery. Independent risk factors for PVT included a prior history of venous thromboembolism (VTE) (OR 3.1, 1.64-5.98, p=0.0005), liver disorder (OR 2.3, 1.36-4.00, p=0.0021), undergoing sleeve gastrectomy (OR 12.4, CI 4.98-30.69, p<0.0001) and postoperative complications including obstruction (OR 12.5, CI 4.65-33.77, p<0.0001), leak (OR

7.9, CI 2.76-22.64 p=0.0001) and hemorrhage (OR 7.6, 3.57-16.06 p<0.0001).

Conclusion: Independent predictors of PVT include a prior history of VTE, liver disease, undergoing sleeve gastrectomy and experiencing a serious postoperative complication. Given that the incidence of PVT occurs most commonly within the first month after surgery, extending post-discharge chemoprophylaxis during this time frame is advised for patients with increased risk.

A008

Conversion of Sleeve Gastrectomy to Roux en Y Gastric Bypass vs Biliopancreatic Diversion with Duodenal Switch: Safe and Viable Options

Holden Spivak *Warwick RI*[1], Marcoandrea Giorgi *Providence RI*[1], Andrew Luhrs *North Providence RI*[1]
Brown University/Miriam Hospital[1]

Introduction :

Sleeve gastrectomy (SG) remains the most commonly performed bariatric surgery. As numbers of SG increase, so do patients who require revision for insufficient weight loss or weight regain. However, the literature has cited complication rates as high as 30% for reoperative bariatric surgery. With the recent inclusion of revision surgery variables in the MBSAQIP database, we are able to compare the safety and efficacy of SG conversion to Roux-en-Y Gastric Bypass (RYGB) vs Biliopancreatic Diversion and Duodenal Dwitch (BPD/DS).

Methods:

An analysis of the 2020 MBSAQIP PUF revealed 6020 patients who underwent SG conversion to RYGB (5348) and BPD/DS (672). We examined 30 day outcomes including death, anastomotic leak, readmission, any complication, dehydration treatment, and weight loss.

Results:

There was no statistically significant difference in mortality (0.12% vs 0%) or complication rate (6.5 vs 5.1 %) with SG conversion to RYGB or BPD/DS. There was a statistically significant difference in anastomotic leak (0.5% vs 1.2% p=0.024). Interestingly, BPD/DS was less likely to require dehydration treatments (4.2 vs 2.2% p=0.009) and had less readmissions after 30 days (7.3% vs 5.4% p=0.043). BPD/DS afforded more weight loss at 30 days (28.41 lbs vs 43.78 lbs p=0.001).

Conclusions

The complication rates after conversion of SG to RYGB or BPD/DS may be significantly lower than previously reported and only slightly higher than complication rates after primary weight loss surgery. SG conversion to either RYGB or BPD/DS remain safe, viable options for those patients who had insufficient weight loss or regain.

A009

Results from a Prospective, Multicenter Study of Reflux Management with the LINX® System for Gastroesophageal REFlux Disease after Laparoscopic Sleeve Gastrectomy

William Petraiuolo *Blue Ash OH*[1], Leena Khaitan *Chardon OH*[2], Michael Hill *Saranac Lake NY*[3], Michael Michel *Summerville SC*[4], Patrick M Chiasson MD *TUCSON AZ*[5], Philip Woodworth *Lone Tree CO*[6], Reginald Bell *Englewood CO*[7], Carlos Anciano *Greenville NC*[8], Ragui Sadek *Somerset NJ*[9], Aaron Hoffman [10]
Ethicon USA[1] University Hospitals of Cleveland[2] Adirondack Surgical Group[3] Coastal Carolina Bariatric & Surgical Ce[4] Northwest Allied Bariatric and Foregut S[5] Mercy Hospital of Northwest Arkansas[6] Institute of Esophageal & Reflux Surgery[7] East Carolina University[8] Advanced Surgical and Bariatrics of NJ &[9] Buffalo General Medical Center[10]

Background: Patients with intractable GERD that have undergone laparoscopic sleeve gastrectomy (LSG) have limited treatment options. Fundoplication is difficult post-LSG. Roux-en-Y gastric bypass may be used as a conversion procedure but is more invasive with potential for serious complications. Magnetic sphincter augmentation (LINX) is a less invasive, currently ACS-recommended GERD treatment alternative with fewer reported complications.
The objective of this study is to confirm safety and efficacy of LINX after LSG.

Methods: The primary outcome of this observational, multicenter, single-arm prospective study was the rate of serious device and/or procedure-related adverse events (AEs). Patients were evaluated by endoscopy to assess the mucosa, and x-rays to verify device location 12 months post-implant. Efficacy was measured comparing baseline to 12-month post-implant assessing 3 criteria: normalization of total distal acid exposure, at least a 50% reduction in total GERD-HRQL scores, lowered average daily PPI usage.

Results: 30 who patients had LINX implantation were followed 12-months post-implant. No unanticipated adverse device effects were observed. Fifteen patients reported 21 device and/or procedure-related AEs. Of those, two were deemed serious (dysphagia, pain, 6.7%) and resolved without sequelae. Two subjects underwent explant without complication. GERD-HRQL scores showed improvement (80.8%, $P<0.001$), and reduction in daily PPI usage was seen (95.8%, $P<0.001$). Forty-four percent of subjects demonstrated normalization or >= 50% reduction of total distal acid exposure time compared to baseline (baseline 16.2%, 12-months 11%; $P=0.038$).

Conclusion: LINX safety was confirmed post-LSG with an overall improvement of GERD symptoms and reduction in PPI use with explants within anticipated range.

A002

Insurance-Mandated Weight Management Program Completion Prior to Bariatric Surgery Provides No Long-Term Clinical Benefit

Deborah Hutcheon *Greer SC*[1], Joseph Ewing *Greenville SC*[1], Madeleine St. Ville *Denver NC*[2], Megan Miller *Greenville SC*[1], Lindsay Kirkland *Greenville SC*[1], Shanu Kothari *Greenville SC*[1], John Scott *Greenville SC*[1]
Prisma Health[1] Clemson University[2]

Background: There is no evidence that insurance-mandated weight loss prior to bariatric surgery impacts outcomes. This study evaluated the relationship between insurance-mandated weight management program (WMP) completion before primary bariatric surgery and long-term post-operative outcomes.

Methods: Patients who underwent laparoscopic Roux-en-Y gastric bypass (LRYGB, n=572) or sleeve gastrectomy (LSG, n=484) from 2014-2019 were dichotomized to presence (LRYGB n=431, LSG n=348) or absence (LRYGB n=141, LSG n=136) of insurance-mandated WMP completion. Primary endpoints included follow-up rate, percent total weight loss (%TWL), percent excess weight loss (%EWL) through 60 months post-operation. Operation time, length of stay, surgical site infections, emergency department visits, readmissions, reoperations, and intravenous fluid administration were also analyzed. T-tests compared between group means with significance $p<0.05$.

Results: Follow-up rate, %TWL, %EWL were no different (p=NS) up to 60 months post-operation between groups for either surgery. LRYGB patients without WMP completion maintained greater %TWL and %EWL up to 60 months post-operation; those seen at 60 months (n=19) without WMP completion (n=6) maintained greater %TWL (32.22±7.83% vs 25.73±10.58%, p=0.087) and %EWL (71.78±20.26% vs 58.60±25.69%, p=0.244). LSG patients without WMP completion maintained greater %TWL and %EWL up to 13 months post-operation; those seen at 13 months (n=281) without WMP completion (n=76) maintained greater %TWL (22.52±8.93% vs 21.41±9.25%, p=0.449) and %EWL (44.26±21.62% vs. 41.62±21.11%, p=0.383). No differences (p=NS) existed in secondary outcomes by surgery type and WMP completion.

Conclusions: Insurance-mandated WMP completion prior to bariatric surgery does not result in short- or long-term clinical benefit and should be abandoned.

Top Videos
Tuesday, June 7, 2022
1:30 PM – 3:00 PM

A011
Laparoscopic Conversion of
Roux-en-Y Gastric Bypass to Jejuno-Duodenostomy for Refractory Postprandial Hypoglycemia

Huy Hoang *Fresno CA*[1], Pearl Ma *Fresno CA*[1], Keith Boone *Fresno CA*[1], Amarita Klar *Fresno CA*[1], Kelvin Higa *Fresno CA*[1]
ALSA[1]

I'm presenting a case of laparoscopic conversion of Roux-en-Y gastric bypass (GBP) to jejuno-duodenostomy for refractory postprandial hypoglycemia. The patient is a 53 year-old woman who had laparoscopic retrocolic antegastric GBP and hiatal hernia repair in 2009. The patient had a good response to the operation, and her BMI went from 41 to 22. However, she developed postprandial hypoglycemia since 2014. She was hospitalized for specific glucose monitoring and strict diet adherence, and demonstrated reactive hypoglycemia. Her symptoms include sweating, clammy hands, and syncope. Extensive workup was performed. Neuroendocrine tumor along with factitious hypoglycemia have been ruled out with negative 72-hour fast test, negative CT scan, and normal C-peptide, insulin and pro-insulin levels. Acarbose was also unsuccessful. Mehta et al. published a novel surgical intervention for this problem. They looked at 8 patients who underwent conversion of GBP to jejuno-duodenostomy from 2011 to 2014. 2 patients had complete resolution of symptoms; 4 patients with marked improvement, and 2 patients with no improvement. After significant consideration, the patient was consented and scheduled for conversion from GBP to jejuno-duodenostomy and jejunostomy feeding tube placement. After the operation, her hypoglycemia resolved; however, at time of this abstract, she remains less than a month out from her operation.

A012
Laparoscopic Paraoesophageal Hernia, Gastric Bypass and Peroral Endoscopic Myotomy in a patient with Achalasia and Gastroesophageal reflux after Sleeve Gastrectomy
Daniel Slack *Charlotte NC*[1], Paul Colavita *Charlotte NC*[1], Abdelrahman Nimeri *Charlotte NC*[1]
Carolinas Medical Center, Atrium Health[1]

We present a 55-year-old female with class II obesity and a previous history of sleeve gastrectomy who developed significant gastroesophageal reflux disease refractory to medical management. After a covid infection in fall of 2020 she began to report new symptoms of dysphagia that progressed from solids to liquids. She underwent extensive workup including upper endoscopy, upper GI barium swallow, manometry, pH impedence and EndoFlip leading to a diagnosis of Achalasia type II as well as a paraesophageal hernia.

Given these findings she underwent a combined paraesophageal hernia repair with conversion of sleeve gastrectomy to Roux-en-Y gastric diversion and an intra-operative Peroral Endoscopic Myotomy. Intra-operatively she was noted to have significant lower abdominal adhesions leading to performing the Roux-en-Y reconstruction through a supramesocolic defect in a retrocolic fashion.

The patient tolerated the procedure well and recovered with improvement of both her reflux and achalasia.

A013

Transabdominal Modified Belsey Mark IV Hernia Technique for GERD after Sleeve Gastrectomy

Margaret Ahrens *New York NY*[1], Julio Teixeira *Scarsdale NY*[2]
Lenox Hill Hospital[1] Lenox HIll[2]

Background :

Treatment of gastroesophageal reflux disease after sleeve gastrectomy can be difficult. Traditionally, when medical treatment is not efficacious, gastric bypass is performed. Some patients have had adequate weight loss or do not consent to having a bypass. When these patients have a known hiatal hernia, repair is an option, however traditional intra-abdominal fundoplication techniques are challenging or impossible because there is often not enough gastric tissue to perform a circumferential fundoplication. Thus we revisit the concept of a Belsey, a vertical fundoplication that does not require a large pouch of fundus as a Nissen or Toupet would.

Methods:

A case study is presented of a 35 year old woman with a history of laparoscopic vertical sleeve gastrectomy for morbid obesity 8 years prior who has since lost 100 pounds and had a BMI of 28.46 at presentation. She returned to treatment for recurrent reflux and nocturnal vomiting. She had undergone treatment for H pylori without relief. She was requesting treatment for her reflux that did not involve a bypass.

Results:

A video of a modified Belsey Mark IV hiatal hernia repair is presented. The patient tolerated the procedure well and there were no complications. Her symptoms had completely resolved at her one week follow up.

Conclusions:

Transabdominal robotic Belsey Mark IV hiatal hernia repair is a viable option for patients with sleeve gastrectomy who do not wish to undergo conversion to gastric bypass.

A014

Iatrogenic Inferior Vena Cava Injury in the Reoperative Foregut: A Novel Technique for Minimally Invasive Repair

Timothy Schaffner *Fort Sam Houston TX*[1], Timothy Vreeland *San Antonio TX*[1], Robert Krell *Fort Sam Houston TX*[1], David Schechtman *Fort Sam Houston TX*[1]
Brooke Army Medical Center[1]

Workup for Inferior Vena Cava (IVC) injury and minimally invasive management during laparoscopic and robotic surgery has been reported previously. We present a case of a 42 year female with history of laparoscopic roux-en-Y gastric bypass in 2009 and laparoscopic primary hiatal hernia repair in May of 2021, who suffered from postoperative odynophagia after her revisional procedure. ncluding upper GI series, empiric GEJ dilation, and high resolution manometry failed to show a cause for her persistent symptoms. She was consented for a

diagnostic laparoscopy, during which significant adhesions were encountered. During adhesiolysis, a tangential sharp injury to the IVC was made. The injury was able to be controlled using a figure of eight stitch with a prolene suture tied to pledgeted fibrillar. This demonstrates a novel and new technique for control of major vascular injury in the reoperative field, where complete visualization of the injury is difficult.

A015

Sleeve Gastrectomy in a Patient with Spontaneous Portosplenic Shunt

Karla Bernardi *Columbus OH*[1], Alison Whalen *Columbus OH*[1], Lauren Hawley *Columbus OH*[1], Mamdouh Khayat *Columbus OH*[1], Stacy Brethauer *Columbus OH*[1]
The Ohio State University[1]

This patient is a 50-year-old male with a BMI of 39 and metabolic syndrome who presented as a referral from an outside surgeon after an attempted sleeve gastrectomy. During his index operation, the dissection of the greater curvature was completed, and a very large (>1cm) vein was encountered on the diaphragm on the left crus. Then, the pars flaccida was opened and a similar vein was identified on the right crus. The procedure was then aborted. Postoperative imaging revealed a portosplenic shunt without other anatomical abnormalities or varices. Given the concern for portal hypertension, a transjugular liver biopsy and hepatic wedge pressures were obtained. Biopsy revealed steatosis and bridging fibrosis (Stage 1b) but no cirrhosis and the hepatic pressures were normal. He then underwent successful coil embolization of this portosplenic shunt by interventional radiology.

Six weeks later, he was taken back to the operating room to complete the sleeve gastrectomy. Intraoperatively, the adhesions that had formed along the greater curvature were taken down. The fundus was mobilized off the left crus of the diaphragm and the previously seen vein on the left and anterior hiatus was not visualized and the shunt on the right was clearly occluded with the embolization coils. A routine sleeve gastrectomy was then completed without difficult over a 36 French Bougie. Completion endoscopy showed no abnormalities and the air leak test was negative. The patient made an uneventful recovery.

A016

Laparoscopic reversal of duodenal switch for intractable abdominal pain

Brett Simenhoff *Fresno CA*[1], Pearl Ma *Fresno CA*[2], Huy Hoang *Fresno CA*[2], Jose Alfaro Quezada *Fresno CA*[2], Kevin Harris *Fresno CA*[2], Amarita Klar *Fresno CA*[2], Keith Boone *Fresno CA*[2], Kelvin Higa *Fresno CA*[2]
Advanced Laparoscopic Surgical Associates[1] Advanced Laparoscopic Surgical Associate[2]

This 40 year old female patient had a history of an adjustable gastric band that was removed due to slippage. Her weight increased from 170 lbs (BMI 26) to 415 lbs (BMI 65) and was revised to a duodenal switch. The patient presented to us years later with intractable abdominal pain and severe diarrhea. Upper GI series, CT scan and EGD were all consistent with normal duodenal switch anatomy with no abnormalities noted. The patient was taken for laparoscopic exploration. Standard limb lengths were found. A hiatal hernia was repaired. The ileoileostomy was revised and proximalized to treat the diarrhea. Postoperatively the diarrhea abated, but the abdominal

pain worsened. The patient was taken back to the operating room three months later for exploration and reversal of her duodenal switch. The small bowel anastomoses and duodenoduonostomy were created hand sewn in an end-to-end fashion. Postoperatively the patient's pain completely resolved. Unfortunately, she developed reflux and weight recidivism. The plan is now for possible conversion to gastric bypass.

A017
Robotic revision of vertical band gastroplasty to gastric bypass
Eric Davies *Brighton MI*[1], Mark Jonker *Howell MI*[2]
Michigan Bariatric[1] St. Joseph Mercy Livingston[2]

Robotic revision of vertical band gastroplasty to gastric bypass.

Eric Davies, MD, FACS, FASMBS
Mark Jonker, MD, FACS, FASMBS
St. Joseph Mercy Livingston Hospital, Howell MI

This 77year-old female patient had a history of open cholecystectomy, appendectomy, and vertical banded gastroplasty in 1995. Unfortunately, even though she sustained excellent postoperative weight loss, she suffered from chronic gastric outlet obstruction symptoms requiring 10 EGDs with dilations of the band site. She was not considered for revisional surgery. In the interim, she had a large ventral hernia repaired with 20x20cm intraabdominal mesh. About 23 years after her initial bariatric surgery, she had an obstructing common bile duct stone requiring ERCP for treatment. This procedure caused acute inflammation and irritation of the VBG site, causing her to have severe gastric outlet obstruction symptoms on several occasions and three more EGDs with dilations. Ultimately, she had an ER visit for chest pain with nausea and vomiting, where a CT scan showed an acute obstruction at the VBG. She recovered, and was referred to our office for revisional bariatric surgery. We performed an elective extensive lysis of adhesions, with dissection of the VBG and partial gastrectomy with revision to Roux-en-Y gastric bypass. Postoperatively, she had an uneventful recovery and at 6 months continued to tolerate solid food with no vomiting. She had excellent postoperative resolution of her class 2 obesity as well. The video demonstrates her presentation, workup, imaging studies, surgery with focus on technical aspects of this complex revision, and postoperative course.

A018
An Unexpected Twist –
RYGB in Type 2 Intestinal Malrotation
Piyush Gupta *Shrewsbury MA*[1], Michelle McCarthy *Burlington MA*[2], Hany Takla *Dover NH*[3]
Lahey Clinic Hospital[1] Lahey Hospital[2] Winchester Hospital[3]

Introduction
Standard approach for a Roux-n-Y Gastric bypass (RYGB) cannot be used in cases of intestinal malrotation (IM) as it can lead to twisting of the mesentery. Very few cases have been reported in the literature on how to approach such a case with the use of a robot, especially in relation to port placement and the creation of the jejuno-jejunostomy (JJ).

Objective
To present our experience with IM discovered intra-operatively during robotic-assisted RYGB.

Case-report
40-year-old female with a BMI of 37.6 who was planned for a RYGB due to history of GERD. Pre-operative upper GI series did not report IM. Intraoperatively, the ligament of Treitz was not found at its usual location. The jejunum was then followed retrograde and the ligament of Treitz was identified to the right of midline, denoting a Type 2 IM. From here, the procedure continued in mirror-image fashion to the standard RYGB procedure. The BP-limb was kept on the right side of the abdomen, and the Roux-limb on the left. This allowed the procedure to be completed using the standard port placement. The mesenteric defects which were also flipped were identified closed at the end of the case.

Results
There were no peri-operative complications. The patient is doing well at 1-month follow-up with an excess BMI loss of 40%.

Conclusions
Delayed films in upper GI series can help diagnose IM. Additionally, RYGB in Type 2 malrotation patients can be performed with standard robotic port placement by mirroring the position of the JJ anastomosis

Cancer Abstract
Tuesday, June 7, 2022
3:45 PM – 5:15 PM

A019
Obesity Increases the Expression of FLIP and cIAP2 which Associates with Decreased Apoptosis and Tumor Progression in Esophageal Adenocarcinoma
Swati Agrawal *Omaha NE*[1], Anna Podbar [1], Vikrant Rai *Pomona CA*[2], Laura Hansen *Omaha NE*[1], Nicholas Deitz [1], Kalyana Nandipati *Omaha NE*[1]
Creighton University[1] Western University of Health Sciences[2]

Background: Obesity is among biggest risk factors in development of esophageal adenocarcinoma (EAC). Recent studies demonstrate that obese patients have metabolic changes that increase insulin-like growth factor-1 (IGF-1), free fatty acid (FFA), and diacylglycerol

(DAG) levels. Alteration in IGF-1, FFA, and DAG regulates apoptotic gene expression though changes in FLIP and cIAP2. Hypothesis is to assess role of FLIP and cIAP2 in EAC.

Methods: Included 17 males with either Barrett's Esophagus (BE) or EAC with or without BE. We collected normal, BE, and EAC tissue samples during endoscopy or esophagectomy. Seven were obese (average BMI= 34.0 kg/m2) and 10 were non-obese (average BMI= 24.90 kg/m2). Samples were analyzed for presence of pro-apoptotic, anti-apoptotic factors, cIAP2, FLIP, IGF-1, Akt, NF-kB and Ki67 expression levels by immunofluorescence and RT-PCR. We compared expression levels between Normal, BE, and EAC tissue.

Results: Showed increased gene and protein expression of cIAP2, FLIP, NF-kB, IGF-1, Akt, and Ki67 in BE and EAC samples compared to normal tissues. Correlation analysis of gene expression between nonobese and obese patients for IGF-1, cIAP2 and FLIP showed strong obesity correlation with IGF-1, cIAP2 and FLIP. Correlation coefficient for cIAP2 and FLIP was 0.5483 and 0.7811 for normal, 0.5602 and 0.8293 for BE, and 0.8266 and 0.7977 for EAC (Figure 1).

Conclusions: Obese patients with EAC had increased expression of cIAP2 and FLIP, which is associated with inhibition of apoptosis and possible progression of esophageal adenocarcinoma. These results need to be confirmed with future invitro studies with or without specific inhibitors.

A020

INTESTINAL METAPLASIA AS A PRECANCEROUS LESION AND ITS ROLE IN BARIATRIC SURGERY: GASTRIC REMNANT GASTRECTOMY IN ROUX-N-Y GASTRIC BYPASS

Clara Pañella *Madrid* [1], Esther Ferrero Celemín *San Sebastian de los Reyes* [2], J. Daniel Sánchez López *LAS ROZAS DE MADRID. MADRID* [2], Sara Núñez-O'Sullivan *San Sebastián de los Reyes* [2], Mariana García-Virosta *Madrid* [2], Carmen Rodríguez-Haro *San Sebastián de los Reyes* [2], María Hernández *Madrid* [2], Jose María Gil-López *Villanueva del Pardillo Madrid. Spain* [2], Fátima Sánchez-Cabezudo *San sebastian de los reyes madrid* [2], Antonio Picardo *San Sebastián de los Reyes* [2]

Clínico San Carlos Hospital[1] Infanta Sofia Hospital[2]

INTRODUCTION: Intestinal metaplasia (IM) is a precancerous lesion that has been independently associated with gastric cancer development. The presence of IM in the preoperative study of Roux-n-Y gastric bypass (RYGB) raises question of whether or not remove the gastric remnant (GR) due to the impossibility of endoscopic surveillance.

MATERIAL AND METHODS: Descriptive analysis of 6 consecutive cases of GR gastrectomy in RYGB from 2012 to 2021.

RESULTS: Seven cases (85.7% women) with an age of 56(41-63) years and pre-surgical BMI of 38.9(34.8-43.2)Kg/m^2. The endoscopy confirms IM in 71.4% of the patients. There are two cases which the indication for GR gastrectomy was due to multiple hyperplastic polyposis.

Surgical time of the RYGB with GR resection was 140(95-260) minutes. Hospital stay was 2(2-6) days. No postoperative complications or mortality were observed at 30 days. Histological analysis of GR demonstrates IM and atrophic gastritis in 57.1% and 42.9%, respectively. Regarding gastric polyposis cases, one case reveals a well-differentiated neuroendocrine tumor (Ki67 1-2%) in one polyp, pT1NxM0, and the other one dismisses any malignancy. Weight loss results at 6 months of follow-up are equivalent to regular RYGB, BMI of 32.9(28.6-33.8)Kg/m^2.

CONCLUSIONS: GR gastrectomy indication in RYGB must be individualized. IM is an independent risk factor and, given the impossibility of endoscopic surveillance, the addition of GR gastrectomy should be considered. It is a procedure that, in expert hands, is reproducible and safe with the same postoperative results as a regular RYGB. However, larger samples and long-term follow-up are needed to confirm these results.

A021

Laparoscopic Assisted Endoscopy for Occult GI Bleed from a Gastric Remnant Lymphoma

Patrick Dolan *NEW YORK NY*[1], Daniel Herron *New York NY*[1]
Icahn School of Medicine at Mount Sinai[1]

Case Presentation: The patient is a 75-year-old man with a history of a gastric bypass who was diagnosed with a diffuse large B Cell lymphoma. He subsequently developed melena and anemia three months into treatment. Multiple conventional and advanced endoscopic techniques failed to intubate his biliopancreatic limb and did not identify a source of bleeding. We took the patient to the operating room in conjunction with an advanced endoscopist for a laparoscopic-assisted endoscopy to diagnose the source of his upper GI bleed.

After obtaining laparoscopic access, we mobilized the gastric remnant. The posterior wall of the gastric remnant was inseparable from the superior border of the pancreas. We were able to mobilize the remnant enough to secure it to the abdominal wall for the endoscopy. On endoscopy we found a large posterior ulcer with adherent clot and the splenic artery abutting the ulcer. An attempt to coagulate smaller vessels in the ulcer base led to massive hemorrhage from the splenic artery, necessitating conversion to a laparotomy and suture ligation of the splenic artery. We then completed the remnant gastrectomy and performed a splenectomy due to the devascularization of the spleen. The patient recovered well postoperatively with resolution of his melena and anemia.

Conclusions: Gastric remnant ulcer disease is rare. Laparoscopic-assisted endoscopy is a safe and feasible way to diagnose and potentially treat gastric remnant ulcers.

A022

Opportunities for concurrent cancer screening during preoperative bariatric evaluations in the era of COVID-19.

Brandon Xavier *Greenville SC*[1], John Scott *Greenville SC*[2], Abby Birrell *Greenville SC*[3], Joseph Ewing *Greenville SC*[3], Shanu Kothari *Greenville SC*[3]

University of South Carolina SOMG[1] Prisma Health Upstate Weight Management[2] Prisma Health[3]

BACKGROUND: There is an opportunity to improve breast and colon cancer screening in bariatric patients by mandating such screening prior to bariatric surgery. The impact of COVID-19 on cancer screening in the preoperative bariatric patient population is unknown. The purpose of this study is to evaluate the rates of breast and colon cancer screening in the preoperative bariatric patient population and to determine if performance of these tests were impacted by the COVID-19 pandemic.

METHODS: Single institution retrospective chart review of all patients presenting prior to bariatric surgery from 2019-2021. Three variables were examined in preoperative patients: colonoscopy within 10 years of 50th birthday, concurrent screening colonoscopy at the time of preoperative upper endoscopy, the presence of a screening mammogram in women over age 40.

RESULTS: 1052 patients were included in the study. 336 patients were over the age of 50 and 273 (81.1%) had a colonoscopy within the recommended screening guidelines and 63 (18.75%) of these patients had a screening colonoscopy at the time of the preoperative upper endoscopy. 489 patients were female over the age of 40, 326 (66.6%) were current on recommended mammography. There were no differences in rates in screening rates before and after the COVID-19 pandemic for colonoscopy (p = .298) and mammography (p = 0.111).

CONCLUSION: There is an opportunity to improve cancer screening rates in patients undergoing a preoperative evaluation for bariatric surgery. Cancer screening rates in this patient population do not appear to be impacted by the COVID-19 pandemic.

A023

LAPAROSCOPIC PARTIAL GASTRECTOMY WITH ROUX-EN-Y RECONSTRUCTION FOR A GASTRO-GASTRIC FISTULA

Jeffrey Friedman *Gainesville FL*[1], Phillip Jenkins *Gainesville FL*[1], Benjamin Kaplan *Gainesville FL*[1], David Jablonski *Gainesville FL*[1], Jeffery Friedman *Gainesville FL*[1]
University of Florida[1]

A 40 year old female who has a history of an open roux-en-y gastric bypass in the 1990s and regular tobacco use is referred for evaluation of reflux and weight regain (BMI 40.79 kg/m2) in the setting of a gastro-gastric fistula. During her pre-surgical evaluation, she was found to have a stage 1 squamous cell carcinoma within the middle third of her esophagus. This lesion was resected endoscopically with clear margins. Subsequently, she underwent a laparoscopic partial gastrectomy with roux-en-y reconstruction to excise the gastro-gastric fistula and to address the patient's reflux and weight regain. The patient did well and was discharged home on post operative day 2 with no complications. The patient had a successful outcome, losing 45 pounds and reaching a BMI of 29.22 kg/m2. Most importantly, her cancer has not recurred after almost 4 years of follow up. Of note, in the United States, esophageal cancer is very rare – making up

about 1% of cases. In the US, the dominant form is adenocarcinoma, rather than our patient's initial presentation of squamous cell carcinoma; with early stages usually being completely asymptomatic. Thankfully, this was not the case with our patient. Our hopes are that repairing our patient's fistula/roux-en-y helps to minimize the chances of any future recurrence.

A024

A Lifestyle Development Program for Breast Cancer Patients with Obesity

Angelina Kim *Flushing NY*[1], Lauren Elreda *Flushing NY*[2], Manmeet Malik *Flushing NY*[2], Joel Ricci Gorbea *Flushing NY*[2]
New York Presbyterian-Queens[1] New York Presbyterian Queens[2]

Background: Amongst breast cancer patients, those with obesity have poorer clinical outcomes and higher mortality, independent of their menopausal and estrogen receptor status. Providers should inform patients of this association and refer them to resources to reduce these risks.

Objective: To reduce breast cancer-related morbidity, mortality, and overall health in patients by referring appropriate candidates to the bariatric surgery program.

Methods: The authors identified patients with breast disease who received treatment at New York-Presbyterian Queens from March 2020 to the present. After receiving active treatment, breast cancer patients who met the criteria for bariatric surgery were offered enrollment into the program. Bariatric surgery candidates included patients with BMI over 40; patients with BMI 35-39.9 with at least one obesity-related comorbidity; and patients with BMI under 35 with two comorbidities.

Results: Since initiating the program, 18 patients have been referred to the bariatric surgery clinic. Ten patients had a BMI over 40, seven patients had a BMI 35-39.9 with one or more comorbidity, and one patient had a BMI under 35 with two comorbidities. Five patients are planning to undergo bariatric surgery, and one patient had a laparoscopic sleeve gastrectomy. Seven patients either have an upcoming consultation appointment or are undecided regarding surgery. Four patients refused the referral but are regularly following up with the metabolic clinic.

Conclusions: These patients have an opportunity to improve their prognoses and overall health. Furthermore, this work represents a general strategy for reducing the morbidity and mortality of breast cancer patients with obesity.

Abstract Palooza
Session I – Revisional Procedures
Wednesday, June 8, 2022
8:00 AM – 9:30 AM

A025

Robotic Sub-total Gastrectomy for Refractory Marginal Ulcers after Gastric Bypass

Nicolas Dreifuss *Chicago IL*[1], Francisco Schlottmann *Chicago IL*[1], Antonio Cubisino *Chicago IL*[1], Carolina Baz *Chicago IL*[1], Valentina Valle *Chicago IL*[1], Mario Masrur *Chicago IL*[1]
University of Illinois at Chicago[1]

Background: Marginal ulcers are a known complication after Roux-en-Y Gastric Bypass with an incidence ranging from 0.6 to 16%. Most patients respond well to medical therapy. On the contrary, a small subset will be refractory or present with an associated fistula requiring surgical intervention. In this video, we review the operative technique of a robotic gastrectomy and esophagojejunostomy for refractory marginal ulcers in a patient with a previous Roux-en-Y Gastric Bypass.

Methods: Video with verbal narration.

Results: The patient was a 53-year-old female with a past medical history of hypothyroidism and gastroesophageal reflux, and past surgical history of Roux-en-Y Gastric Bypass (1991), abdominal panniculectomy, small bowel resection and hiatal hernia repair, and cholecystectomy. The patient consulted for intense and persistent abdominal pain associated with nausea and vomiting. She was diagnosed with a marginal ulcer 2 years ago and did not respond to medical therapy. An upper endoscopy and gastrointestinal series confirmed the diagnosis and excluded other complications. Surgery was indicated. Initial exploration showed massive adhesions involving the liver, gastric pouch, and excluded stomach. The gastric pouch was fused to the excluded stomach. The gastric pouch, gastrojejunostomy, and the proximal excluded stomach were resected. A side-to-side esophagojejunostomy was constructed. The patient tolerated well the procedure and was discharged on postoperative day 2.

Conclusion: Marginal ulcers are potentially complex complications following Roux-en-Y Gastric Bypass. A subset of patients will eventually be required surgical intervention after failed medical therapy. Revision of the gastrojejunostomy and total/subtotal gastrectomy are valid options.

A026

Intraoperative finding of prior gastric plication during laparoscopic conversion of gastric band to sleeve gastrectomy

Wasef Abu-Jaish *Burlington VT*[1], Berna Buyukozturk *Burlington VT*[1], Widian Hadi *Burlington VT*[1], Sarah Kelso *Burlington VT*[1]
The University of Vermont Medical center[1]

Introduction

Laparoscopic adjustable banding procedure (LABP), a once popular bariatric procedure, has fallen out of favor due to inferior weight loss and frequent band, tube, and port-related complications. Due to weight loss failure, 20-30% are converted to gastric bypass or sleeve gastrectomy.

We present an unusual case of a 41-year-old woman who developed food intolerance and recurrent partial small bowel obstructions (pSBO) 10 years after LABP. Fluoroscopic and endoscopic assessment revealed esophageal dilatation and esophagitis, and her symptoms failed to improve after band emptying. CT revealed terminal ileal obstruction attributed to the tubing.

Intraoperative findings

We show the tubing and adhesions constricting the terminal ileum 15 cm proximal to the ileocecal valve causing pSBO. Adhesions were lysed and the bowel freed after division of the tube and removal of the gastric band. Concurrent endoscopy revealed neither erosion nor leak. She was discharged after 1 night of observation.

Discussion

LABP has recently fallen out of favor with the concurrent rise in popularity of the laparoscopic sleeve gastrectomy (LSG). Complications associated with the subcutaneous port or band itself are well-known, but morbidity related to the tubing is not. Rarely described are SBOs caused by tubing via formation of an internal hernia. These have occurred up to 10 years following LABP, and the majority of these cases noted redundancy in the tubing as the likely cause.

Conclusion

Our case illustrates that intermittent pSBO in patients with LABP requires early CT evaluation and bariatric surgery consultation followed by laparoscopic intervention to avoid serious complications.

A027

Should we convert Roux-en-Y Gastric Bypass to Duodenal Switch?

Michael Danise *Providence RI*[1], Marcoandrea Giorgi *Providence RI*[1], Andrew Luhrs *North Providence RI*[1]
Brown University/The Miriam Hospital[1]

Background

Weight recidivism after RYGB can be seen in approximately 25% of patients. Surgical management options include revision of RYGB and conversion to DS/SADI. Using recently included revision surgery variables in the MBSAQIP database we compared the safety and efficacy of RYGB revision with conversion to DS/SADI.

Methods
An analysis of the 2020 MBSAQUIP PUF revealed 1421 patients who underwent revision of RYGB (n=1255) or conversion from RYGB to DS/SADI (n=166) for inadequate weight loss or weight regain. Patient characteristics, preop BMI, OR time, 30 day complications and weight loss was compared between groups.

Results
When compared with the revision RYGB group, the DS/SADI conversion group had higher mean BMI (47.50 vs 42.73, p<0.001) and longer operative time (209.05 vs 133.35 min, p<0.001). DS/SADI had higher rates of any complication compared to revision RYGB (22.3 vs 5.6%, p<0.001), including higher 30 day readmission rates (16.27 vs 5.5%, p<0.001), reoperation within 30 days (9.0 vs 2.9%, p<0.001), VTE (3.01 vs 0.08%, p<0.001), ICU admission
(8.4 vs 0.7%, p<0.001) anastomotic leak (7.8 vs 0.4%, p<0.001), SSI (11.25 vs 2.63%, p<0.001) and death (0.6 vs 0.0%, p<0.001). The DS/SADI group had more weight loss at 30 days (46.65 vs 29.21lbs, p=0.0045).

Conclusion
These data suggest that conversion of RYGB to DS/SADI is associated with significantly higher rates of postoperative complications when compared with revision RYGB and should be considered when counseling patients on surgical options for weight recidivism after RYGB.

A028
Laparoscopic Conversion of Mini-Gastric Bypass with Braun enteroenterostomy to Roux-en-Y Gastric Bypass to Treat Bile Reflux
Emanuel Shapera *La Mesa* [1], Andrew Wheeler *Columbia MO*[2], Samuel Perez *Columbia MO*[3]
SHARP Grossmont[1] University of Missouri, Columbia[2] University of Missouri School of Medicine[3]

Introduction
The Mini-Gastric Bypass (MGB) is an effective procedure for obesity and its metabolic derangements, but can lead to bile reflux, hindering patient quality of life and increasing the risk of esophageal adenocarcinoma. Conversion of the former into the Roux-en-Y Gastric Bypass (RYGBP) to treat this post-operative complication is demonstrated in this video case report.

Case Report
45-year-old Female presents to the University of Missouri Bariatric Clinic 10 years after a MGB. The patient had lost 93% of her excess BMI (from 39.5 to 26) but developed biliary reflux and weight regain to a BMI of 35. She had undergone a Braun entero-enterostomy without resolution of bile reflux symptoms. Upper Endoscopy confirmed the presence of bile in her stomach without Barrett's esophagus.
The patient was consented for laparoscopic conversion of Loop to RYGBP. Operative time was 134 minutes. Her Roux limb was 150cm, biliopancreatic limb 50cm. Her pouch from her prior MGB was adequate and measured 5cm in length.
She had symptom resolution, tolerance of diet and discharge to home on post-operative day 1.

Six months of follow up identified no complications, but her BMI rose to 36.9

Conclusion
Revisional surgery of Loop to RYGBP is effective in treating bile reflux. Takedown of the anastomosing jejunum between afferent and efferent portions of the braun enterostomy restores intestinal continuity from pylorus to ileocecal valve. This can then be manipulated to generate roux and BP limbs. As the amount of intestine bypassed can change, weight fluctuations can occur after this revision.

A029
Drama at the GJ
John Mitko *Chicago IL*[1], Lindsey Klingbeil *Chicago IL*[1], Andres Giovannetti *Chicago IL*[1], Francisco Quinteros *Chicago IL*[1], Rami Lutfi *chicago IL*[1]
Chicago Institute of Advanced Surgery[1]

45-year-old female, BMI 40 kg/m^2 with history of sleeve gastrectomy presenting for conversion to gastric bypass due to weight regain and reflux. Patient was brought to the OR and placed in supine position. The abdomen was entered via optical trocar at Palmer's point. Trocars were placed to the left and right of the umbilicus and in the RUQ. The jejunojejunostomy was created in standard stapled fashion. The lateral edge of the sleeve was dissected using ultrasonic energy to enter the lesser sac. A peri-gastric dissection was performed to create a tunnel underneath the sleeve. The sleeve was divided 5 cm from the GE junction. A gastrotomy was made using ultrasonic energy, however we did not feel the characteristic "pop" into the lumen. A submucosal false passage was unknowingly made. The gastrojejunal anastomosis was then created from the false passage to the roux limb. When we attempted to pass the bougie through the GJ to calibrate the anastomosis, it would not pass, and we could see that we had stapled to the submucosal false passage and not the true lumen of the stomach. We then divided the pouch proximally and the roux limb distally. We repeated our gastrotomy, this time definitively popping into the lumen and visualizing mucosa. We performed our standard GJ anastomosis, passing the bougie through the pouch into the roux limb and sutured the anastomosis closed. Patient had an uneventful post-operative course and was discharged on POD 1. She has since recovered without issue.

A030
2-STEP APPROACH FOR ROUX-N-Y GASTRIC BYPASS CONVERSION TO SADI-S; A TACTICAL CHOICE TO REDUCE POTENTIAL SURGICAL COMPLICATIONS
Clara Pañella *Madrid* [1], Sara Picazo *Madrid* [1], Leyre López *Madrid* [1], María Del Campo *Madrid* [1], Carmen Hernández *Madrid* [1], Antonio Torres *Madrid* [1], Andrés Sánchez-Pernaute *Madrid* [1]
Clínico San Carlos Hospital[1]

INTRODUCTION:
We present a new 2-step strategy for Roux-n-Y gastric bypass (RYGB) conversion to Single Anastomosis Duodenoileal bypass-Sleeve gastrectomy (SADI-S). Gastro-gastric anastomosis

(GGA) and sleeve gastrectomty (SG) are planned in 2 separate surgeries in order to tackle SG in a less inflammatory tissue situation and staple over a complete re-vascularized gastric tissue.

CLINICAL PRESENTATION AND PREOPERATIVE STUDY:
We present a 50-years-old woman who underwent a 150x250cm RYGB (BMI; 45Kg/m^2) in 2013. During follow-up, the minimum BMI reached was 19.89Kg/m^2. She later regained weight, (BMI; 39Kg/m^2). Consequently, a 2-step approach of SADI-S conversion was proposed. The preoperative study dismissed gastrojejunal anastomosis (GJA) or pouch dilation.

OPERATIVE PROCEDURE:
First surgery (SADI): The GJA was dissected and the mechanical GGA was performed. The common channel was 450cm; therefore, the alimentary limb was resected. Afterwards, the mechanical SADI was done at 250cm from the ileocecal valve.
She was discharged on the 5th day. At 6 months after surgery, the patient lost 10Kg (BMI; 34.5Kg/m^2). The new endoscopy proofed normal gastric restoration.
Second Surgery (SG): We verified that revascularization and reshaped stomach were correct. SG was performed with 54Fr bougie without any difficulties.
The patients was discharged uneventfully on the 5th day.

DISCUSSION:
A 2-step approach revisional SADI-S is a safer option to achieve an outstanding SG and avoid surgical complications such as gastric leaks due to multiple staple lines crossings. Six months lapse time allows endoscopic control to confirm gastric mucous normality and it might provide the best environment to normally shape the SG.

A031
Robotic Revisional Bariatric Surgery: Current Applications
Nicolas Dreifuss *Chicago IL*[1], Francisco Schlottmann *Chicago IL*[1], Antonio Cubisino *Chicago IL*[1], Carolina Baz *Chicago IL*[1], Alberto Mangano *Chicago IL*[1], Mario Masrur *Chicago IL*[1]
University of Illinois at Chicago[1]

Background: With the rising number of bariatric procedures, there are also a growing number of patients requiring revisional operations due to operative complications or weight loss failure. The use of the robotic platform might offer several advantages in this setting. The aim of this video is to review the applications and potential technical advantages of the robotic approach during revisional bariatric surgery.

Methods: A series of short videoclips with different revisional bariatric operations performed with the robotic system.

Results: The first patient was a 45-year-old female who underwent a gastric band to bypass conversion for weight regain. The second case was performed in a 46-year-old female with a previous band to sleeve gastrectomy conversion. A new conversion to Roux-en-Y gastric bypass

was performed for insufficient weight loss and severe gastroesophageal reflux. The third patient was a 43-year-old female with a previous gastric bypass. She presented with severe malnutrition refractory to medical therapy and a bypass reversal was indicated. The last patient was a 31-year-old female with a biliopancreatic diversion. The patient presented with severe malabsorption refractory to medical treatment and underwent a full biliopancreatic diversion reversal.

Conclusion: Robotic approach for revisional bariatric surgery has multiple indications and it is gaining popularity. The robotic platform might be especially useful in the most complex revisions due to its high-definition imaging, multi-quadrant access, direct camera control by the surgeon, and endowristed instruments for fine dissection and suturing.

A032

Conversion of Gastric Sleeve to Roux-en-Y Gastric Bypass for Weight Loss: Which Patients Benefit from this Procedure?

Jonathan Zadeh *Cleveland OH*[1], Rafael Alvarez *Ann Arbor MI*[2], Leena Khaitan *Chardon OH*[2], Mujjahid Abbas *Cleveland OH*[2]
University Hospitals - Case Western Reserve University[1] University Hospitals - Case Western[2]

Background:
Conversion of sleeve gastrectomy (SG) to Roux-en-Y Gastric Bypass (RYGB) may promote additional weight loss, but some patients benefit much less than others.

Objective:
To identify predictors of below-average weight loss following SG to RYGB conversion.

Methods:
Chart review was performed of all patients at our institution who underwent SG to RYGB conversion from 11/1/2013 to 11/1/2020. Primary outcomes were below-average percent excess body weight loss (%EBWL) at one and two years.

Odds ratios (OR) with 95% confidence intervals (CI) were calculated for numerous pre-revision demographics to evaluate their relationship to the primary outcomes.

Results:
Sixty-two patients underwent SG to RYGB conversion with weight loss as a goal.

One-year weight data was available for 47 patients. Average one-year %EBWL was 41.5%. Twenty-six patients had below-average %EBWL at one year. Interval to conversion of < 2 years (OR=4.41, 95%CI [1.28,15.17], p=0.019) and pre-conversion BMI > 40 (OR=4.00, 95%CI [1.17,13.73], p=0.028) were statistically significant predictors of below-average one-year %EBWL.

Two-year weight data was available for 36 patients. Average two-year %EBWL was 30.8%.

Seventeen patients had below-average %EBWL at two years. Evaluated demographics were not statistically significant predictors of below-average two-year %EBWL.

There were two 30-day reoperations and zero 30-day mortalities.

Conclusions:
In one of the largest single-center studies of weight loss outcomes after SG to RYGB conversion, we found average %EBWL to be 41.5% at one year and 30.8% at two years. Interval to conversion of < 2 years and pre-conversion BMI > 40 were predictors of below-average one-year weight loss.

A033
Early obstruction after gastric sleeve
Benjamin Clapp *El Paso TX*[1], Andres Vivar *El Paso TX*[2], Ali M. Kara *El Paso TX*[1]
Texas Tech HSC Paul Foster School of Med[1] Universidad Autonoma de Guadalajara[2]

This video is a case report of an early obstruction after sleeve gastrectomy. The patient is a 58 year old female who underwent a sleeve gastrectomy with concomitant hiatal hernia repair. Initial post operative course was unremarkable and the patient was discharged on post operative day 1. She represented in 48 hours with complete oral intolerance. She had an upper gastrointestinal series performed which showed a complete obstruction at the gastroesophageal junction. She was taken to the operating room and found to have an acute recurrence of the hiatal hernia with intrathoracic sleeve migration and incarcerated omentum in the mediastinum. She continued to have oral intolerance and eventually needed a stent. The video shows the technical details of the repair. The discussion highlights complications of hiatal hernia repair and the treatment.

Abstract Palooza
Session II – General Interest
Wednesday, June 8, 2022
1:30 PM – 3:00 PM

A034
The impact of COVID on revisional bariatric surgery trends: An analysis of the 2020 MBSAQIP database.
Benjamin Clapp *El Paso TX*[1], Omar Ghanem *Rochester MN*[2], Pavlos Papasavas *Hartford CT*[3], John Marr *El Paso TX*[1], Jisoo Kim *El Paso TX*[1], Wayne English *Nashville TN*[4]
Texas Tech HSC Paul Foster School of Med[1] Mayo Clinic[2] Hartford Hospital[3] Vanderbilt University[4]

Background: Revisional bariatric surgery (RBS) is the third most common bariatric surgery performed in the United States. RBS is likely to increase with time and may soon surpass Roux-en-Y gastric bypass (RYGB) in volume. The Metabolic and Bariatric Surgery Quality Improvement and Accreditation Program (MBSAQIP) tracks bariatric cases. Our goal was to evaluate the MBSAQIP for revisional bariatric surgery trends.

Methods: The 2020 MBSAQIP Participant Use File (PUF) was used to look at the number and type of RBS and compared to similar MBSAQIP data over the previous five years. All cases listed under the Revision tag were included in the analysis. Procedures considered included RYGB, sleeve gastrectomy (SG), adjustable gastric band (AGB), biliopancreatic diversion (BPD) and single anastomosis duodenoileal bypass (SADI). Descriptive statistics were used.

Results: There were 197,812 cases reported in the PUF. Of these, 26,652 (13.5%) were revisions, conversions or reoperations. Stapled non emergent procedures dominated with 19,763. There were 4,291 SG conversions and 682 re-sleeves. There were 9,217 RYGB conversions and 3,221 revisions. There were 2,067 AGB revisions, 883 BPD revisions or conversions, and 424 SADI revisions or conversions.

Conclusions: A 40.2% percent increase of RBS was seen from 2015 to 2019 but COVID was responsible for a 22.8% decrease in 2020. It is anticipated that RBS will resume its upward trend after the pandemic passes. AGB revisions have decreased, while SADI revisions have increased. The largest percentage of growth has been in SG conversions.

A035

Venous Thromboembolism (VTE) Prophylaxis After Bariatric Surgery: A National Survey of Surgeon Practices

Dimitrios Athanasiadis *Indianapolis IN*[1], Spyridon Giannopoulos *Indianapolis IN*[1], Benjamin Clapp *El Paso TX*[2], Victoria Lyo *Sacramento CA*[3], Omar Ghanem *Rochester MN*[4], Michael Edwards *Ponte Vedra Beach FL*[5], Nancy Puzziferri *Portland OR*[6], Dimitrios Stefanidis *Carmel IN*[1]

Indiana University School of Medicine[1] Paul Foster School of Medicine, Texas Tech HSC[2] University of California Davis[3] Mayo Clinic, Rochester[4] Mayo Clinic, Jacksonville[5] Oregon Health & Science University[6]

Background: Venous thrombo-embolism (VTE) is the most common cause of death following bariatric surgery; >80% of events occur after discharge. The available evidence on ideal prophylaxis type, dosage, and duration after discharge is limited. Our aim was to assess bariatric surgeon VTE prophylaxis practices and define existing variability.

Methods: Members of the ASMBS research committee developed and administered a web-based anonymous survey in October 2021 to MBSAQIP medical directors regarding their VTE prophylaxis practices including risk stratification, type, dosage, and duration. Responses were analyzed using descriptive statistics.

Results:136 MBSAQIP medical directors participated in the survey (response rate: 63.3%). 98% reported using both mechanical and chemical VTE prophylaxis: 85.5% of surgeons used knee-high compression devices, whereas 58.4% used Enoxaparin (47.3% 40 mg every 12 hours, 38.9% 40 mg every 24 hours, 13.8% other), and 38.1% Heparin (56.6% 5000 units every 8 hours, 13.3% 5000 units every 12 hours, 18.1% only once preoperatively, 12% other). 81% administered the first dose preoperatively, while the first postoperative dose was given on the evening of surgery by 44.2% or the next morning by 41.3%. 85% used extended chemoprophylaxis for all or select patients, while 15.2% did not. Extended VTE prophylaxis was prescribed for 2 weeks by 38.1% and 4 weeks by 27.3% (Figure 1). Only 11.7% used a risk calculator.

Conclusions:VTE prophylaxis practices vary widely among bariatric surgeons. Variability may be related to limited available comparative evidence. Large prospective clinical trials are needed to define optimal practices for VTE risk stratification and prophylaxis in bariatric surgery patients.

A036

Ligamentum Teres Fundoplication for the Treatment of GERD After Sleeve Gastrectomy

John Kelly *Worcester MA*[1], Nicole Cherng *Worlester MA*[1], John Kelly *Worcester MA*[1]
University of Massachusetts[1]

De novo gastroesophageal reflux disease status post sleeve gastrectomy is a common problem that bariatric surgeons face. This is due to a variety of factors including presence of hiatal hernia, increased pressure within the gastric sleeve and decreased gastric motility. Given surgically altered anatomy, traditional anti reflux procedures including fundoplication are not an option. Conversion to Roux-en-Y gastric bypass, while an effective treatment of GERD is associated with many known long term complications and is often not desirable for patients. We have proposed the technique of ligament teres fundoplication as a means for surgical treatment of de-novo GERD in patients status post sleeve gastrectomy. As seen in the presented video abstract, the ligamentum teres is dissected free from the anterior abdominal wall preserving as much length as possible. Any hiatal defect is repaired. The ligamentum is used to wrap in a posterior 270 degree "Shepherd's hook" fashion and sutured to the right crus and anterior sleeve. This allows for a durable surgical treatment for GERD as well as salvage of sleeve gastrectomy and minimal long term complications.

A037

Update on grants awarded by the Research Committee of the ASMBS

Benjamin Clapp *El Paso TX*[1], Omar Ghanem *Rochester MN*[2], Michael Edwards *Ponte Vedra Beach FL*[3], Victoria Lyo *Sacramento CA*[4], Spyridon Giannopoulos *Indianapolis IN*[5], Nancy Puzziferri *Portland OR*[6], Dimitrios Stefanidis *Carmel IN*[7]
Texas Tech HSC Paul Foster School of Med[1] Mayo Clinic Rochester[2] Mayo Clinic Jacksonville[3] University of California, Davis[4] Indiana University[5] Oregon Health and Science University[6] University of Indiana[7]

***Background*:** Since 2004 the American Society of Metabolic and Bariatric Surgery (ASMBS) Foundation have awarded annual research grants to competitive proposals by ASMBS members that are administered through the ASMBS Research Committee. These grants are intended to further the knowledge in the field of metabolic and bariatric surgery and support the scholarly growth of its members. The aim of this project was to evaluate the factors associated with grant completion success and barriers encountered by investigators.

***Methods*:** Members of the ASMBS research committee retrospectively reviewed all awarded research grants since 2004. Information captured included research topic, status of awarded grants and related publications. Further, a web-based survey of grant recipients was administered exploring the perceived factors of successful completion and barriers encountered.

Results: Since 2004, ASMBS members have been awarded 28 research grants totaling $1,033,000. Seventeen projects had been completed at the time of the survey leading to 13 publications, while eleven remain in progress. Overall, 64% received additional funding. Factors reported to influence successful completion of grants included the effectiveness of the research team, PI perseverance, PI protected time, institutional support and available resources, and mentorship. Over the last decade, the average time from the award to publication was 2 years.

***Conclusions*:** The research grants awarded by the AMSBS are successfully completed at a high rate and lead to further funding suggesting that they boost the career of their recipients. The identified factors of success can help guide future applicants and the ASMBS Research Committee during grant selection process.

A038

The effects of bariatric surgery on Severe hypertriglyceridemia

Abdullah AL Jabri *Beachwood OH*[1], Rickesha Wilson *Cleveland OH*[2], ALI AMINIAN *Pepper Pike OH*[1]
Cleveland clinic[1] Cleveland Clinic Foundation[2]

Background

Hypertriglyceridemia is associated with obesity and can result in pancreatitis. Obesity is a known cause of secondary hypertriglyceridemia, however, little is known on the effect of metabolic surgery on triglyceride levels and associated outcomes.

Objective

This study aims to determine the effect of bariatric surgery on patients with severe hypertriglyceridemia.

Methods

This is a retrospective cohort study including patients with severe hypertriglyceridemia (TG ≥ 885 mg/dl) who underwent metabolic surgery and had severe hypertriglyceridemia at a single

academic institution. Patient baseline characteristics were collected as well as preoperative and postoperative triglyceride levels, pancreatitis episodes, and diabetes-related outcomes.

Results

A total of 88 patients were identified with severe hypertriglyceridemia. The study population included 48 females (54.6%) and 74 (84.1%) were Caucasian. Laparoscopic procedures included Roux-en-Y gastric bypass (n=59, 67%) and sleeve gastrectomy (n=26, 29.5%). The average age was 47.8 years (SD ± 11.15), preoperative BMI was 42.86 kg/m^2 (SD ± 7.05), triglyceride level was 1456.61 mg/dl (SD ± 777.5), and 13 (14.8%) patients had at least one prior pancreatitis episode. Postoperatively, triglyceride levels dropped to an average of 185.36 mg/dl (SD ± 138.92) over a follow-up of 6.1 years (SD ± 4.2). Dyslipidemia was either improved or resolved in 71 (80.7%) patients, only 7 (8%) patients had postoperative pancreatitis, and 2 patients had to be readmitted for pancreatitis.

Conclusion

Metabolic surgery can significantly improve dyslipidemia and improve clinical outcomes such as readmissions and pancreatitis for this unique patient population.

A039

On the Flip Side: An "Endoring" Myotomy - Using Intraoperative Impedance Planimetry During Heller Myotomy, Paraesophageal Hernia Repair, and Gastric Bypass

Rebecca Milburn *Overland Park KS*[1], Anthony Melillo *Overland Park MO*[2], James Stephen Scott *Oberland Park KS*[1]
Menorah Medical Center[1] General Surgery Resident[2]

59-year-old female with BMI of 46 and comorbidities including type II diabetes, COPD, and hypertension was found to have achalasia. She then underwent a robotic assisted Heller myotomy with intraoperative impedance planimetry as well as hiatal hernia repair and roux en y gastric bypass. She progressed well postoperatively and was discharged home. She followed up for a 10-day day postoperative visit and had no issues with swallowing, was no longer using insulin for her T2DM, and had lost 15 lbs.

A040

Room for Improvement: An Analysis of Agreement Among Manuscripts using Common MBSAQIP PUF Years to Examine LSG and LRYGB Outcomes

Benjamin Smith *Danville PA*[1], Mark Dudash *Danville PA*[2], Vladan Obradovic *Manlius NY*[2], Jon Gabrielsen *Danville PA*[2], David Parker *Danville PA*[2], Alexandra Falvo *Scranton PA*[2], Craig Wood *Danville PA*[2], Anthony Petrick *Danville PA*[2]
Geisinger Commonwealth School of Medicine[1] Geisinger Health System[2]

Introduction: The MBSAQIP maintains patient-level data for all bariatric procedures done in accredited centers, the Participant Use Data File (PUF). Conflicting results reported in recent

publications using common PUF years have led to concerns about methodologies and the impact on clinical practice.

Objective: To evaluate agreement in reported outcomes for studies using the PUF years 2015-2018 to investigate LSG and LRYGB.

Methodology: An OVID search identified all studies using PUF data to investigate LSG and LRYGB outcomes. Studies evaluating only pediatric or geriatric patients were excluded. Outcomes assessed included cohort size and 30-day rates for readmission, reoperation, mortality, leak, and bleed. Individual outcome rates were compared to the corresponding median rate to determine the percent difference in values. Agreement categories were strong agreement (SA ≤25% difference), moderate agreement (MA 25-50% difference), and disagreement (DA >50% difference).

Results: Seventeen of twenty-one studies met criteria for analysis. There was 82% SA for cohort size. Reoperation and transfusion had 88% and 89% SA, respectively. Over 1/3 of the studies could not demonstrate SA for mortality and leaks. Leak exhibited the greatest DA at 17%.

Conclusion: Overall, more than 80% of studies had SA for both cohort size and outcomes. However, this means that nearly 1/5th of studies demonstrated either MA or DA, and mortality reporting had only MA in 1/3rd of studies. Standards need to be developed for use of the MBSAQIP PUF to protect against either intentional or unintentional misuse.

A041

Patient Perspectives on the Usefulness of the MBSAQIP Bariatric Surgical Risk/Benefit Calculator: A Randomized Controlled Trial

Spyridon Giannopoulos *Indianapolis IN*[1], Dimitrios Athanasiadis *Indianapolis IN*[1], Edward Hernandez *Indianapolis IN*[1], Bhavani Pokala *Carmel IN*[2], Ambar Banerjee *Carmel IN*[2], Jennifer Choi *Indianapolis IN*[2], Dimitrios Stefanidis *Carmel IN*[2]
Indiana University School of Medicine[1] Indiana University Health North Hospital, Indiana University School of Medicine[2]

Background: The MBSAQIP Bariatric Risk/Benefit Calculator uses procedure-specific prediction models based on patient demographics to generate individualized surgical risk and outcome estimates. This tool can help guide informed consent discussions and operative selection. We hypothesized that calculator use would influence patient procedure choice.

Methods: During the preoperative bariatric surgical consultation process, patients were randomized into two groups: the calculator group utilized the Risk/Benefit Calculator to guide discussion-making while the control group relied on conventional surgeon-led counseling. Surveys were administered following consultations to evaluate patient satisfaction and perceived impact of risk calculator on operative selection.

Results: Between 2019-2021, 114 patients enrolled and 55 randomized to the calculator and 59 to the non-calculator group. Groups had similar demographics. The percentage of patients whose

procedure of choice changed following consultation was similar between groups (43.6% vs. 42.4%;p=0.892). However, calculator group patients were less likely to perceive surgeon counseling as very important for their decision-making regarding procedure choice (38.9% vs 76.3%; p<0.001; Figure 1). 81.4% of calculator group patients rated the calculator as useful/very useful, and only 1.9% found it not important. Patients who did not change their opinion on procedure of choice following surgical consultation reported an inherent belief that their selection would result in better outcomes (44.4% vs. 55.3%; p=0.352).

Conclusion: While the MBSAQIP Bariatric Risk/Benefit Calculator was perceived as a helpful tool by the majority of patients, its use did not influence their procedure choice. However, the identified difference in surgeon counseling importance suggests that the information provided by the calculator weighs into patient decision-making.

A042

EFFECTS OF PREOPERATIVE FUNCTIONAL STATUS ON POSTOPERATIVE OUTCOMES

Maria Altieri *Greenville NC*[1], William Irish *Greenville NC*[1], Yuanyuan Fu *Greenville NC*[2], Dustin Baldwin *Greenville NC*[1], Walter Pories *Greenville NC*[1], Eric DeMaria *Greenville NC*[1]
East Carolina University Brody School of Medicine[1] East Carolina University Brody School of[2]

Introduction

Baseline functional status has been recognized as an important predictor of post-operative outcomes. There is no consensus to predict whether it is safe for dependent patients to undergo weight-loss surgery. The purpose of this study is to evaluate the association of functional status with risk of adverse post-operative outcomes.

Methods

The MBSAQIP database was used to identify adult patients undergoing primary Roux-en-Y Gastric Bypass and Sleeve gastrectomy between 2015-2019. Patients undergoing open(n=2438) and those with missing functional status(n=297) were excluded. Independent functional status group was compared to a joint group of partially and totally dependent (requires partial or total assistance for activities of daily living). Post-operative outcomes (emergency department(ED) visit, ICU admissions, 30-days readmissions, reoperations, and interventions) were compared between groups using multivariable binary logistic regression. Odds ratio and 95%-confidence interval(CI) are provided as measures of strength of association and precision, respectively.

Results

A total of 831,004 patients were included in the analysis,823,207(99.06%) were functionally independent and 7,797(0.94%) were dependent. The dependent group were older (51.69 vs 44.38, p<0.0001), more likely male (24.6% vs 19.83%, p<0.0001), and to have obesity-related co-morbidities. After adjusting for demographics, co-morbidities and peri-operative complications, dependent status was associated with increased odds of worse post-surgery outcomes (Table 1), most notably ICU admission (OR=2.6; 95% CI: 2.27, 3.01).

Conclusion
Although dependent patients comprised only 1% of the surgery population, these patients are at increased risk of adverse post-surgery outcomes. Improvement of functional status prior to surgery via prehabilitation should be systematically studied to improve outcomes.

A043
Concurrent Roux-en-Y Gastric Bypass and Heller Myotomy
David Kang *West Hartford CT*[1], James Stephen Scott *Oberland Park KS*[1], Jeremy Bryner *Overland Park KS*[1], John Tann *Overland Park KS*[1], Roger de la Torre *Overland Park KS*[1], Nicole Fearing *overland park KS*[1]
Menorah Medical Center[1]

Achalasia is a rare disorder with annual incidence of 0.0016%. It typically is associated with gradual onset of symptoms which include dysphagia, regurgitation of undigested food, substernal chest pain, heartburn, globus sensation, and weight loss. Several treatments exist, however, a surgical approach with Heller myotomy is a commonly performed modality with success rates reported at 90% in initial symptom management. In our high-volume bariatric center, we have evaluated and treated multiple patients who have both achalasia and obesity. One known complication of a Heller Myotomy is reflux. Obesity can also predispose people to reflux. One potential advantage to concurrent Roux-en-Y gastric bypass and Heller Myotomy is the prevention of this known complication. In this case presentation, we demonstrate that Heller Myotomy with concurrent Roux-en-Y gastric bypass is a safe and effective treatment from those suffering from obesity and achalasia.

Abstract Palooza
Session III – Revisional Procedures
Wednesday, June 8, 2022
3:45 PM – 5:15 PM

A044
Laparoscopic Conversion of Vertical Banded Gastroplasty to Sleeve Gastrectomy
Katrina Tulla *Brooklyn NY*[1], Dosuk Yoon *Brooklyn NY*[1], Andrew Godwin *Huntington* [2], David Buchin *Huntington NY*[2]
Wyckoff Heights Medical Centers[1] Huntington Hospital Northwell Health[2]

Background/Introduction:
Once a common bariatric procedure, vertical banded gastroplasty (VBG) has fallen out of favor for its complications such as band erosions and stenosis, but more importantly the need for revisional surgery in long-term. It is reported that 56% of patients with VBG have shown to fail

to maintain weight loss and required revisional procedures. Currently, laparoscopic Roux-en-Y gastric bypass (LRYGB) is a choice of revisional procedure, a safe and effective procedure but still maintains complications such as internal hernia, dumping syndrome and nutritional complications. In this video, we demonstrate that laparoscopic sleeve gastrectomy is an effective alternative revisional procedure

Methods:
A 40 year old female who underwent open VBG in 2000 presents with failed weight loss and dysphagia. Preoperative weight was 235-lbs, BMI 43. Preoperative endoscopy demonstrated tight vertical banded and a large-sized pouch. During discussion for revisional surgery, LRYGB was advised, but the patient pursued to proceed with laparoscopic sleeve gastrectomy

Results:
The patient had postoperative one year follow up with improved dysphagia and oral intolerance. Patient demonstrated significant weight loss, from 235-lbs to 156-lbs (BMI from 43 to 28.5) in one year follow up. Patient did not have any postoperative complications and perioperative course was uneventful.

Conclusion:
LRYGB is still a recommended revisional procedure for failed VBG, however laparoscopic sleeve gastrectomy, higher risk and more difficult revisional procedure, is an effective and comparable alternative in weight loss when performed successfully as we demonstrated in this video.

A045
Management of a Complex Bariatric Patient
Kevin Harris *Fresno CA*[1], Pearl Ma *Fresno CA*[1], Brett Simenhoff *Fresno CA*[1], Jose Alfaro Quezada *Fresno CA*[1], Amarita Klar *Fresno CA*[1], Huy Hoang *Fresno CA*[1], Keith Boone *Fresno CA*[1], Kelvin Higa *Fresno CA*[1]
ALSA[1]

The video presents a patient with history of open non divided gastric bypass. She presented with numerous complaints including episodic crampy lower abdominal pain with prior imaging showing intussusception at the jejunojejunostomy, post prandial emesis in the setting of hiatal hernia, candy cane, and stable Barrett's esophagus, as well as constipation and a component of weight recidivism. Notably she had no vitamin deficiencies. To briefly summarize the operation, we performed a hiatal hernia repair and candy cane resection to address the patient's post prandial vomiting, we resected the jejunojejunostomy to address the intermittent intussusception, and reconstructed in a way that is expected to provide additional weight loss and possibly improve the patient's constipation. Postoperatively the patient did well and at her 3 month follow up visit she was doing well and did not have any recurrence of postprandial vomiting or lower abdominal pain. She had also lost 34 lbs. Revisional surgery can be difficult both from a technical and from a conceptual standpoint. These cases often defy a "one-size-fits-all" solution and instead require us to think "outside the box." When considering a patient for revisional surgery one must thoughtfully consider how a patient's symptoms correlate with their anatomy

and tailor the intervention according to the patient's unique characteristics. This case demonstrates a method for reconstruction after the resection of a jejunojejunostomy that could be considered for patient's that would benefit from additional weight loss if they have not had issues with vitamin deficiencies.

A046

Remnant Fundoplication for Refractory Gastroesophageal Reflux Disease after Roux-en-Y Gastric Bypass: A Video

Ryneal Eugenio *Columbia MO*[1], Shivesh Kabra *Columbia MO*[2], Andrew Wheeler *Columbia MO*[1]
University of Missouri[1] University of Missouri Medical Student[2]

Remnant Fundoplication for Refractory Gastroesophageal Reflux Disease after Roux-en-Y Gastric Bypass: A Video

Background: Although gastroesophageal reflux disease (GERD) often goes into remission after Roux-en-Y gastric bypass (RYGB), some patients can experience GERD post-operatively, either from acid reflux or Roux stasis. When GERD is refractory to medical management after RYGB, especially in context of a hiatal hernia, surgical intervention may be required. We present a video of gastric remnant fundoplication with concurrent redo paraesophageal hernia repair after RYGB in a patient with refractory GERD.

Case Report: A 60-year-old female with a history of a RYGB and subsequent paraoesophageal hernia repair, presented with GERD refractory to maximal medical therapy. Preoperatively she underwent upper endoscopy which revealed reflux esophagitis as well as a recurrence of a hiatal hernia with most of the gastric pouch in the mediastinum. Upper endoscopy demonstrated pouch hiatal hernia and spontaneous reflux. She underwent a laparoscopic paraoesophageal hernia repair with 360-degree gastric remnant fundoplication with uneventful recovery. At 6-month postoperative visit she had no symptoms on once daily proton pump inhibitor, no dysphagia, and was very satisfied with the outcome.

Conclusions: Laparoscopic gastric remnant fundoplication is a feasible intervention in patients with refractory GERD after gastric bypass. Preoperative studies may consist of upper endoscopy, pH studies, esophageal manometry, and/or upper gastrointestinal series. This complex procedure should be performed under experienced hands at facilities with trained bariatric surgeons.

A047

One Anastomosis Gastric Bypass for Revisional Bariatric Surgery: Assessment of Short Term Safety

Sarah Pivo *New York NY*[1], Megan Jenkins *New York NY*[1], Mirhee Kim *New York NY*[1], Christine Ren-Fielding *NY NY*[1], Bradley Schwack *New York NY*[1]
New York University[1]

Introduction: With the continued increase in bariatric procedures being performed in the US, a growing percentage are revisions for weight regain after sleeve gastrectomy (LSG) and gastric

banding (LAGB). Standard practice in the US involves conversion to Roux-en-Y gastric bypass (RYGB). Internationally, one anastomosis gastric bypass (OAGB) has become a popular and effective alternative. Without the jejuno-jejunal anastomosis, OAGB has reduced potential related long-term complications. The purpose of this study is to compare the short term safety of revision to OAGB versus RYGB.

Methods: Patients who underwent conversion to OAGB from LAGB or LSG for weight regain at a single, academic center from January 2019 to October 2021 were compared to a cohort of BMI, sex, and age matched patients who underwent conversion to RYGB during the same period.

Results: 82 patients were included; 41 in each cohort (41 OAGB vs. 41 RYGB). The majority in both groups underwent conversion from LSG (71% vs. 78%). Operative time, estimated blood loss, and length of stay were comparable. There was no difference in 30 day complications (9.8% vs. 12.2%, p=.99) or reoperation rates (7.3% vs. 4.9%, p=.99). Mean weight loss at 1 month was also comparable (7.91 lbs vs 6.36 lbs).

Conclusions: Patients who underwent conversion to OAGB for weight regain had similar operative times, rates of post operative complications, and one month weight loss. While more research is needed, this early data suggests that conversions to OAGB and RYGB result in comparable postoperative safety. Therefore OAGB may present a safe alternative.

A048
Emergent Robotic Revision of Gastric Bypass
Eric Davies *Brighton MI*[1], Mark Jonker *Howell MI*[2]
Michigan Bariatric[1] St. Joseph Mercy Livingston[2]

Emergent Robotic Revision of Gastric Bypass.

Eric Davies, MD, FACS, FASMBS
St. Joseph Mercy Livingston Hospital, Howell MI

The 30-year-old female patient had a history of smoking, reflux, and obesity treated with sleeve gastrectomy with hiatal hernia repair and Toupet fundoplication. Although she sustained 90 pound weight loss postoperatively, she had liquid and food intolerance requiring revision to gastric bypass about 1.5 years after her sleeve. A month after her bypass, she had internal hernia and umbilical hernia repair. She did well for several months, but suffered from many respiratory illnesses due to longstanding asthma and history of smoking. Recently, she was admitted with parainfluenza, and treated with high dose IV steroids for 9 days, followed by PO steroids for another 11 days. It was unclear if the treating doctors understood her contraindication for steroids. Once discharged home and improved from a respiratory standpoint, she suffered severe worsening nausea, vomiting and food intolerance and was admitted to our emergency room with intolerable pain. Her workup revealed a large contained perforation of the gastrojejunal anastomosis, likely from her recent steroid use. This video demonstrates the emergent robotic surgical resection and reconstruction of her remaining stomach and roux limb, with creation of a

new gastrojejunal anastomosis and specimen resection. We also review her uneventful postoperative course.

A049

Robotic-assisted Laparoscopic Revision of Roux-en-Y Gastric Bypass for Recurrent Gastric Fistula

Carolyn Judge *Kailua HI*[1], Kyle Gadbois *Escondido CA*[2], Gordon Wisbach *San Diego CA*[2]
Navy[1] NMRTC, San Diego[2]

Gastro-gastric fistula (GGF) after a Roux-en-Y Gastric Bypass (RNYGB) is an abnormal connection between the gastric pouch and gastric remnant. This complication is rare following a RNYGB and symptoms can include weight regain, Gastroesophageal Reflux Disease (GERD) and upper abdominal pain. Initial treatment is medical, however, surgical repair may be indicated, especially when the fistula is symptomatic, large or complex. We present a case of a 40-year-old woman with a remote history of open RNYGB for morbid obesity complicated by recurrent gastro-gastric fistulae. Her symptoms of post-prandial epigastric pain and GERD were evaluated with an outpatient Upper GI contrast study and CT abdomen/pelvic with oral contrast that revealed an abnormal communication between the gastric-jejunal anastomosis and remnant stomach. This case report of a robotic-assisted, laparoscopic revision of Roux-en-Y gastric bypass for recurrent GGF demonstrates the safety and efficacy of robotic surgery in complex revisional bariatric procedures.

A050

Laparoscopic Takedown of Gastrogastric Fistula, Gastrocolic Fistula, and Revision of Gastric Bypass

James Feimster *Charlotte NC*[1], Abdelrahman Nimeri *Charlotte NC*[1]
Atrium Health[1]

This video presentation is of a laparoscopic takedown of gastro-gastric fistula, gastro-colic fistula and revision of Roux-en-Y gastric bypass (RYGB) in a 33 year-old female with severe malnutrition and BMI of 18.2 with history of sleeve gastrectomy (SG) to RYGB for gastroesophageal reflux disease after SG at an outside hospital. She presented with severe protein calorie malnutrition, failure to thrive, liver failure and pulmonary embolism necessitating admission to the intensive care unit. Her SG to RYGB was complicated by a marginal ulcer that required revision of the gastrojejunostomy at the same facility.

At the initial consultation, workup showed a gastro-gastric fistula, gastro-colic fistula, recurrent gastrojejunostomy stenosis, ascites and anasarca. For nutritional and medical optimization, a percutaneous endoscopic jejunostomy (PEJ) tube was placed into the Roux limb. Once optimization was achieved, she underwent laparoscopic exploration with takedown of gastro-gastric fistula, gastro-colic fistula, removal of PEJ tube from the Roux limb and revision of the jejuno-jejunostomy and lengthening of the Roux limb from 20 to 80cm and revision of gastrojejunal anastomosis utilizing a hand-sewn technique with absorbable monofilament suture.

Post-operatively, she was started on a liquid diet. She was discharged on post-operative day 1. In follow up, she was tolerating a liquid diet and gaining weight. She was. Placed on low molecular weight heparin for 4 weeks due to history of pulmonary embolism.

Conclusion: Re-revisional bariatric surgery is safe to be performed laparoscopically and our preferred method for revision of a gastrojejunostomy is in a two-layered handsewn technique with absorbable monofilament suture.

A051

Hypoalbuminemia as a Risk Factor for Complications in Revisional/Conversional Bariatric Surgery: A MBSAQIP Analysis

Samuel Perez *Columbia MO*[1], Isabella Alessi *columbia MO*[1], Andrew Wheeler *Columbia MO*[1]
University of Missouri-Columbia[1]

Introduction:

Hypoalbuminemia (HA) is a risk factor for serious complications after elective bariatric surgery. Patients undergoing revisional/conversional bariatric surgery may represent a higher-risk group of patients who often have underlying comorbid medical illnesses and are undergoing more complex surgery. Our primary aim investigated postoperative complications in patients with HA undergoing revisional/conversional surgery using a national database.

Methods:

The MBSAQIP database was used to evaluate patients undergoing non-banding revisional/conversional bariatric surgery between 2015 and 2019. Patients were categorized by serum albumin (£ 3.5 g/dL). Variables were assessed via bivariate analysis and multivariable regression. Additionally, propensity score matching sub analysis was conducted to compare gastric bypass to sleeve gastrectomy.

Results:

147,430 patients underwent revisional/conversional procedures. After applied exclusions there were 58,777 patients available for analysis. The HA group had a significantly ($p<0.05$) higher incidence of being black (22.95% vs 17.76%), renal insufficiency (1.08% vs 0.36%), smoking within 12 months of surgery (9.47% vs 6.91%), COPD (2.54% vs 1.33%), and history of DVT (4.03% vs 2.3%). Post-operative complications associated with HA included perioperative blood transfusion (3.1% vs 1.27%; $p<0.0001$), thirty-day readmission (10.87 vs 6.77%; $p<0.0001$), thirty-day reoperation (4.9% vs 3.18%; $p<0.0001$), and thirty-day mortality (0.40% vs 0.14%; $p<0.0001$). HA was a significant predictor of thirty-day readmission in the RYGB vs sleeve matched cohort (OR 1.30; 95% CI [1.14,1.48], $p<0.001$).

Conclusion:

Hypoalbuminemia is a risk factor requiring attention for patients undergoing revisional/conversional bariatric surgery and optimization of nutritional status or medical

comorbidities associated with HA prior to bariatric surgery may help avoid post-operative complications.

A052
Recurrent Hiatal Hernia After Gastric Bypass
Benjamin Clapp *El Paso TX*[1], Andres Vivar *El Paso TX*[2], Hani Annabi *El Paso TX*[1]
Texas Tech HSC Paul Foster School of Med[1] Universidad Autonoma de Guadalajara[2]

Video description: This video highlights a recurrent hiatal hernia repair after gastric bypass. The patient is a 43 year old female who underwent laparoscopic gastric bypass 13 years ago. Three years ago she had a hiatal hernia with pouch migration into the chest and underwent laparoscpic hiatal hernia repair with Phasix mesh. She subsequently recurred and was symptomatic. The video shows the difficult dissection secondary to the mesh and the mediastinal dissection. Technical pearls are discussed.

Abstract Palooza
Session IV – General Interest
Thursday, June 9, 2022
8:00 AM – 9:30 AM

A053
Program-Directed Short-Term Preoperative Weight Loss Improves Post-operative Weight Loss Potential in Bariatric Surgery Patients
Deborah Hutcheon *Greer SC*[1], Joseph Ewing *Greenville SC*[1], Madeleine St. Ville *Denver NC*[2], Megan Miller *Greenville SC*[1], Lindsay Kirkland *Greenville SC*[1], Shanu Kothari *Greenville SC*[1], John Scott *Greenville SC*[1]
Prisma Health[1] Clemson University[2]

Background: Long-term benefit of short-term weight loss before bariatric surgery remains undetermined. This study assessed the relationship between percent total weight loss (%TWL) during a program-directed low-calorie diet (LCD) before primary bariatric surgery and long-term outcomes.

Methods: Patients from 2014-2019 who completed our program-directed 1200 kcal LCD for 4 weeks immediately before laparoscopic Roux-en-Y gastric bypass (LRYGB, n=572) or sleeve gastrectomy (LSG, n=484) were dichotomized to achievement (LRYGB n=220, LSG n=192) versus non-achievement (LRYGB n=352, LSG n=292) ≥5% TWL during the diet. Primary endpoint was %TWL through 60 months post-operation. Secondary endpoints were operation time, length of stay (LOS), emergency department (ED) visits, intravenous fluid administration, readmission, reoperation. T-tests compared between group means with significance $p<0.05$.

Results: Patients achieving ≥5% TWL during the LCD experienced greater post-operation %TWL from month 1 to 60 for LRYRB and month 1 to 36 for LSG. Significant differences existed at 3 months (17.24±3.29% vs 16.39±3.36%, p=0.004) and 6 months (24.39±4.76% vs 22.95±5.04%, p=0.002) for LRYGB and at 3 months (15.62±3.26% vs 14.15±3.77%, p<0.001) through 18 months (22.60±10.25% vs 18.68±9.67%, p=0.028) for LSG. Mean LOS (LRYGB 1.75 days vs. 1.89, p=0.018; LSG 1.29 vs. 1.37, p=0.062) was lower for patients achieving ≥5% TWL. ED visits (10.5% vs 5.8%, p=0.095) were greater for LSG patients achieving <5% TWL. No differences (p=NS) in other outcomes by weight loss group and surgery type transpired.

Conclusions: Achieving ≥5% TWL during a program-directed 1200 kcal LCD for 4 weeks before bariatric surgery improves weight loss potential through 60 months post-operation.

A054

A Survey of Socioeconomic and Cultural Factors in a Safety Net Bariatric Population

Tayler James *Los Angeles CA*[1], Fergui Hernandez *Los Angeles CA*[1], Agnes Premkumar *Los Angeles CA*[1], Kamran Samakar *Los Angeles CA*[1], James Nguyen *Los Angeles CA*[1], Adrian Dobrowolsky *Los Angeles CA*[1]
University of Southern California[1]

Background

In 2017, a bariatric surgery program was introduced at one of the country's largest public safety net hospitals serving a primarily Hispanic population. The objective of this study was to survey this population to investigate socioeconomic and cultural factors that might affect bariatric success in these patients.

Methods

A retrospective cohort study was performed of patients who underwent bariatric surgery at this institution from 2017 to 2020. A total of 169 patients who were at least one year from surgery were contacted to participate in a 35-question telephone survey regarding demographics, obesity history, home life, dietary habits, and postoperative satisfaction.

Results

A total of 105 patients (62%) responded to the survey. Fifty-six percent reported an annual household income <$25,000, and 38% attained education beyond high school. Forty-five percent struggled with obesity since childhood, and 45% lived with others with obesity.

Thirteen percent did not take recommended postoperative vitamins, with "financial constraints" reported as a reason. Some patients reported that aspects of their LatinX heritage imposed unique challenges to weight loss, including the importance of food in their culture ("If you are from [a] Mexican background, you are taught to eat a lot of food…") and lack of family support ("My Latina family did not think being big was a problem…")

Conclusion

This study highlights unique socioeconomic and cultural factors that could affect bariatric

outcomes in this population. Future work will compare patient demographics and outcomes in this population to patients who undergo bariatric surgery at the university hospital affiliate.

A055

A New Clip in Town: Surgical Weight Loss Utilizing a Novel Bariatric Clip

Jonathan Li *La Jolla CA*[1], Arturo Martinez Gamboa *Tijuana* [2], Ryan Broderick *La Jolla CA*[1], Estella Huang *La Jolla CA*[1], Joaquin L Serra *San Diego CA*[1], Santiago Horgan *La Jolla CA*[1], Ariel Ortiz Lagardere *Coronado CA*[3]
UCSD[1] Obesitiy Control Center[2] Obesity Control Center[3]

In the setting of the obesity epidemic, bariatric surgery has risen in both necessity and popularity. With this rise comes procedural and technological innovation. One of these new developments is the surgical bariatric clip. The surgical bariatric clip is a removable clip that when applied excludes a majority of the fundus, acting in a similar restrictive manner to a sleeve gastrectomy. In this video abstract we demonstrate the placement and efficacy of this new surgical bariatric clip.

A056

Predictors and Outcomes of Acute Kidney Injury after Primary Bariatric Surgery in Patients Without Prior Kidney Disease: An Analysis of 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], 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

Acute Kidney Injury (AKI) after surgery increases long term risk of kidney dysfunction. The major risk factor for AKI after Bariatric Surgery (BaS) is to have preoperative renal insufficiency. Little is known about the outcomes and risk factors for developing AKI in patients undergoing BaS with normal renal function. We aimed to describe factors that may increase the risk of AKI after primary BaS in patients without history of kidney disease.

METHODS

Retrospective analysis of the MBSAQIP data registry for patients aged ≥18 years old undergoing laparoscopic sleeve gastrectomy (SG) and laparoscopic Roux En Y gastric bypass (GBP) during 2015-2019. Patients with diagnosis of chronic kidney disease were excluded. The primary outcome was the incidence of AKI. Secondary outcomes included 30-day complications, readmissions, reoperations and mortality. Univariate analysis and multivariate analysis were performed to look for differences between patients with and without AKI.

RESULTS

A total of 747,926 patients were included (LSG=73.1%, LRYGB=26.8%). The mean age was 44.40 ± 11.94 years, with female predominance (79.7%). AKI occurred in 446 patients (0.05%). Patients with postoperative AKI had higher rates of complications, readmissions, reoperations

and mortality. Significant predictors of AKI were: male gender, prior history of venous thromboembolism (VTE), hypertension (HTN), limitation for ambulation and GBP. High albumin levels and white race were protective factors.

CONCLUSION
New onset AKI was associated with adverse 30-day outcomes in patients undergoing BaS. Male gender, VTE, HTN, limitation for ambulation and GBP were independent predictors of AKI.

A057
The Impact of COVID-19 Pandemic on Access to Bariatric Surgery
Katherine Ho *Tucson AZ*[1], Chiu-Hsieh Hsu *Tucson AZ*[1], Yazan Ashouri *Tucson AZ*[1], Saad Ajmal *Tucson AZ*[1], Iman Ghaderi *Tucson AZ*[1]
University of Arizona[1]

Introduction: The COVID-19 pandemic had affected the health systems across the world since early 2020 with a concern about access to medical care during the first wave of COVID-19 pandemic. The aim of this study was to examine the effect of COVID-19 on the patient selection for elective bariatric surgery using Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database.

Methods: MBSAQIP data for 2016-2020 was queried. Log-normal regression was performed to evaluate patient characteristics. Comparison between cases performed in 2020 and previous years was derived using Wilcoxon rank-sum test for continuous variables and Fisher's exact test for categorical variables for laparoscopic vs. robotic-assisted approaches.

Results: A total of 822,558 patients underwent robotic (R) and laparoscopic (L) sleeve gastrectomy and Roux-en-Y gastric-bypass (R-SG, L-SG, R-RYGB, and L-RYGB, respectively). Comorbidities were lower in the cases performed in 2020 compared to pre-COVID years in both the laparoscopic and robotic approaches of SG and RYGB.

Conclusion: Patients who underwent elective bariatric surgery during COVID-19 pandemic in 2020 tend to have less comorbidities comparing to the patients who had bariatric surgery prior to COVID-19. It is possible that bariatric centers decreased offering surgeries to high-risk patients.

A058
Comparison of preoperative studies and symptom questionnaires with intraoperative diagnosis of hiatal hernia during laparoscopic sleeve gastrectomy
Antoine Ribieras *Miami FL*[1], Karen Manzur-Pineda *Miami FL*[1], Nestor De La Cruz-Munoz *Doral FL*[1]
University of Miami[1]

Background: Hiatal hernias (HH) are common in bariatric surgery patients, but the utility of preoperative upper gastrointestinal series (UGI) for HH detection remains in question.

Objectives: This study prospectively compares preoperative and intraoperative HH detection rates in a cohort of patients undergoing laparoscopic sleeve gastrectomy (LSG).

Methods: As part of randomized clinical trial NCT04168060 evaluating the role of routine crural dissection during LSG, we analyzed data for an initial cohort of patients undergoing primary LSG. Preoperatively, patients underwent UGI and completed GerdQ and BEDQ to score symptoms of gastroesophageal reflux (GERD) and dysphagia. Intraoperatively, patients with an anteriorly visible HH underwent hiatal hernia repair (HHR) followed by LSG. All others were randomized to standalone LSG or complete crural dissection with HHR if a HH was identified, followed by LSG.

Results: Between November 2019 and June 2020, 98 patients (71 female) were enrolled. Preoperative UGI identified HH in 25 patients. Intraoperatively, we found 35 HH visible anteriorly and an additional 9 in the 27 patients randomized to crural dissection. Intraoperative HH was associated with older age, lower body mass index, and Black race. Patients with HH had similar preoperative rates of GERD and scores on GerdQ and BEDQ as those without HH. Compared to gold standard intraoperative diagnosis, UGI demonstrated sensitivity 37.2%, specificity 81.3%, positive predictive value 64.0%, and negative predictive value 59.1%.

Conclusion: Hiatal hernias are highly prevalent in this population. Compared to preoperative UGI and symptom questionnaires, complete crural dissection during LSG allows for identification of significantly more HH.

A059

Laparoscopic revision of Single Anastomosis Duodenojejunal Bypass

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

Background: Patients who have undergone gastric sleeve operations may experience expected complications, but when severe gastroesophageal reflux cannot be medically managed and the patient's quality of life is hindered, surgical intervention is indicated.

Methods: We present the case of a 75-year-old female that underwent a sleeve gastrectomy converted to duodenojejunostomy in 2018 that caused the patient to have unrelenting gastric reflux that would later worsen to frequent bilious emesis, sleep and eating disturbances due to epigastric discomfort, and incidences of bronchiectasis and atelectasis. Pre-operative investigation revealed a small hiatal hernia, diffuse esophageal dilation, and pathology of the antrum of the stomach showed chronic gastric with no microorganisms. Intraoperatively, the prior anastomosis appeared to be functional with minimal surrounding adhesions. A new anastomosis of the biliopancreatic and alimentary limb was then performed 100 cm to the single duodenojejunostomy was then performed. Upon visualization of extensive adhesions associated with the hiatal hernia, repair was aborted as the bowel had already been diverted distally.

Results: The patient tolerated the surgery well, was discharged on post-operative day two, and during her two week follow-up, she endorsed relief of all prior symptoms related to the surgery and denied any complications.

Conclusion: Although symptoms that present secondary to a prior surgery may often be medically managed and multiple abdominal surgeries come with potential complications, surgical interventions such as a re-anastomosis can be pursued in a safe way that improve the patient's outcome.

A060

Diabetes resolution at ten years after biliopancreatic diversion in overweight and mildly obese patients with type 2 diabetes.

Francesco Saverio Papadia *Genova* [1], Alice Rubartelli *Genoa* [2], Flavia Carlini *Genoa* [2], Micaela Battistini *Genoa* [3], Gianfranco Adami *Genova* [2], Renzo Cordera [2], Giovanni Camerini *Genoa Italy*[2]

Ospedale Policlinico San Martino, Genoa, Italy[1] Policlinico San Martino[2] Ospedale La Colletta ASL 3 Liguria[3]

Long-term anti-diabetic effects of BPD in overweight or class 1 obese T2DM patients were investigated reporting the results at ten years after BPD was obtained in non-severely obese T2DM patients. Thirty T2DM patients with BMI lower than 35 kg/m2 were investigated at one, five, and ten years after BPD, and the results of the findings are compared with those of 30 T2DM patients followed for ten years on pharmacological or behavioral conventional therapy. Mean levels of fasting blood glucose (FBG) and serum glycated hemoglobin (HbA1C) showed a marked reduction one year after BPD, values remaining slightly above the diabetic range throughout the entire follow-up. T2DM resolution was observed in about 50% of the cases at 5 and 10 years after the operation. In 16 patients (53%) severe BPD-related complications developed, in ten cases requiring a surgical BPD revision or restoration. Among the BPD group, one patient died for malignant lymphoma and two patients after BPD revisions. Within the control group, during the ten years follow-up, no changes in the diabetic status were observed, being the FBG and HbA1C mean values higher than those recorded in the BPD patients at any follow-up time. All T2DM subjects of the control group were alive at the end of the ten years follow-up. Despite satisfactory long-term metabolic outcomes, these data indicate that BPD should be used with caution as a metabolic procedure in the treatment of T2DM patients with overweight or class 1 obesity.

A061

Immediate Postoperative Major Adverse Cardiovascular Events (MACE) following bariatric surgery in United States from 2012-2019 Have Declined Despite Increasing Operative Risk

Linda Adepoju *New Orleans LA*[1], Denise Danos *New Orleans LA*[2], Christian Green *Magnolia MS*[3], Vance Albaugh *Baton Rouge LA*[4], Michael Cook *New Orleans LA*[1], Philip Schauer *Baton Rouge LA*[4]
LSU Health[1] Louisiana State University[2] American University of the Caribbean Sch[3] Pennington Biomedical Research Center[4]

Background: Studies examining recent trends in postoperative major adverse cardiovascular events (MACE) in bariatric surgery (BaS) for accredited and non-accredited centers, as well as the factors underlying these trends, are lacking.

Methods: Using the 2012-2019 National Inpatient Sample, laparoscopic sleeve gastrectomy (LSG), open sleeve gastrectomy (OSG), laparoscopic Roux-en-Y gastric bypass (LRYGB), and open Roux-en-Y gastric bypass (ORYGB) were examined. A composite MACE (acute myocardial infarction, cardiac arrest, acute stroke, and in-hospital death during BaS hospitalization) was calculated and analyzed over time along with patient demographics and comorbid diseases using survey-weighted logistic regression.

Results: MACE incidence from 2012 to 2019 was lowest for LSG (0.07%), followed by LRYGB (0.16%), OSG (1.54%) and ORYBG (2.24%). Over time, MACE decreased for LRYGB (OR: 0.91 (0.85-0.99) p=0.0211) and OSG (OR: 0.86 (0.75-0.97) p=0.016). Unadjusted estimates demonstrated an apparent increase in MACE for ORYGB (OR 1.1 (1.01-1.2) p= 0.0383). However, following covariate adjustment, MACE incidence decreased for LRYGB (OR: 0.91 [0.84-0.99] p=0.0254), LSG (OR 0.92 [0.84 -1] p=0.0487), and OSG (0.82 [0.71-0.95] p=0.0068), while ORYGB remained unchanged (1.02 [0.92-1.12] p=0.7507). Length of stay for MACE patients did not decrease over time for LRYGBP (OR 1.07 [0.99-1.15] p=0.082, LSG (OR 0.93 [0.86-1] p=0.065, ORYGBP (OR 0.97 [0.89 -1.07] p=0.552, OSG (OR 1.16 [0.94-1.44] p=0.165).

Conclusion: MACE in LSG and LRYGB continues to be a rare outcome, occurring in 0.1% of patients. High risk comorbid conditions and demographics have not precluded improvements in MACE outcomes in BaS over time.

A062

Dye-less, Real-time Visualization of Tissue Perfusion in Porcine Gastric Tube Model using Laser Speckle Contrast Imaging (LSCI) and Laser Doppler Imaging (LDI)

Yao Liu *Providence RI*[1], Saloni Mehrotra *Boston MA*[2], Vasiliy Buharin *Boston MA*[3], John Oberlin *Boston MA*[3], Mikael Marois *Boston MA*[3], Chibueze Nwaiwu *Providence RI*[1], Filippo Filicori *New York NY*[4], Erik Wilson *Houston TX*[5], Peter Kim *Boston MA*[1]
Brown University[1] University of Buffalo[2] Activ Surgical[3] Lenox Hill Hospital, Northwell Health[4] University of Texas, Houston[5]

Introduction: Despite collateralization from native gastric vasculature, the stomach may be at risk for regional ischemia during revisional surgery. Laser Speckle Contrast Imaging (LSCI) provides dye-less, real-time tissue perfusion visualization with high spatial resolution, which

ICG lacks. We determined relative, regional gastric perfusion using LSCI compared to Laser Doppler Imaging (LDI) in a porcine gastric tube.

Methods: ActivSight™ (Activ Surgical) is an FDA-cleared laparoscopic device combining LSCI/ICG fluorescence imaging. LSCI detects tissue blood flow by capturing coherent laser light scatter from red blood cells, with a prototype feature to quantify perfusion in relative perfusion units (RPU). A porcine gastric tube entirely reliant on the right gastroepiploic artery was created (**Figure 1**), and tissue perfusion measured using LSCI (ActivSight™) and LDI (Moor Technologies).

Results: With a single arterial supply, porcine gastric tube demonstrates linearly declining perfusion gradients with increasing distance from vascular source – gastric tip perfusion measures 71%/100% lower than base as quantified by LSCI/LDI (**Figure 2A**). LSCI detects perfusion more precisely as function of distance from vascular source than LDI (Pearson's .952/.682). For any given distance from vascular source, LSCI detects significant perfusion differences along mesoaxial planes with middle of tube demonstrating highest RPU followed by inner/outer curves (RPU .62/.44/.31, p=.00001) (**Figure 2B**). LDI did not detect significant perfusion differences between these planes (p=.684).

Conclusions: Gastric perfusion appears to be linearly dependent on distance from a supplying artery, suggesting regional perfusion differences. LSCI detects dye-less, real-time, spatially specific perfusion, which may provide a useful tool in revisional gastric surgery.

A063

BILIOPANCREATIC DIVERSION WITH DUODENAL SWITCH (BPD-DS) IS ASSOCIATED WITH SUPERIOR WEIGHT LOSS AND DIABETES RESOLUTIONS IN MORBIDLY OBESE PATIENTS WITH BASELINE BMI>50 KG/M2

Donovan Harris *Gibsonia PA*[1], Donovan J Harris *Gibsonia PA*[2], Mark J Dudash *Danville PA*[1], Craig Wood *Danville PA*[3], Ryan Horsley *Scranton PA*[3], Jon D Gabrielsen *Danville PA*[1], Alexandra Falvo *Scranton PA*[3], Christopher Still *Danville PA*[1], Anthony T Petrick *Danville PA*[1], Vladan Obradovic *Manlius NY*[1], David Parker *Danville PA*[1]
Geisinger Medical Center (GMC)[1] Geisinger Commonwealth SOM[2] Geisinger Medical Center (GMC)[3]

BACKGROUND

There is paucity of data on the appropriate bariatric procedure for super obesity (body mass index [BMI] > 50 kg/m^2). The aim of this study is to compare the safety and effectiveness of BPD-DS to RYGB and SG in super obese Individual.

METHOD

The Geisinger bariatric prospectively maintained database was used to perform retrospective analysis on bariatric surgery patients with BMI > 50 between 2015-2019. Two-sample t-tests and Chi-square tests were used to compare BPD-DS to RYGB and SG in terms of Perioperative Outcome, Weight loss, Remission of Diabetes and New onset GERD.

RESULTS
Among 681 patients, 442 (65%) had RYGB, 121 (18%) SG, and 118 (17%) BPD. Age, Gender and preop Diabetes were comparable between groups. BPD group has the lowest percentage of females and had the highest mean BMI. Compared to RYGB and SG, BPD-DS has significantly higher length of stay (2.9 vs 1.6 and 1.5) but comparable 30-day readmission and reoperation. Increase incidence of early complications was higher BPD versus Sleeve (15.4% versus 4.7%). At 3 Year mean follow up BPD-DS had significantly greater total weight loss (41.5% vs 29.9% and 22.2%) and higher diabetes remission rate (96% vs 74% and 57%) compared to RYGB and SG. Conversely Incidence of GERD was higher in BPD Group versus RYGB.

CONCLUSION
Patients with super obesity have significantly improved weight Loss and Diabetes Remission with BPD-DS but at the cost of higher incidence of adverse events, compared to patients operated with RYGB and SG.

Abstract Palooza
Session V – Complications
Thursday, June 9, 2022
10:15 AM – 12:00 PM

A064
RYGB mortality trends in racial cohorts: Are we improving?
Md Walid Akram Hussain *Jacksonville FL*[1], Aaron Spaulding *Jacksonville FL*[1], Michael Edwards *Ponte Vedra Beach FL*[1]
Mayo Clinic Florida[1]

Introduction: Roux-en-Y gastric bypass (RYGB) continues to be safely performed in racial cohorts. However, studies continue to report differences in complications, with black patients having a higher rate of adverse outcomes, including mortality. It is unclear how these disparate outcomes have evolved over time.
Objective: To determine RYGB procedure and mortality trends in racial cohorts

Institution: Academic Hospital

Methods: Using the 2015 to 2019 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Project (MBSAQIP) data, we identified primary RYGB cases performed laparoscopically or robotically. White and Black patient cohorts (1:1) matching based upon patient and surgical characteristics. Conditional logistic regression analysis was conducted on the matched pairs. Primary outcomes of interest included year-to-year all-cause and RYGB-related mortality. Secondary outcomes included adverse outcomes in matched cohorts. Stata/MP 16.1 was utilized for analysis and a p-value of < 0.05 and a 95% Confidence Interval that excluded 1 were considered significant.

Results: 148,829 RYGB cases in White (83%) and Black (17%) patients were analyzed. RYGB trends remain similar for Black and White patients over 5-years. In matched cohorts, overall mortality (OR 1.94), RYGB-related mortality (OR 2.09), aggregate VTE (OR 1.59), readmission (OR 1.49), reoperation (OR 1.24) and intervention (OR 1.41) were more likely in Black patients (***Table 1***). During the study period, mortality trends remained steady in White patients and declined in Black patients (***Figure 1***).

Conclusion: RYGB continue to be underperformed in Black patients. Mortality remains more common on Black patients, with a declining trend over the 5-year study period.

A065

Does the use of bio-absorbable mesh for hiatal hernia repair at the time of bariatric surgery reduce recurrence rates? A meta-analysis

Benjamin Clapp *El Paso TX*[1], Ali M. Kara *El Paso TX*[1], Paul Nguyen-Lee *El Paso TX*[1], Luis Alvarado *El Paso TX*[1], John Marr *El Paso TX*[1], Hani Annabi *El Paso TX*[1], Alok Dwivedi *El Paso TX*[1], Brian Davis *El Paso TX*[1]
Texas Tech HSC Paul Foster School of Med[1]

Background: About 16-37% of bariatric patients are estimated to have a hiatal hernia. To address the lack of long-term data showing the efficacy of bioabsorbable mesh in reducing recurrence of hiatal hernia in patients who underwent bariatric surgery, we evaluated the literature and performed a meta-analysis.

Methods: We performed a literature search using PubMed and MEDLINE with search terms including “hiatal hernia recurrence”, “bariatric surgery”, “bioabsorbable mesh”, “Gore BIO-A”, and “trimethylene carbonate”. Analysis was conducted to compare surgical time, length of stay, recurrence rate, hernia size, and changes in BMI before and after surgery between mesh group (MG) and non-mesh(NM) patients. The meta-analysis was described using standardized mean difference, weighted mean difference, effect size (ES), and 95% confidence interval(CI). An I-square statistic was computed to assess heterogeneity.

Results: Thirteen studies with 1374 patients were included in our meta-analysis. There were seven studies with 689 patients in the MG and ten studies with 685 patients in the NM. Increased hernia size was noted in NM (13 cm^2) compared to MG (8.4 cm^2) (95%CI -2.19– -0.02; p=0.046), though no difference was noted in perioperative BMI (95%CI -10.44 – -1.02; p=0.09). The MG had less recurrence compared to NM (Effect Size: 2% vs. 13%; 95% CI -0.24– -0.01; p=0.041). Average follow-up was 25.5 months for the MG group and 30.2 for the NM group.

Conclusions: Repair with the bioabsorbable mesh placed at the time of the index bariatric surgery is more effective at reducing the recurrence rate of hernia than simple suture cruroplasty.

A065

Case Series of food bezoars causing small bowel obstructions after Roux-en-Y gastric bypass

Pearl Ma *Fresno CA*[1], Huy Hoang *Fresno CA*[2], Amarita Klar *Fresno CA*[1], Keith Boone *Fresno CA*[1], Kelvin Higa *Fresno CA*[1]
UCSF Fresno/ALSA[1] ALSA[2]

This video case series presents 3 patients with a remote history of roux-en-y gastric bypass (RYGB) who presented with symptoms and radiographic findings of small bowel obstruction. Patients were taken to the operating room for exploration to rule out adhesive disease or internal hernia however found isolated within the small bowel impaction of food causing obstruction. Each case involves high fiber content foods which impedes adequate digestion secondary to RYGB changes of hypoacidity, loss of pylorus function, inadequate enzymatic degradation. Offending foods ranged from a noodle-based soup, shirataki noodles, and inadequate mastication of dried fruit. Rare cases of small bowel obstructions occur after RYGB from food bezoars. Management may consist of early exploration and conversion to open if required.

A067

IVC filter use in bariatric surgery in patients with history of VTE: an analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program database 2015-2019

Jason Wade *Hartford CT*[1], Alexander Friedman *Hartford CT*[1], Richard Seip *Hartford CT*[1], Ilene Staff *Hartford CT*[2], Tara McLaughlin *Vernon Rockville CT*[1], Dale Bond *Providence RI*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1] Hartford Hospital[2]

Background: The 2013 ASMBS position statement on venous thromboembolism (VTE) in patients undergoing bariatric surgery states that inferior vena cava filter (IVCF) placement may be considered for select high-risk patients. Prior VTE may render a patient high-risk, yet data regarding the use of IVCF in this patient population and associated outcomes are lacking.

Methods: We queried the MBSAQIP database for all patients undergoing primary sleeve gastrectomy (CPT 43775) or Roux-en-Y gastric bypass (CPT 43644) from 2015 to 2019 with a history of VTE. We tabulated yearly IVCF use and compared 30-day rates of deep vein thrombosis (DVT), pulmonary embolism (PE), and mortality in patients with and without prophylactic IVCF placement in anticipation of bariatric surgery.

Results: Of 754,397 patients undergoing bariatric surgery, 16,683 patients (2.2%) had a prior VTE. Placement of IVCF in these patients in anticipation of bariatric surgery decreased from 285/2245 cases (10.4%) in 2015 to 85/3750 cases (2.2%) in 2019 ($p<0.01$). The incidence of PE in patients with prophylactic IVCF was 0.1% compared to 0.5% in those without ($p=0.13$). Postoperative DVT was more common in patients who underwent IVCF placement (1.7% vs. 0.8%, $p<0.01$). No significant differences were observed in either bleeding complications or in-

hospital and 30-day mortality.

Conclusion: The use of prophylactic IVCF placement in patients with a prior VTE has decreased. Placement of IVCF in this patient population is associated with a higher rate of DVT and similar mortality rates. The rate of PE, although lower in patients with IVCF, did not reach statistical significance.

A068

Bariatric Surgery Outcomes in Patients with Bipolar or Schizoaffective Disorders

Omer Ul Hassan *Rochester MN*[1], Omar Ghanem *Rochester MN*[2], Ahmet Vahibe *Rochester MN*[2], Karen Grothe *Rochester MN*[2], Maria Collazo-Clavell *Rochester MN*[2], Amy Glasgow *Rochester MN*[2], Travis McKenzie *Rochester MN*[2], Todd Kellogg *Rochester MN*[2]
Mayo Clinic[1] Mayo Clinic, Rochester[2]

Introduction

Bariatric surgery outcomes in patients with bipolar or schizoaffective disorders are not well elucidated. Our study aims to explore the impact of these psychiatric conditions on percent Total Weight Loss (%TWL) and the early and late postoperative complication rates.

Methods

We conducted a retrospective chart review analysis of the bariatric surgical procedures in patients with bipolar or schizoaffective disorders between 2008-2021. We used specific ICD 9 & 10 codes to identify patients from our prospectively maintained database. Patient data were analyzed at 3-, 6-, 12-, and 24-month follow-up intervals. Data were summarized using frequencies and percentages for categorical and means and standard deviations for continuous variables.

Results

Our study included 74 patients with a Mean±SD age of 51.8±12.7. Concomitant psychiatric comorbidities were abstracted (10.8% Eating Disorders, 27% PTSD, and 13.5% ADHD). 93.2% had bipolar disorder, 2.7% had schizoaffective and 4.1% had both. 67.6% underwent Roux-en-Y gastric bypass, 27% had sleeve gastrectomy and 5.4% had duodenal switch. %TWL and Δ BMI (kg/m^2) at 24 months from baseline were 31.3±11.7% and -14.8±8.8 kg/m^2 respectively. The remission rate for diabetes mellitus, hypertension, dyslipidemia, and sleep apnea were 69%, 34%, 43%, and 51% respectively (Figure 1). The early and late postoperative complications are listed in (Table 1).

Conclusion

Bariatric surgery in patients with bipolar or schizoaffective disorders can lead to acceptable long-term weight loss and comorbidity amelioration. Alcohol abuse among these patients requires the need for screening and psychological support long term.

A069

Primary Repair of Intraoperative Duodenal Perforation During Laparoscopic ERCP for Recurrent Choledocholithiasis

Kaci Schiavone *Rochester NY*[1], David Burns [2], William O'Malley [2], Joseph Johnson *Rochester NY*[2], Aaron Sabbota *Rochester NY*[2]
University of Rochester[1] University of Rochester Medical Center[2]

The procedure of endoscopic retrograde cholangiopancreatography (ERCP) poses a variety of risks including pancreatitis, hemorrhage, infection, and perforation. While perforation remains a rare complication, it carries a significant burden of morbidity and mortality. In patients who have undergone Roux-en-Y gastric bypass, there is a need to perform this procedure given the elevated risk of gallstone formation post-operatively. While perforation remains a relatively rare event in this unique patient population, it is a complication we need to be prepared for.

We present a case of a 69 year old woman with a history of Roux-en-Y gastric bypass and previous laparoscopic cholecystectomy who required laparoscopic assisted ERCP for common bile duct stone retrieval. During the procedure, she suffered iatrogenic perforation of the lateral duodenum (Stapfer Grade I). Here we present a video showing intraoperative steps of immediate laparoscopic primary repair with omentopexy and gastrostomy tube insertion. The patient tolerated the procedure well in the immediate postoperative period. She underwent a short course of antibiotics for retained peri-duodenal abscess. She was discharged home and has since had her surgical drain and gastrostomy tube removed.

A070

Determining the Who and Why of post-Bariatric Emergency Department Utilization

Jason Samuels *Aurora CO*[1], Heather Carmichael *Aurora CO*[2], Kweku Hazel *Aurora CO*[2], Catherine Velopulos *Denver CO*[2], Kevin Rothchild *Aurora CO*[2], Jonathan Schoen *Aurora CO*[2]
University of Colorado Denver[1] University of Colorado Anschutz[2]

Background:
Prior studies found significant use of the Emergency Department (ED) by patients after bariatric surgery (BS). However, how BS impacts ED usage, and which patients are most impacted is unknown. We hypothesize that persistent high use after BS is driven by a small subset of patients.

Methods:
We queried the Colorado All Payers Claim Database. The primary outcome of interest was ED visits within 2 years post-op. BS was identified using CPT codes & diagnosis for ED visits using ICD codes. Patients were categorized by frequency of ED use preoperatively and postoperatively (>3 visits/year). Patients who became frequent users post-operatively were compared to those who did not.

Results:
5,409 patients underwent BS from January 2013 - November 2017. While most patients infrequently used the ED before surgery and after surgery (n=4495, 83.1%), a small subset were

infrequent users before surgery but developed new persistently high ED use for two years post-op (n=526, 9.7%, Figure). Factors associated with high use on multivariable modeling included Medicare or Medicaid vs. private insurance (OR 3.12 and 3.71, respectively, p<0.001), Roux-en-Y vs. sleeve gastrectomy (OR 1.53, p<0.001), postoperative length of stay >3 days (OR 1.52, p=0.02), and history of psychiatric disorders (OR 1.51, p<0.001). Increases in ED usage were mostly due to non-specific complaints (e.g. abdominal pain, dehydration, or gastrointestinal symptoms).

Conclusions:
We identified a subset of patients (<10% overall) who drove increased ED utilization following BS. The majority of visits were for moderate symptoms which could be managed in outpatient clinics.

A071
Atrial dysrhythmias are associated with increased complication and mortality rates: an MBSAQIP analysis of patients undergoing bariatric surgery.
Kirk Sinclair *Edmonton* [1], Valentin Mocanu *Edmonton* [1], Jerry Dang *Edmonton* [1], Daniel Birch *Edmonton* [1], Shahzeer Karmali *Edmonton* [1], Noah Switzer *Edmonton* [1]
University of Alberta[1]

Introduction:
The implications of pre-operative atrial dysrhythmias (ADs) in patients undergoing bariatric surgery are poorly understood. The aims of this study are to characterize the prevalence of atrial dysrhythmias for elective bariatric surgery patients and to explore their impact on postoperative outcomes.

Methods:
Data was extracted from the MBSAQIP data registry from 2015 to 2019. All primary Roux-en-Y gastric bypass (RYGB) and sleeve gastrectomy (SG) procedures were included. Patients with Ads were identified as patients coded as receiving pre-operative therapeutic anticoagulation without a prior history of history of deep vein thrombosis, venous thromboembolism , pulmonary embolism, or other conditions requiring anticoagulation. Multivariable logistic regression analysis was used to determine the impact of pre-operative ADs on post-operative complications and 30-day mortality.

Results
A total of 751,952 patients were identified, of which only 20,800 (2.8%) had preoperative ADs. Subjects with ADs were more likely to be older, have a higher body mass index. Metabolic comorbidities were also more common in those with AD as demonstrated by higher rates of diabetes, hypertension, dyslipidemia, and prior history of myocardial infarction. Rates of 30-day serious complications were higher in the AD cohort. After adjusting for comorbidities using multivariable logistic regression, AD was the single greatest independent predictor of serious complications and 30-day mortality.

Conclusions
Atrial dysrhythmias were observed in approximately 3% of MBSAQIP patients. ADs are among the greatest independent predictors of serious complications and mortality suggesting that these patients are associated with a higher peri-operative risk profile warranting further optimization.

A072
Robotic conversion of gastric bypass to sleeve gastrectomy
Romulo Lind *Orlando FL*[1], Muhammad Jawad *Orlando FL*[1], Muhammad Ghanem *Orlando FL*[1], Andre Teixeira *Orlando FL*[1], Gary Aghazarian *Orlando FL*[1]
Orlando Health[1]

Roux-en-Y gastric bypass (GBRY) remains one of the most common bariatric procedures performed in the United States, its excellent weight loss results and safety associated with relevant co-morbid condition resolution rates contribute to its broad implementation. Even though discomforts and complications are prevalent, in most cases they are manageable; nonetheless, specific intractable nausea, chronic pain, cachexia and severe dumping syndrome are rare and may require a GBRY conversion. It is known that patients who re-established the normal anatomy of the digestive tract will have a significant weight regain; reason why a conversion to sleeve gastrectomy (SG) is proposed as a method for addressing severe GBRY complications as well as weight loss management. This video session has an educational purpose and demonstrates the techniques used in an entirely robotic GBRY to SG conversion.

A073
Analyzing the adequacy of BMI-tiered enoxaparin dosing for venous thromboembolism prophylaxis in the bariatric surgery population based on anti-factor Xa assay data
Blake O'Connor *Cincinnati OH*[1], Katherine Meister *Cincinnati OH*[1], Angela Fellner *Cincinnati OH*[1]
TriHealth[1]

Background: Venous thromboembolism (VTE) events remain a top cause of morbidity and mortality following bariatric surgery. Thus, prophylactic BMI-tiered low-molecular-weight heparin (LMWH) regimens have been implemented. The adequacy of such prophylaxis has been questioned.

Objective: The aim of this study is to evaluate the adequacy of BMI-based VTE prophylaxis using the anti-factor Xa (anti-Xa) assay in patients with obesity undergoing bariatric surgery.

Methods: This is a retrospective review of adult patients undergoing Roux-en-y gastric bypass (RNYGB), laparoscopic sleeve gastrectomy (LSG), or revisional bariatric procedures, at a high-volume, community-based institution, between January 2017 and December 2020. Patients received twice daily, BMI-tiered dosing of LMWH post-operatively. Individuals with BMI <50 kg/m^2 received 40 mg LMWH; those with BMI $\geq$50 kg/m^2 received 60 mg LMWH. Anti-Xa levels were analyzed 4-6 hours following the second or subsequent dose. Levels of 0.2-0.4

IU/mL were considered prophylactic.

Results: A total of 203 patients (76% female) were included. Median age and BMI were 46 years and 50.79 kg/m^2, respectively. Seventy-two percent of patients underwent RNYGB. Ultimately, 37.4% of patients did not achieve adequate prophylaxis; 23% were supra-prophylactic. Ninety patients had BMI <50. Of these, 17 were supra-prophylactic and 16 sub-prophylactic. One hundred-thirteen patients had BMI ≥50. Of these, 29 were supra-prophylactic and 14 sub-prophylactic. Adequacy of dosing did not differ significantly based on patient demographics.

Conclusion: BMI-tiered LMWH dosing for VTE prophylaxis in the bariatric surgery population is inadequate in achieving prophylaxis in greater than 37% of patients. This is substantially different than previously reported data.

A074

Robotic-assisted bariatric surgery is associated with increased post-operative complications compared to laparoscopic bariatric surgery

Julie Klock *Omaha NE*[1], Fang Niu *Omaha NE*[1], Kristin Bremer *Omaha NE*[1], Ryan Walters *Omaha NE*[1], Kalyana Nandipati *Omaha NE*[1]
Creighton University School of Medicine[1]

Background: Robotic-assisted approach has been increasingly used in bariatric surgery without proven benefit. The goal of this study was to compare outcomes between laparoscopic and robotic-assisted bariatric surgery.

Methods: The Nationwide Readmissions Database (NRD) was used to identify all hospitalizations for adult patients who underwent laparoscopic or robotic bariatric surgery from 2010 to 2019. Primary outcomes included post-operative complications and 30- and 90-day readmission rates. Secondary outcomes included in-hospital death, length of stay (LOS), and inflation-adjusted cost. Multivariable logistic regression models were estimated for overall complication and readmission rates. All presented hospitalization counts are weighted; all analyses accounted for the NRD sampling design.

Results: Approximately 1,445,375 hospitalizations met inclusion criteria, of which 6.9% were robotic-assisted. Patient demographics had similar ages in both groups (44 years) and distributions of comorbidities. The overall complication rate was higher for robotic-assisted surgeries (12.7% vs 10.3%, odds ratio [OR]: 1.3, 95% CI: 1.2-1.4, $p < .001$). Intra-abdominal injuries to surrounding structures and hemorrhage-related complications were higher for laparoscopic cases. There were similar 30-day readmission rates for robotic and laparoscopic cases (4.05% vs .30%, OR: 1.03, 95% CI: 0.97-1.10, $p = .370$) and 90-day (6.7% vs 6.9%, OR: 1.04 95% CI: 0.98-1.10, $p = .217$). The LOS in both groups were similar (1.18 vs. 1.14 days, $p = .952$); although, hospital costs were higher for robotic-assisted cases ($15,711 vs. $11,810, $p < .001$).

Conclusion: Our analysis suggests that robotic-assisted bariatric surgery is associated with higher overall complication rates and hospital costs than the laparoscopic approach.

A075

Erosion of Band Over Bypass with Gastrogastric Fistula as Complication of Roux-en-Y Gastric Bypass

Kayla Ikemiya *Fresno CA*[1], Pearl Ma *Fresno CA*[2], Huy Hoang *Fresno CA*[2], Kelvin Higa *Fresno CA*[2], Alice Jackson *93720 CA*[1], Morgan McGrath *Fresno CA*[1]
Fresno Heart and Surgical Hospital, CA[1] UCSF Fresno/Advanced Laparoscopic Surgical Associates[2]

In this case, patient is a 63-year-old female presenting with dysphagia and abdominal pain (187 lbs, 30.51 kg/m²). The patient's surgical history includes a primary laparoscopic Roux-en-Y gastric bypass in twenty years prior (260 lbs, 43.30 kg/m²). She then underwent a band over bypass at our facility ten years ago due to weight recidivism (223 lbs, 37.10 kg/m²). She was lost to follow up with nadir weight loss to 2.6% percent excess weight loss. She reported experiencing epigastric pain radiating to the port site, dysphagia, and GERD (gastroesophageal reflux disease) with esophagitis, thus indicating the need for band removal.

Upon exploration, the band and buckle were found to have eroded entirely into the gastric pouch lumen with greater than 50% erosion. There were numerous adhesions present around the small bowel. With endoscopy, a guidewire was looped around the band and a lithotripsy device was used to cut band, and was retrieved in entirety through the oropharynx. Repeat endoscopy then found an approximately1 cm gastrogastric fistula that was identified.

Due to patient's weight recidivism likely attributed to the gastrogastric fistula, (220 lbs, 37.76 kg/m²) and worsening GERD symptoms, patient was re-explored with repair of moderate-sized hiatal hernia and resection of the fundus of the remnant stomach along with the fistula. At three weeks post-operative, the patient reported weight loss (204 lbs, 32.93 kg/m²) and resolution of GERD symptoms.

Students/Residents/Fellows
Thursday, June 9, 2022
10:15 AM – 12:00 PM

A079

Ileal microbial shifts after Roux-en-Y gastric bypass orchestrate changes in glucose metabolism through modulation of bile acids and L-cell adaptation

Jerry Dang *Edmonton* [1], Valentin Mocanu *Edmonton* [1], Heekuk Park *New York NY*[2], Michael Laffin *Edmonton* [1], Caroline Tran *Edmonton* [1], Naomi Hotte *Edmonton* [1], Shahzeer Karmali *Edmonton* [1], Daniel Birch *Edmonton* [1], Karen MADSEN *EDMONTON* [1]
University of Alberta[1] Columbia University[2]

Background
Roux-en-Y gastric bypass (RYGB)-induced glycemic improvement is associated with increases in glucagon-like-peptide-1 (GLP-1) secreted from L-cells in the ileum. Proposed mechanisms for GLP-1 changes include shifts in gut microbiota and bile acids, however these are poorly understood. The objective of this study was to analyze changes in ileal bile acids and ileal microbial composition in diet-induced-obesity rats after RYGB to elucidate the early and late effects on L-cells and glucose homeostasis.

Methods
Rats underwent RYGB or sham surgery and were separated into early (2-week) or late (14-week) postoperative cohorts. Metabolic outcomes and ileal samples were analyzed.

Results
In early cohorts, there were no significant changes in L-cell density, GLP-1 or glucose tolerance. In late cohorts, RYGB demonstrated less weight regain, improved glucose tolerance, increased L-cell density, and increased villi height. No difference in the expression of GLP-1 genes was observed. There were lower concentrations of ileal bile acids in the late RYGB cohort. Microbial analysis demonstrated decreased alpha diversity in early RYGB cohorts which normalized in the late group. The early RYGB cohorts had higher abundances of *Escherichia-Shigella* but lower abundances of *Lactobacillus*, *Adlercreutzia*, and *Proteus* while the late cohorts demonstrated higher abundances of *Escherichia-Shigella* and lower abundances of *Lactobacillus*. Shifts in *Lactobacillus* and *Escherichia-Shigella* correlated with decreases in multiple conjugated bile acids.

Conclusions
In conclusion, RYGB caused a late and substantial increase in L-cell quantity with associated changes in bile acids which correlated to shifts in *Escherichia-Shigella* and *Lactobacillus*. This proliferation of L-cells contributed to improved glucose homeostasis.

A077
The Role of Toxicology Screening in Pre-Operative Evaluation
Grace Chao *New Haven CT*[1], Lee Ying *New Haven CT*[1], Nadeen Alturki *New Haven CT*[1], Pathik Aravind *New Haven CT*[1], Shin Mei Chan *New Haven CT*[1], Milot Thaqi *New Haven CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Background: Some programs and insurers require patients undergo toxicology screening despite lack of evidence that this affects post-operative outcomes.

Methods: We performed a retrospective review of patients who underwent laparoscopic sleeve gastrectomy or Roux-en-Y gastric bypass from three institutions from 2017-2020. We describe the rate of pre-operative toxicology positivity as determined by serum and urine testing. We examine the association between toxicology positivity and outcomes of pre-operative length, 30-day complications (bleeding, venous thromboembolism, leak, wound infection, pneumonia, UTI,

and myocardial infarction), readmissions, and weight loss using chi-square and t-test analysis.

Results:
These results represent preliminary data from 200 patients (2017-2018). There were 38 patients (19%) who had positive toxicology testing. Of these, 3 (7.9%) were positive for nicotine and 11 (29%) for opiates. Pre-operative length was 369.2 days (SD 255.0) for patients with positive testing vs 297.9 days (SD 166.3, P=0.04) for negative. Chi-square testing demonstrated toxicology positivity was not associated with complications (10.5% for positive vs 4.3% for negative, X^2=2.35, P=0.12) nor with readmissions (7.9% for positive vs 4.3% for negative, X^2=0.86, P=0.35). There was no association between toxicology positivity and one-year weight loss: positive 95.4lbs lost (SD 51.9) vs negative 101.9lbs lost (SD 58.0, P=0.53).

Conclusions: Our study is the first to describe pre-operative toxicology positivity rates. We found no association between toxicology positivity and readmissions, complications, nor weight loss. Given its lack of impact on outcomes and increased delay to surgery, toxicology testing prior to bariatric surgery may be an unnecessary burden on patients and healthcare cost.

A078
Revision of Vertical Sleeve Gastrectomy to Roux-en-Y Gastric Bypass After Failed Gastrogastrostomy for Sleeve Stricture
Peter Cmorej *Sacramento CA*[1], Shushmita Ahmed *Sacramento CA*[2], MOHAMED ALI *Sacramento CA*[2]
University of California Davis[1] University of California, Davis[2]

The subject of our video presentation is a 59-year-old woman who underwent a vertical sleeve gastrectomy in 2012 in Arizona. She subsequently developed a stricture at the incisura angularis, which was initially managed with repeat endoscopic balloon dilations between 2015 and 2017. Due to persistent symptoms, she underwent laparoscopic gastrogastrostomy with anterior cruroplasty in 2017 in Oregon. She presented to us in 2021 with recurrent dysphagia, reflux, regurgitation, early satiety, persistent nausea, periodic emesis, and 10-pound unintentional weight loss over 6 months. Her BMI on presentation was 22.9. Single contrast upper GI and endoscopy revealed a stricture at the gastric anastomosis and a sliding hiatal hernia. We took her to the operating room to convert the gastric sleeve to Roux-en-Y gastric bypass and repair the hiatal hernia (*see video*). The patient also had a history of multiple urologic surgeries, most recently undergoing total cystectomy and continent urinary diversion with Indiana pouch in 2018. The presence of the Indiana pouch conduit at the umbilicus added complexity to this already difficult revisional procedure. The patient's postoperative course was unremarkable. She was started on the ERAS pathway and was discharged within 48 hours. There were no complications within 30 days of surgery with significant improvement in symptoms on follow-up. Conversion to Roux-en-Y gastric bypass is the definitive treatment for stricture after VSG. A key to success in complex revisional bariatric surgery includes detailed preoperative planning and a methodical intraoperative approach paying particular attention to the definition of patient's anatomy.

A076

Impact of Concurrent Hiatal Hernia Repair During Laparoscopic Sleeve Gastrectomy on Patient-Reported Gastroesophageal Reflux Symptoms: A State-Wide Analysis

Ahmad Hider *Ann Arbor MI*[1], Aaron Bonham *Ann Arbor MI*[2], Arthur Carlin *Clinton Township MI*[3], Jonathan Finks *Ann Arbor MI*[2], Amir Ghaferi *Ann Arbor MI*[2], Oliver Varban *Ann Arbor MI*[2], Anne Ehlers *Ann Arbor MI*[2]
University of Michigan Medical School[1] Michigan Medicine[2] Henry Ford Health System[3]

Background: Concurrent hiatal hernia repair (HHR) at the time of laparoscopic sleeve gastrectomy (LSG) has been proposed as a strategy to mitigate gastroesophageal reflux symptoms, however patient-reported outcomes are lacking.

Methods: Using a state-wide bariatric-specific data registry, all patients who underwent a primary LSG between 2015 and 2019 and who also answered a baseline and 1 year validated gastroesophageal reflux health related quality of life survey were identified (n=11,742). Reflux symptoms at 1 year as well as 30-day risk-adjusted adverse events were compared between patients who did and did not undergo concurrent HHR and stratified by technique (anterior vs posterior HHR).

Results: A total of 4,015 patients underwent a LSG-HHR. Compared to patients who underwent LSG alone, LSG-HHR patients were older (47.8 yrs vs. 44.7 yrs; p<0.0001), had a lower preoperative body mass index (46.0 kg/m^2 vs. 47.8kg/m$^{2;}$ p<0.0001) and more likely to be female (85.2% vs 77.6%, p<0.0001). Patients who underwent a posterior HHR (n=3,205) experienced higher rates of symptom improvement (69.5% vs 64.0%, p=0.0014) and lower rates of new onset symptoms at 1 year (28.2% vs 30.2%, p=0.0500), with no statistically significant difference in complication rates. Patients who underwent an anterior HHR (n=496) experienced higher rates of hemorrhage (1.1% vs 0.8%, p=0.0066) and readmissions (2.2% vs 1.0%, p=0.012) with no significant difference in symptom improvement.

Conclusion: Concurrent hiatal hernia repair at the time of sleeve gastrectomy can improve reflux symptoms, however technique matters. Patients undergoing anterior repair derive no benefit and is a practice that should be abandoned.

A080

Proton Pump Inhibitor (PPI) Prophylaxis After Gastric Bypass: A National Survey of Surgeon Practices

Dimitrios Athanasiadis *Indianapolis IN*[1], Spyridon Giannopoulos *Indianapolis IN*[1], Benjamin Clapp *El Paso TX*[2], Victoria Lyo *Sacramento CA*[3], Omar Ghanem *Rochester MN*[4], Nancy Puzziferri *Portland OR*[5], Dimitrios Stefanidis *Carmel IN*[1]
Indiana University School of Medicine[1] Paul Foster School of Medicine, Texas Tech HSC[2] University of California Davis[3] Mayo Clinic, Rochester[4] Oregon Health & Science University[5]

Background: Proton pump inhibitors (PPI) are frequently used after gastric bypass to prevent marginal ulceration. The optimal duration of PPI treatment after surgery to minimize ulcer incidence is unclear. Our aim was to assess bariatric surgeon practice variability regarding postoperative PPI prophylaxis.

Methods: Members of the ASMBS research committee developed and administered a web-based anonymous survey in October 2021 to MBSAQIP medical directors detailing questions related to surgeons' use of PPI after bariatric surgery including patient selection, medication, dosage, and treatment duration.

Results: 112 surgeons participated in the survey (response rate: 52.6%). 85.4% of surgeons administered PPIs to all patients during their hospitalization, 3.9% used them selectively, and 10.7% not at all. After discharge, 90.3% prescribed PPIs. Pantoprazole was most often used in the hospital (38.5%), while omeprazole was prescribed by 61.7% of surgeons after discharge at a dose of 40 mg bid (48.9%), 20 mg bid (45.7%), or other (5.4%). Among surgeons who administer PPI selectively, ulcerogenic medication use (20.7%), and preoperative reflux (20.7%) were the most common reasons for PPI use. The duration of PPI administration after surgery varied widely and was influenced by the presence of preoperative gastroesophageal reflux disease (GERD) (Figure 1).

Conclusions: PPI administration practices vary widely among surgeons after bariatric surgery. This variability may be related to the limited available comparative evidence and guidelines on best duration of PPI administration. Large prospective clinical trials with objective outcome measures are needed to define optimal practices for PPI prophylaxis after bariatric surgery to maximize clinical benefit while minimizing cost.

A081

The Impact of Bariatric Surgery on Hospitalization due to Peripheral Artery Disease and Critical Limb Ischemia: A Nationwide Analysis.

Roberto Valera *Weston FL*[1], Mauricio Sarmiento-Cobos *Boca Raton FL*[1], Lisandro Montorfano *Weston FL*[2], Emanuele Lo Menzo *Weston FL*[1], Samuel Szomstein *North Miami Beach FL*[1], Raul Rosenthal *Weston FL*[1]
Cleveland Clinic Florida[1] Cleveland Clinic Surgery[2]

BACKGROUND

Severe obesity could be an independent risk factor for PAD and critical limb ischemia (CLI). Bariatric surgery (BaS) reduces cardiac risk factors, decreasing cardiovascular morbidity and mortality in severely obese subjects. We aimed to describe the impact of BaS on the risk of hospitalization due to PAD and CLI.

METHODS

National Inpatient Sample (NIS) data collected from 2010 to 2015 was examined. Patients were classified as treatment and control groups. Treatment subjects were defined as patients with previous history of BaS, and control subjects as patients with BMI ≥ 35 without history of BaS.

The primary outcome was hospitalization due to PAD, secondary outcomes were CLI, revascularization, major amputation, length of stay (LOS), and total cost of hospitalization. Univariate and multivariate analyses were performed to assess the differences between groups.

RESULTS
There were a total of 2,300,845 subjects: 2,004,804 controls and 296,041 treatment patients. Hospitalization rate for PAD was significantly lower compared to the control group (0.10% vs. 0.21%, $p<0.0001$), which was confirmed after adjusting for covariables (control vs. treatment: OR = 1.20, CI: 1.15-1.47). Subgroup analysis showed that patients without history of BaS had higher prevalence of CLI (59.3% vs. 52.4%, $p<0.0219$), higher mean LOS (6.7 vs. 5.7 days, $p=0.0023$) and cost of hospitalization (78.756 vs. 72.621$, $p=0.0089$), with no significant differences in other outcomes. After multivariate analysis, only LOS and total costs were significantly different.

CONCLUSIONS
BaS may decrease the risk of hospitalization due to PAD, as well as the LOS and total cost of hospitalization.

A082
Retained Fundus After Vertical Sleeve Gastrectomy
Erika Baird *Denver CO*[1], Jason Johnson *Denver CO*[1]
Saint Joseph Hospital[1]

Introduction: There is a strong association between morbid obesity and gastroesophageal reflux disease (GERD). Worsening GERD is a known complication after vertical sleeve gastrectomy (VSG). Although the current data is varied, the presence of severe GERD is contraindication for most bariatric surgeons to perform VSG. Mechanisms attributed to GERD after VSG are largely related to the restrictive anatomical changes that occur. The narrow tube causes decreased gastric compliance with increased intraluminal pressure. Technical errors include extreme narrowing, twisting of the sleeve, anatomical stenosis and persistent fundus. Retained fundus is responsible for increased acid secretion, regurgitation, nausea and vomiting.

Case description: 53 year old female presented with severe reflux with persistent nausea and regurgitation of undigested food after VSG. Clinical evaluation revealed a floppy, retained gastric fundus on gastrografin swallow study and endoscopy. It was appropriate to proceed with revision to gastric bypass. Intraoperatively, a large retained gastric fundus was identified and completely resected upon formation of the gastric pouch and conversion to a Roux-en-Y Gastric Bypass. Postoperatively, she reported complete resolution of reflux symptoms.

Discussion: A retained gastric fundus that leads to intractable reflux is a preventable technical complication. Our case highlights the importance of meticulous dissection to free all existing posterior gastric attachments during the index operation. Ensuring that the fundus is completely resected will prevent anatomic failure and decrease the likelihood of severe reflux necessitating revision.

A083

The Outcome of Bariatric Surgery in Patients with Psychiatric Diagnoses

Lilley Cushman *Augusta GA*[1], Amanda Schaefer *Augusta GA*[1], Brianna Stadsvold *Augusta GA*[1], Santu Ghosh *Augusta GA*[1], Aaron Bolduc *Augusta GA*[1], Renee Hilton *Augusta GA*[1]
Medical College of Georgia[1]

Background

Psychosocial disorders including anxiety, depression, and post-traumatic stress disorder (PTSD) are prevalent among patients with severe obesity. Bariatric surgery is an effective treatment for severely obese patients; however, past literature suggests psychiatric disorders may decrease expected weight loss.

Objective

To evaluate the prevalence and impact of psychiatric diagnoses on bariatric surgery outcomes.

Methods

A retrospective chart review was performed identifying 232 patients who underwent sleeve gastrectomy or Roux-en-Y gastric bypass at our institution between 2015 and 2019. 215 (93%) patients had at least one lifetime psychiatric diagnosis including anxiety, depression, PTSD, sexual abuse, substance abuse, eating disorders, suicidal ideation, bipolar disorder, or schizophrenia. Excess body weight lost (EWL) was recorded at three months, six months, twelve months, two years, and three years post-surgery. EWL was compared between patients with one lifetime psychiatric diagnosis, more than one lifetime psychiatric diagnosis, and no past psychiatric diagnosis.

Results

At 12 months post-surgery, there was no significant difference in mean EWL for patients with no past psychiatric diagnosis (N = 10; 39.6% EWL) compared to those with one diagnosis (N = 33; 39.9% EWL; p = 0.949) and those with more than one diagnosis (N = 95; 42.6% EWL; p = 0.560). Similarly, there was no statistically significant difference in EWL between these groups at any other timepoint.

Conclusion

The prevalence of psychiatric illness in our study population was significantly higher than the general population. Comparable weight loss outcomes suggest exclusion from surgery should not be based on psychiatric illness alone.

A084

Pre-surgical psychological evaluation allows identification and correction of psychopathology that may affect post bariatric surgery weight loss

Michelle Campbell *Chicago IL*[1], Michael Palmeri *Chicago IL*[2], Alec Neale *North Chicago IL*[3], Ashley Rolnik *Glenview IL*[4], Kristine Kuchta *Evanston IL*[5], John Linn *Evanston IL*[5], Woody

Denham *Winnetka IL*[5], Michael Ujiki *Evanston IL*[5], Leslie Guidotti-Breting [5], Stephen Haggerty *Highland Park IL*[5]
University of Chicago Medicine[1] University of Illinois at Chicago[2] Rosalind Franklin Univ of Medicine & Sci[3] NorthShore Univeristy HealthSystem[4] NorthShore University HealthSystem[5]

Introduction:
Psychological evaluation is a requirement before bariatric surgery that identifies patients who have psychologic contraindications which may contribute to poor post-operative outcomes. The benefits of psychological evaluation are not well reported. The aim of this study is to compare weight loss in patients approved without psychological restriction to patients who required a psychological delay, treatment, and re-evaluation prior to bariatric surgery.

Methods:
We performed a retrospective review of patients referred for standardized pre-bariatric surgery psychological assessment (clinical interview with validated questionnaires pertaining to eating habits and mental health status). The medical record was reviewed for anthropometric data at surgical consult, pre-operative, and post-operative through 24-month follow-up. Comparisons were made using chi-square and Wilcoxon rank-sum tests. Multivariable mixed modeling was used to assess differences in weight loss between groups.

Results:
Of 108 patients included, 25 (23.1%) were delayed due to untreated psychopathology or current emotional/binge eating. Delayed patients underwent psychological therapy (averaging 5 sessions over 5 months) and then "passed" psychological re-evaluation and underwent bariatric surgery. The groups had similar pre-operative BMI (delay 43.2±6.3 vs no delay 42.8±6.8, p=0.790). The delay group had significantly greater percent total body weight loss (%TBWL) at 1-year post-operative compared to the no delay group (34.6±8.8 vs 28.4±10.7, p=0.020).

Conclusion:
Patients who are delayed by pre-surgical psychological evaluation, and complete psychotherapy can achieve similar or slightly greater weight loss as those who do not require a delay prior to bariatric surgery. Future work is encouraged to identify therapeutic components which contribute to post-surgical success.

A085
Cost analysis of Diabetes-Related Hospitalization in Patients with Obesity After Bariatric Surgery
Vicente Cogollo *Miami FL*[1], Mauricio Sarmiento-Cobos *Boca Raton FL*[1], Roberto Valera *Weston FL*[1], Sahana Shankar *Boca Raton 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
Obesity related diabetic complications are significantly associated with greater hospitalization costs. Bariatric surgery (BaS) is an effective treatment for obesity and long-term control of diabetic complications. This study aims to analyze the cost of diabetes-related hospitalizations in patients following BaS.

METHODS
A Retrospective analysis of the National Impatient Sample data from 2010 to 2015. Patients with obesity were included and divided in treatment group: patients with history of BaS (HBS), and control group: patients with BMI ≥ 35 and without HBS. Univariate analysis was conducted to compare characteristics and outcomes between groups. Multivariate regression model was performed to assess the difference in outcomes between groups.

RESULTS
There were a total of 31,136 patients. Treatment group had 1,999 patients with a mean age of 54.4 years and control group had 29,137 with a mean age of 56.3 years. A higher number of patients in the control group had a LOS>5 days when compared to the treatment group (43.1% vs 32.7%) p=<0.0001, as well as a significantly greater total cost ($47,648 vs $4,456) p=0.0204. Subgroup analysis of outcomes in patients with diabetes related lower extremity amputation showed that LOS was higher in the control group 9.95 ± 0.10 vs 7.23 ± 0.21 days in the treatment group p=<0.0001. Similarly total cost was significantly higher in the control group $78,566 vs $58,772 in the treatment group p=<0.0001.

CONCLUSION
Bariatric Surgery decreases LOS in patients with diabetes-related complications, and an overall lower cost of hospitalizations compared to the non-surgically treated patients.

A086
Laparoscopic Versus Robotic Sleeve Trial (LoVRS Trial)
Ashley Lim *Ventura CA*[1], Karim Jreije *Ventura CA*[2], Barry Sanchez *Ventura CA*[2], Jon Chino *VENTURA CA*[1], Muhammed Bilal *Ventura CA*[1]
Community Memorial Health System[1] Ventura County Medical Center[2]

Introduction: Numerous retrospective studies showed differences and noninferiority comparing laparoscopic sleeve gastrectomy (LSG) and robotic sleeve gastrectomy (RSG). This is a randomized control trial including teams specially trained in assisting with robotic surgery.
Methods: Between 06/2019 and 03/2021, demographic information was collected from 59 patients (8 (13.56%) male, 51 (86.44%) female patients) who underwent sleeve gastrectomy either laparoscopically (n=30) or robotically (n=29). Standardized surgery steps and pre-/postoperative multimodal pain control were used. Measurements included OR time, specimen

size, complications, postoperative nausea, length of surgery, amount of weight loss, pain medication requirements.

Results: 8 (13.56%) patients had complications post-operatively. Mean population age was 40.81±10.94, mean BMI was 43.80±8.40, mean length of stay was 38.20±13.98 hours, mean highest post-op pain score was 6.09±3.01, mean average post-op pain score was 4.21±2.37, mean specimen volume was 203.70±145.66cm2. 8 (13.56%) patients were reported to have complications post-operatively. Average BMI was significantly higher in robotic patients (46.00±9.80) vs. laparoscopic patients (41.67±6.23); p=0.05, average specimen volume in cubic centimeters was significantly higher in robotic patients (243.34±156.41) vs. laparoscopic patients (165.47±125.41); p=0.04. There was no significant difference in post op pain.

Conclusion: This is the first randomized double blinded prospective study comparing LSG and RSG, providing level 1 evidence supporting that RSG is a non-inferior technique to LSG. Although surgery duration was longer for RSG, length of hospital stay was not prolonged. Surgery duration can be mitigated with specially designated robotic teams.

Presidential Grand Rounds I
Tuesday, June 7, 2022
9:30 AM – 10:15 AM

A092

The Impact of Telephone-Based Cognitive Behavioural Therapy on Mental Health Distress and Disordered Eating Among Bariatric Surgery Patients during COVID-19: Preliminary Results from a Multi-Site Randomized Controlled Trial

Samantha Leung *Toronto* [1], Sanjeev Sockalingam *Toronto* [2], Clement Ma *Toronto* [2], Raed Hawa *Toronto* [1], Susan Wnuk *Toronto* [1], Satya Dash [1], Timothy Jackson *Toronto* [1], Stephanie Cassin *Toronto* [3]
University Health Network[1] Centre for Addiction and Mental Health[2] Ryerson University[3]

Background: Patients undergoing bariatric surgery have high rates of psychiatric comorbidity, which may increase their vulnerability to COVID-19-related mental health distress. Exacerbation of mental health distress and disordered eating could have significant negative effects on long-term weight management and quality of life for these patients if untreated.

Objective: To determine the efficacy of a telephone-based cognitive behavioural therapy (Tele-CBT) intervention in improving depressive, anxiety and disordered eating symptoms during COVID-19.

Methods: Participants were recruited as part of a larger randomized controlled trial study (clinicaltrials.gov ID: NCT03315247) between March 2020 and March 2021 and randomized 1:1

to receive Tele-CBT or standard bariatric care. Outcomes of Generalized Anxiety Disorder-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9), Emotional Eating Scale (EES), and Binge Eating Scale (BES) were measured at baseline, immediately post-intervention, and 3-months post-intervention. Linear mixed models were used to test the effect of intervention group, time, and group-by-time interaction for each outcome.

Results: Eighty-one patients were included in the intention-to-treat analysis. Mean (SD) age of participants was 47.68 (9.36) years and 80.2% were female. There were significant group-by-time interactions for all outcomes and significant differences between groups across time. There were significant decreases in mean GAD-7 (p=0.001), PHQ-9 (p<0.001), EES-Total (p=0.001), EES-Anger (p=0.003), EES-Anxiety (p<0.001), EES-Depression (p<0.001) and BES (p=0.002) scores for the Tele-CBT group at post-intervention and follow-up when compared to baseline and the control group.

Conclusion: Tele-CBT is a feasible and effective treatment for improving psychological distress and disordered eating among post-operative bariatric surgery patients during the COVID-19 pandemic.

A093

Remote Patient Monitoring after Metabolic and Bariatric Surgery in Adolescents

Ashley Charales *Sunnyvale TX*[1], Grayce ONeill *Dallas TX*[2], Faisal Qureshi *Dallas TX*[3]
AUC School of Medicine[1] UTSW[2] UT Southwestern Medical Center[3]

Introduction: Remote Patient Monitoring (RPM) has been used for chronic conditions such as congestive heart failure, where close communication is critical to providing clinical care. The use of RPM after metabolic and bariatric surgery (MBS) in adolescents has not been evaluated. Here we report our experience.

Methods: VivifyHealth™ RPM systems consisting of bluetooth enabled weigh scale, blood pressure kit and pulse oximeter were given to patients at discharge. The devices connect to iOS and Android cloud based applications. A pathway map was created prompting patients to provide measurements daily and answer questions about wound appearance, fever, pain level, nausea and water/protein intake. Surgery staff checked the responses through the cloud and provided guidance based on predetermined triggers. IRB approval was obtained.

Results: 69 patients received RPM Kits. 4820 notifications were generated; 3062 from pathway non-compliance, 1127 from biometric responses, 340 missed biometrics and 208 from survey responses. 2.4 calls (range 1-7) per patient were made in response to notifications. Only 2 patients were directed to the emergency room. All other issues were managed at home. 10 call generating inputs were errors and 5 were related to kit use. The use of the kits waned dramatically 90 days after surgery and 85% of the kits have been returned.

Conclusions: RPM is a feasible option for post-operative monitoring in adolescents undergoing MBS. It is user friendly and utilizes technology patients already possess. RPM data can be used

proactively by the surgical team to contact patients and reduce care delays.

A094

VOLUMERTRIC POUCH STUDY AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY: EFFECT OF THE POUCH SIZE ON EXCESSIVE WEIGHT LOSS

Reda Fawzy Ali *Kafr Elshiekh* [1], Mohamed Rizk Bishr [1], Mohamed Amawy *saidy salem* [1]
Kafr Elshiekh University[1]

Background: Laparoscopic sleeve gastrectomy (LSG) is frequently performed bariatric procedure for treating morbid obesity through reduction of stomach volume.Aim of the Study: The purpose of this study was to evaluate the volumetric changes of gastric reservoir one year after LSG using multislice spiral computed tomography (MSCT) and to investigate their relationship with weight loss.Patients and Methods: This a prospective study that included 40 consecutive obese patients presented to General Surgery Department, Kafr Elsheikh University Hospital, during the period from November 2018 to November 2020. All patients were referred for abdominal MSCT with volumetric measurement of gastric pouch one month and one year after surgery after performing LSG.Results: Forty patients (28 female and 12 males) were included in the study. There was a statistically significant difference throughout the whole follow-up period (P-value =0.05) regarding weight loss, BMI reduction, percentage of excess weight loss, and percentage of excess body mass index loss (%EBMIL). Using multi-slice computer tomography, the gastric volume was assessed. Significant increase in total gastric reservoir volume (82.9±11 and 171.6± 23.6 ml at 1 and 12 months, respectively) was observed. However, our results showed no significant correlation (r= 0.131, P= 0.491) between the percentage of excess weight loss and the increase of gastric reservoir volume after 1 year of surgery. Conclusion: Sleeve dilatation is a common finding after SG even after performing a narrow gastric pouch, yet dilatation was not correlated with insufficient weight loss after 1 year after SG long.

A095

Can Bariatric Surgery Reduce Odds of Inpatient Complications after Hysterectomy? Analysis From a National Database, 2016-2018.

Maia Young *Rochester MN*[1], Archis Bhandarkar *Rochester MN*[1], Ray Portela *Rochester MN*[1], Ryan Jarrah *Rochester MN*[1], Amanika Kumar *Rochester MN*[1], Mohamad Bydon *Rochester MN*[1], Omar Ghanem *Rochester MN*[1]
Mayo Clinic[1]

Background: Body mass index (BMI) is a known risk factor for increased adverse events post-hysterectomy. The effects of previous bariatric surgery on outcomes after inpatient hysterectomy are not well elucidated.

Methods: The 2016 to 2018 National Inpatient Sample was queried for patients who underwent hysterectomy with International Classification of Disease-10 (ICD-10) codes. In an unmatched analysis, logistic regression was used to assess risk factors for post-hysterectomy complications, including infections, thromboembolic events, genitourinary injury, vaginal vault prolapse, and

wound disruptions. Patients in the bariatric surgery and control groups (no bariatric surgery history) were then matched 1:2 by age, Elixhauser comorbidity score, and BMI to analyze the risk of complications, length of stay, and total charges.

Results: In the unmatched analysis (N=20,880), when compared to women with BMI 20-29.9, patients with BMI ≥ 40 (N=10,372) had higher odds of inpatient post hysterectomy complications (abdominal wall infection, urinary tract infection and wound disruption), while patients with BMI 30-39.9 (N=10,508) or those with a past bariatric surgery (N=1,439) did not (Table 1). When 1:2 case-control matching was performed, women with a history of bariatric surgery (N=595) had significantly fewer complications, decreased average length of stay, and decreased total charges than the control group (N=1,190) (Figure 1).

Conclusions: When matched for age, BMI, and comorbidity score, patients with previous bariatric surgery had fewer complications, length of stay and total charges. Women with BMI ≥ 40 requiring non-urgent hysterectomy may benefit from undergoing bariatric surgery first.

A096

Making Lemonade with Lemons: A multi-institutional effort to improve same-day discharge for sleeve gastrectomy amid the COVID-19 pandemic

Theresa Jackson *Sacramento CA*[1], Gary Grinberg *Elk Grove CA*[1], Aaron Baggs *Richmond CA*[2], Emily Siegler *Elk Grove CA*[3], Panduranga Yenumula *Sacramento CA*[1]
Kaiser Permanente South Sacramento[1] Kaiser Permanente Richmond[2] California Northstate University[3]

Background: The COVID-19 pandemic impacted healthcare delivery worldwide. Resource limitations prompted a multi-institutional quality initiative to enhance same-day discharge workflow after sleeve gastrectomy to reduce the inpatient hospital burden. This study aims to determine the safety and efficacy of this initiative, as well as potential modifiable and non-modifiable risk factors for inpatient admission.

Methods: A retrospective analysis of sleeve gastrectomy patients was conducted from January 2019 to August 2021. Inclusion criteria was discharge on postoperative day zero, one, or two. Patients were divided into same-day discharge (SD) and inpatient cohorts. Demographic, operative, and postoperative variables were compared, as well as monthly trends in same-day and inpatient care. Potential risk factors for inpatient admission were assessed.

Results: Analysis included 2,209 sleeve gastrectomy surgeries (462 SD, 1,747 inpatient). Significant differences between cohorts were age, hypertension, obstructive sleep apnea, pre-/post-COVID, facility, and combination procedure (e.g. paraesophageal hernia). Monthly frequency of same-day discharge rose from 13% in June 2020 to 75% in August 2021. There was no difference in rates of inpatient readmission, reoperation, mortality, or 6-month excess weight loss. SD discharge patients had higher rates of 7-day emergency department readmission (9% vs 5%, p=0.004). Potential risk factors for inpatient admission include: age, BMI, diabetes mellitus,

hypertension, obstructive sleep apnea, surgery date, facility, and combination case.

Conclusion: Same-day discharge after sleeve gastrectomy is safe and efficacious. Administrative support for extended PACU (postanesthesia care unit) recovery was critical to successful protocol implementation for same-day discharge within this large multi-institutional healthcare system demonstrating potential applicability nationwide.

Presidential Grand Rounds II
Tuesday, June 7, 2022
12:00 PM – 12:45 PM

A097

Effect of Leptin-Melanocortin Pathway Gene Variants on Weight Loss after Laparoscopic Sleeve Gastrectomy

Fauzi Feris Jassir *Rochester MN*[1], Lizeth Cifuentes *Rochester MN*[1], Alejandro Campos *Rochester MN*[1], Daniel Sacoto *Rochester MN*[1], Alan De la Rosa *Rochester MN*[1], Wissam Ghusn *Rochester MN*[1], Josh Bublitz *Rochester MN*[1], Omar Ghanem *Rochester MN*[1], Todd Kellogg *Rochester MN*[1], Maria Daniela Hurtado *Rochester MN*[1], Janet Olson *Rochester MN*[1], Andres Acosta *Rochester MN*[1]
Mayo Clinic[1]

Background: The leptin-melanocortin pathway (LMP) is key for food intake regulation. LMP gene variants result in severe obesity. Bariatric surgery is the most effective treatment for obesity, however, its efficacy in carriers of LMP gene variants is unknown. We aim to examine weight loss outcomes after sleeve gastrectomy (SG) in patients with heterozygous gene variants of the LMP.

Methods: This retrospective cohort study included genotyped adult patients with severe obesity and a LMP gene variant who underwent SG. Patient medical information was abstracted starting before surgery and for the next 2 years. Total body weight loss percentage (%TBWL) was calculated from pre-surgery weight and followed up at 3, 6, 12, 18, and 24 months. Continuous data was summarized as mean ± standard deviation. Multiple linear regression analysis adjusted for age, sex, diabetes-diagnosis and BMI was used to evaluate the difference in %TBWL between patients with (carriers) and without (non-carriers) a heterozygous variant.

Results: Forty-five patients (48±12 years, 44±9kg/m^2 and 80% females) had a SG and were genotyped, 10 carriers and 35 non-carriers. Carriers were 10 years older at baseline. Carriers had a %TBWL of -19.7 compared with -26.1 in non-carriers (Δ6.4, 95%[CI], -12.3 - -0.5) at 24 months. There were no significant differences in %TBWL after adjusting for baseline characteristics.

Conclusions: In this small sample size, the LPM integrity is not essential for weight loss after SG when adjusting for age, sex and BMI. Further studies are needed to understand the

differences in weight loss among the two groups.

A098

Trapped Behind Barbs: A case series of Small Bowel Obstruction after Roux-en-Y Gastric Bypass

Chris Esposito *Columbia MO*[1], Alexander Intagliata *Columbia MO*[1], Ryneal Eugenio *Columbia MO*[1], Andrew Wheeler *Columbia MO*[1]
University of Missouri[1]

Introduction

The use of knotless barbed suture has become increasingly more common, especially in the setting of laparoscopic surgery. The ease of use and greater efficiency have contributed to its increased popularity across multiple specialties. Although not common, bowel obstructions from barbed suture have been reported. We report the first series of barbed suture causing postoperative bowel obstruction after Roux-en-Y gastric bypass (RYGB).

Methods

A single-institution retrospective chart review was performed, and 4 patients were identified that had a postoperative bowel obstruction secondary to barbed suture. In all cases permanent barbed suture was used to close the mesenteric defect at the jejunojejunostomy.

Results

The bowel obstruction in all four patients was secondary to the permanent barbed suture used for jejunojejunostomy mesenteric closure. Time to presentation ranged from 16-334 days post RYGB. All patients were successfully treated with diagnostic laparoscopy and removal of exposed suture. Obstruction was secondary to suture pulling through mesentery (1 patient) or pulling beyond bowel margin and wrapping around Roux limb (3 patients). All patients had an uneventful recovery.

Conclusion

Bowel obstructions from barbed suture is an uncommonly reported complication after RYGB. Techniques during index RYGB to help avoid this complication include trimming suture at bowel margin and adequate bites of mesentery during closure. Further data is necessary to determine if use of barbed suture is likely to cause bowel obstruction using these modified techniques.

A099

Preoperative hyperglycemia does not increase 30-day adverse events following metabolic surgery.

Brian Mooers *Iowa City IA*[1], Taya El-Hayek *Rootstown OH*[2], Kelly Kimball *Rootstown OH*[2], Ashley Shoemaker *Akron OH*[3], Debbie Douglas *Akron OH*[3], Logan Mellert *Akron OH*[3], Tyler Bedford *Akron Ohio*[3], Mark Pozsgay *Akron OH*[3], John Zografakis *Akron OH*[3], Adrian Dan *Akron OH*[3]

Summa Health Bariatric Care Center[1] Northeastern Ohio Medical University[2] Summa Health - Akron City Hospital[3]

Background:
Preoperative hyperglycemia may occur in patients undergoing metabolic surgery due to cessation of antidiabetic medications. This can result in cancellation of procedures intended to control type 2 diabetes mellitus (T2DM). We evaluated the association of mild, moderate, and severe hyperglycemia with 30-day adverse events following metabolic surgery.

Methods:
A retrospective chart review of patients with T2DM and obesity undergoing metabolic surgery at a single MBSAQIP center over a four-year period was performed. We assessed the association between preoperative hyperglycemia and 30-day adverse events defined as readmissions, reoperation, transfer to ICU, or surgical site infection. Patients were categorized to four groups: euglycemic (<125 mg/dl), mild (126-180 mg/dl), moderate (181-240 mg/dl) and severe hyperglycemia (>240 mg/dl).

Results:
Of 556 patients, 423 patients (76.1%) were female with a mean age of 50.4 years (18.5-69.9). The mean preoperative BMI was 50.2 kg/m2 (35.4-86.4) and mean hemoglobin A1c was 7.3% (4.9-14.0). The rate of adverse events was 8.7% in the euglycemic group, 13.2% in the mild group, 10.7% in the moderate group, and 17.4% in the severe group (no statistical difference, P = 0.343). The median preoperative glucose level of patients who did not experience adverse events (129 mg/dl) was not significantly different (P = 0.460) from patients who did (136 mg/dl).

Discussion:
Our study demonstrates that preoperative hyperglycemia is not associated with increased 30-day adverse events in patients undergoing metabolic surgery and should not be a stand-alone contraindication to proceeding with surgery intended to control T2DM.

A101

The impact of COVID on bariatric surgery in Texas 2019-2020

Benjamin Clapp *El Paso TX*[1], Jisoo Kim [1], Brittany Harper *El Paso TX*[1], John Marr *El Paso TX*[1], Hani Annabi *El Paso TX*[1], Luis Alvarado [1], Brian Davis *El Paso TX*[1]
Texas Tech HSC Paul Foster School of Med[1]

Introduction: All fields of medicine were affected by the COVID pandemic including metabolic and bariatric surgery (MBS). Across the nation there was a moratorium on elective surgical cases that started in the second quarter of 2020 and continued on and off for the rest of the year. The negatively affected the health of bariatric patients who had their surgeries delayed. Our aim was to determine the decrease in the volume of MBS cases from 2019 to 2020.

Methods: The Texas Inpatient and Outpatient Public Use Data File for the years 2019 and 2020 were evaluated. We searched for the Current Procedural Terminology (CPT) codes and

International Classification of Diseases version 10 (ICD10) procedure codes for common bariatric operations in both databases. Descriptive statistics were applied and the data was separated by quarter.

Results: There were 21,043 MBS cases performed in Texas in 2020. There was an 11% decrease in MBS in Texas from the year 2019 to 2020. The decrease was most noticeable in the 1st and 2nd quarter of 2020 with a subsequent rebound. There were 2,511 less cases in 2020. Sleeve gastrectomies remained the dominant procedure and the percentage of outpatient sleeves increased from 30% to 37%

Conclusion: The COVID pandemic caused a 11% decrease in MBS in the year 2020 from the previous year. There was a shift toward performing more outpatient cases. There was a rebound in the second half of the year, with more cases being performed than in the previous 3rd and 4th quarter.

A102

MBSAQIP Data Quality: Analysis of Years 2015-2019

Benjamin Clapp *El Paso TX*[1], Ray Portela *Rochester MN*[2], John Corbett *El Paso TX*[1], Jisoo Kim *El Paso TX*[1], Omar Ghanem *Rochester MN*[2]
Texas Tech University[1] Mayo Clinic[2]

Background: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) is a database focused on bariatric surgery data from the American Society for Metabolic & Bariatric Surgery (ASMBS) Centers of Excellence. We aim to evaluate the completeness, internal validity, accuracy, and consistency of MBSAQIP from 2015 to 2019.

Methods: We compiled all subsets of data from the MBSAQIP Participant User Data File (PUF) into one main file. We evaluated for completeness through empty values. To assess internal validity, we evaluated patients with a BMI < 30 who had not undergone a revision/conversion bariatric surgery. An assessment of reported calculated BMI accuracy was also completed. We also assessed consistency through the percentage of patients with more than 5 and less than 20 units of BMI change in the initial 30 days. A chi-squared test was used to assess differences in the prevalence of complications and effects across years.

Results: Table 1 summarizes the analysis for completeness, internal validity, and consistency. In the accuracy analysis, the average BMI difference calculated across 2015-2019 was -0.02 units. Up to 20.03% of data could potentially be unused for empty data.

Conclusions: MBSAQIP is a database with good data quality and minimal changes over the evaluated period.

Presidential Grand Rounds III
Tuesday, June 7, 2022
8:30 AM – 9:30 AM

A103

National trends in usage of bariatric surgery for class I obesity: An analysis of MBSAQIP

Theresa Jackson *Sacramento CA*[1], Bradley Cox *Tulsa OK*[2], Gary Grinberg *Elk Grove CA*[1], Panduranga Yenumula *Sacramento CA*[1], Robert Lim *Tulsa OK*[2], Geoffrey Chow *Tulsa OK*[2], Zhamak Khorgami *Tulsa OK*[2]
Kaiser Permanente South Sacramento[1] University of Oklahoma - Tulsa[2]

Background: National and international consensus statements support the use of bariatric surgery for the treatment of class I obesity. Despite this, the National Institutes of Health (NIH) has yet to update the 1991 bariatric surgery guidelines which limits reimbursement within the United States (U.S.). This study aims to confirm the safety and determine U.S. trends for bariatric surgery for class I obesity.

Methods: A retrospective analysis was performed of the 2015-2019 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database for elective, non-revisional, sleeve gastrectomy (SG) and Roux-en-Y gastric bypass (RYGB). Patients were divided into low-BMI (<35 kg/m^2) and high-BMI (≥ 35 kg/m^2). Differences in preoperative patient selection and postoperative outcomes were established, and frequency trends delineated.

Results: Analysis included 760,194 surgeries (8,131 low-BMI, 752,063 high-BMI). Low-BMI were younger, female, and with lower ASA class, but with higher rates of DM, hyperlipidemia, and GERD ($p<0.05$). Variation was found for operative time, LOS, 30-day readmission, and composite morbidity (Table 1). Roughly 1% of bariatric surgeries were represented by low-BMI patients with minimal annual variation.

Conclusion: The short-term safety of bariatric surgery in class I obesity was corroborated by this study. Usage of bariatric surgery for class I obesity in the U.S. is limited by reimbursement based on 1991 NIH guidelines. Despite consensus statements, rates of low-BMI bariatric surgery have failed to increase. This demonstrates the impact of outdated policy on access to care for potentially life-saving surgeries. As physicians and patient advocates more must be done regarding critical health policy.

A104

Does Transversus Abdominis Plane (TAP) Block Reduce Opioid Use in Bariatric Patients?

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

Background. Pain management with opioids not only increase addiction risk but may also delay recovery from associated side-effects (nausea, vomiting, respiratory depression). An enhanced recovery after surgery (ERAS) protocol with multimodal analgesia (MMA) reduces pain, opioid use and side-effects. Recent studies suggest that the incorporation of an ultrasound-guided TAP block into a MMA regimen under ERAS is efficacious for pain reduction and recovery. The purpose of this study was to determine the effects of TAP block, as part of MMA, on postoperative opioid requirement and surgery recovery.

Methods. The study included 145 bariatric patients (69 TAP-block, 74 Non-TAP block), all of whom were under an ERAS protocol and identical MMA regimen. Assessments were: 24-hr opioid use (morphine equivalents) and opioid-use categories (none, low, moderate, high), patient characteristics, co-morbidities, surgical times, intra-op complications, length of stay (LOS), and 30-day readmissions/re-operations. Data was analyzed using parametric and non-parametric statistics with $p<0.05$.

Results. Age, BMI, gender, co-morbidities (incidence/number), and surgery type did not significantly ($p>0.05$) differ between the intervention groups. Operative times were also similar and there were no differences in intra- or postoperative complications or readmissions. Neither 24-hr morphine equivalents (5.07±0.97 vs. 6.79±1.36, TAP-block vs. Non-TAP block, respectively) nor percentage of patients within each of the opioid-use categories differed significantly. LOS was reduced ($p<0.001$ with TAP-block (1.19±0.05 vs. 1.35±0.03) but unrelated to opioid use ($p>0.05$).

Conclusions. Our findings suggest that TAP-block may have no additive effect to pain management provided by our ERAS-MMA protocol as regards opioid use but may facilitate recovery.

A105

Wi-fi Or Clinics, Do We Still Matter?

Melissa Pastoressa *Chicago IL*[1], John Mitko *Chicago IL*[1], Diana Kantarovich *New York NY*[2], Ahmad Alsheekh *Chicago IL*[3], Eric Veilleux *Binghamton NY*[1], Emma Wood *Chicago IL*[1], Suzanne Hamby *Chicago IL*[1], Annie Heironimus *Chicago IL*[1], Andres Giovannetti *Chicago IL*[1], Francisco Quinteros *Chicago IL*[1], Rami Lutfi *chicago IL*[1]
Chicago Institute of Advanced Surgery[1] Lenox Hill Hospital[2] Advocate Illinois Masonic Medical Center[3]

The ideal bariatric operation is heavily debated. Our study is the first to objectively measure the influence of internet searches, surgeon recommendations, and evidence-based digital tools on patient's surgical choice.

All candidates for gastric sleeve (GS) and bypass (GB) completed questionnaires about referral source, choice of surgery and rationale, under IRB-approved protocol. Patients were educated in standardized fashion about mechanism of action, risks, and benefits of each operation. Diabetics

were then presented with evidence-based calculator predicting individual remission rates with GS versus GB. We recorded patients' original choice, change in heart after consultation and after calculator for diabetics.

Of 334 patients, 77.8% were female, average BMI 45.3. Comorbidities prevalence: 24.5% diabetes, 36% hypertension, 19% sleep apnea, 16% hyperlipidemia, 40.4% GERD symptoms (36% on medications).

Referral sources were mostly internet searches (50.9%), 34.1% primary-care, 15% word-of-mouth. Most patients (75.4%) had predetermined decisions (81.4% GS), mostly from social media (67%), followed by friend/relative recommendation (28%). After consultation, only 38/334 patients (11.3%) changed their minds, 26 changed to GS due to its "simplicity," 12 changed to GB, mostly for GERD symptoms.

Though the calculator recommended the opposite choice for more than half of diabetics (53%), most (63.6%) refused to revise their choice despite clearly presented evidence-based recommendations. Of those who complied with calculator, 81% switched to GB.
Patients with severe obesity are largely self-referred from internet searches with strongly predetermined choices. They tend stick to their decisions despite surgeons' guidance otherwise. Furthermore, evidence-based tools predicting healthcare outcomes are largely ineffective in optimizing decisions.

A106

10-year Outcomes of Marginal Ulcer Formation and Impact of Gastrojejunostomy Technique in Roux-en-Y Gastric Bypass

James Feimster *Charlotte NC*[1], Leslie Okorji *Charlotte NC*[1], Bernice Paul *Belmont NC*[1], Kyle Thompson *Charlotte NC*[1], Selwan Barbat *Charlotte NC*[1], Timothy Kuwada *Charlotte NC*[1], Keith Gersin *Charlotte NC*[1], Roc Bauman [1], Abdelrahman Nimeri *Charlotte NC*[1]
Atrium Health[1]

Background: Marginal ulcers (MU) are possible complications following Roux-en-Y gastric bypass (RYGB). Our institution performs three different laparoscopic gastrojejunostomy (GJA) techniques. The aim of this study with 10-year data is to analyze the incidence of MU between 25-mm end-to-end anastomosis (EEA) stapler, linear stapler (LS), and hand-sewn (HS) GJA techniques.

Methods: A retrospective single-institutional review of patients who underwent esophagogastrojejunoscopy (EGJ) after RYGB were queried from 2010-2019. The type of GJA, complications, endoscopic interventions, smoking, NSAID use, steroid use, and PPI use were analyzed.

Results: A total of 2,683 RYGBs were performed, of which the GJA was created using EEA stapler 58.3%, linear stapler 32.9%, and handsewn 8.8% of the time. 12.4% had an EGJ (15.4% EEA, 8.1% linear, 8.1% HS). MU incidence was 6.7% (9.2% EEA, 3.3% linear, 3.4% HS). The

rates of EGJ were significantly higher after EEA versus linear and handsewn anastomosis ($p<0.05$). Rates of MU were statistically significant after EEA stapler versus LS ($p<0.05$). The rate of NSAID use and smoking was found to be not statistically significant between EEA, LS, and HS.

Conclusion: A 25-mm EEA stapler used to create the GJA in RYGB increases the chances of having an EGJ and detecting marginal ulcers.

A107

Postoperative Hemorrhage versus Self-Limited Bleeding after Roux-en-Y Gastric Bypass: What Are the Risk Factors?

Elizabeth Odil *Royal Oak MI*[1], Jordan Reilly *Royal Oak MI*[1], Diane Studzinksi *Royal Oak MI*[1], Kathryn Ziegler *Royal Oak MI*[2]
Beaumont Hospital[1] William Beaumont Hospital[2]

Background: Early postoperative bleeding is an uncommon complication after Roux-en-Y gastric bypass, and is often self-limited, but can cause significant morbidity when uncontrolled hemorrhage occurs. Factors correlating with severe hemorrhage versus self-limited bleeding are unknown.

Methods: A retrospective review was performed using prospectively collected data for all patients undergoing Roux-en-Y gastric bypass surgery over 5.5 years at our institution. Patients were grouped based on post-operative bleeding: no bleeding (<2 g/dL hemoglobin drop), self-limited (> 2 g/dL hemoglobin drop, without transfusion or intervention), and hemorrhage (requiring transfusion or intervention). The 'self-limited' and 'hemorrhage' groups were compared. Categorical data were analyzed using Fisher's exact test or Chi-square. Demographics, comorbidities, and perioperative outcomes were examined.

Results: Of 430 patients, 360 (83.7%) had no bleeding, 43 (10%) had self-limited bleeding, and 27 (6.3%) had hemorrhage. Hemorrhage patients were more likely to have preoperative liver disease compared to 'self-limited' bleeding patients 18.5% vs. 2.3% ($p=0.029$). Following surgery, hemorrhage patients had more frequent ileus 11.1% vs. 0% ($p=0.026$), extended LOS 40.7% vs. 18.6% ($p=0.043$), postop ED visits 44.4% vs. 14.0% ($p=0.004$), readmissions 44.4% vs. 4.6% ($p <.0001$), and cardiac 22.2% vs. 2.3% ($p=0.011$), renal 14.8% vs. 0% ($p=0.019$), and respiratory complications 33.3% vs. 4.6% ($p=0.002$).

Conclusion: Uncontrolled bleeding after Roux-en-Y gastric bypass leads to significantly worse outcomes compared to patients who have a self-limited hemoglobin decrease. Patients with preoperative liver disease are at higher risk of post-operative hemorrhage; other factors influencing the development of hemorrhage vs. self-limited bleeding remain unclear.

Presidential Grand Rounds IV
Tuesday, June 7, 2022
3:00 PM – 3:45 PM

A108

Increasing the angle at the incisura angularis using omentopexy reduces/prevents GERD symptoms five years after laparoscopic sleeve gastrectomy?

Marcos Devarie *Princeton NJ*
Penn Medicine Princeton Medical Center

Background: Sleeve gastrectomy is the most common procedure performed, but due to the potential for GERD and its long term consequences it cannot be universally applied. Our hypothesis is that increasing the angle at the incisura angularis using omentopexy would improve long term acid reflux by preventing partial obstruction at the incisura and reducing upper stomach pressure.

Methods: Data obtained retrospectively from 01/2014-12/2015. Using 5 year follow up data, groups were divided depending if they had omentopexy or not during their surgery and if they use medication or not for GERD symptoms prior to surgery and at follow up.

Results: 128 patients identified. 87 of those patients had omentopexy performed during their surgery and 41 did not. Chi square from all patients resulted in a 0.03 p-value. Out of the patients that did not use any medication treatment prior to surgery, 32% of patients without omentopexy worsened compared to 18% in the omentopexy group (p-value 0.09). In patients that use medication prior to surgery, in the group with omentopexy, 36% improved and only 12% worsened.

Conclusions: 88% of the patients, which were in treatment prior to surgery, remained in the same treatment or improved after surgery when the angle at the incisura was increased using omentopexy. Also, only 18% were started on some form of antacid after 5 year follow up in the omentopexy group which trended towards significance when compared to the non omentopexy group. Omentopexy has minimal complications and can offer improve GERD control at 5 years.

A109

Preoperative Hill Grade and Gastroesophageal Reflux Disease Two Years After Sleeve Gastrectomy

Rafael Alvarez *Ann Arbor MI*[1], Brandon Ward *Cleveland OH*[2], Tianqi Xiao *Cleveland OH*[2], Jonathan Zadeh *Cleveland OH*[3], Leena Khaitan *Chardon OH*[3], Mujjahid Abbas *Cleveland OH*[3]
University Hospitals - Case Western Reserve University[1] Case Western Reserve University[2] University Hospitals - CWRU[3]

Objective: To explore the relationship between preoperative Hill Grade and gastroesophageal reflux disease (GERD) outcomes two years after sleeve gastrectomy (SG).

Methods: All patients (n=275) undergoing SG performed by 3 surgeons at a single academic institution from June 2018 to August 2019 were included. Complete datasets were available for 134 patients which were incorporated in analyses. Patients with preoperative Hill Grade I-II (Group1;n=90) were compared to those with Grade III-IV (Group2;n=44). Univariable analyses were conducted for potential associations between Hill Grade and GERD outcomes.

Results: Baseline demographics, weight, obesity-associated diseases including GERD (33.33%vs. 45.45%;*p*=1747), and follow-up length were similar between groups. Hiatal hernia (HH) was more common in Group2 (61.36%vs.14.44%;*p*<0.0001). HH repair (HHR) at index SG occurred more frequently in Group2 (31.82%vs.8.89%;*p*=0.0008). Change in body mass index did not vary between groups (-12.52±6.91vs.-13.15±5.87kg/m^2;*p*=0.5762). At two-year follow-up, the percentages of patients who had GERD (53.33%vs.70.45%;*p*=0.0595), remained GERD free (55.00%vs.45.83%;*p*=0.4498), had resolution of GERD (30.00%vs.10.00%;*p*=0.0978), experienced persistent GERD (66.67%vs.85.00%;*p*=0.1518), or suffered from de novo GERD (46.67%vs.58.33%;*p*=0.3372) did not statistically differ between Group1 and Group2. Two patients in Group1 and one in Group2 underwent additional operative intervention for GERD refractory to medical therapy (2.22%vs.2.27%;*p*=0.9854).

Conclusions: This is the first study assessing the impact of Hill Grade on GERD after SG. Univariable analyses of this small sample did not show a statistically significant difference in postoperative GERD outcomes between patients with preoperative Hill Grade I-II and those with Grade III-IV. Larger-sample studies allowing more robust analyses accounting for the impact of HHR are needed.

A110

Laparoscopic non-divided enteroenterotomy limb lengthening improves serum albumin in patients with severe protein calorie malnutrition after duodenal switch

Linda Youngwirth *Raleigh NC*[1], Dustin Bermudez *Raleigh NC*[1], Peter Ng *Raleigh NC*[1], Lindsey Sharp *Raleigh NC*[2]
REX[1] UNC/Rex Healthcare[2]

Introduction

Severe protein calorie malnutrition is estimated to occur in approximately 1-2% of patients after duodenal switch. It is proposed that lengthening the alimentary limb, or limb lengthening, can improve albumin levels in this patient population. Techniques for lengthening include the non-divided and divided enteroenterotomy.

Methods

All patients undergoing a limb lengthening procedure at a single institution were evaluated. A Braun (non-divided) enteroenterotomy technique was utilized in the majority of cases, adding 100-150 cm of biliopancreatic limb anastomosed to 25-50 cm of distal roux limb. Baseline characteristics as well as albumin levels pre-operative and post-operatively were compared.

Results

From 2018 to 2021, 38 (2%) patients underwent limb lengthening after duodenal switch. 26 (68.4%) were women and the average pre-operative common channel length was 125 cm. The average pre-operative albumin level was 2.5 g/dL. The average post-operative albumin level was 3.4 g/dL. The average change in albumin level was 0.6 g/dL. The majority of patients, 28 (73.7%), were supported with pre-operative enteral feeding or total parental nutrition.

Conclusion
Laparoscopic limb lengthening with a Braun enteroenterotomy technique improves protein absorption effectively and increases albumin levels in patients with severe malnutrition after duodenal switch. In our series, 170 cm was added on average to the alimentary limb.

A111
Correlation of Preoperative Endoscopy Findings and Gastric Pathologies in Patients with Sleeve Gastrectomy: A Retrospective Cross-Sectional Study
Hector Lopez *Ponce PR*
Saint Lukes Memorial Hospital, Ponce PR

Background: Preoperative endoscopies remain a common practice performed by most bariatric surgeons, however there is no conclusive evidence to support this practice.
Methods: A retrospective review of patients who underwent sleeve gastrectomy between July 2016 and June 2021 was performed. Correlation between endoscopic and surgical pathology findings were assessed. Cox regression was performed to study the association between risk factors and surgical pathology findings.

Results: A total of 224 patients were included, of which 83 (37%) were found to have a positive surgical pathology. Gastritis was identified in 169 endoscopies, yet there were only seen in 55 pathology reports (37.9% concordance). Hiatal hernias were identified in 86 endoscopies, but described in only 29 surgery reports (37% concordance). A concordance rate >90% was identified for gastric polyps, gastric varices, ulcers, and gastric neoplasms. Male sex (p=0.041) and median age at surgery (p=<0.001) were the only risk factors significantly associated with positive pathology results. Prevalence Rate for male sex and median age at surgery was 1.40 (p=0.141; 95% CI 0.89-2.18) and 1.03 (p=0.012; 95% CI 1.01-1.05), respectively. Thus, there was a 3% positive association per year between age at surgery and positive pathology findings.

Conclusion: There is an increased prevalence of pathologic findings with increasing age for patients who undergo sleeve gastrectomy within this population. Preoperative endoscopies yield an overestimated positive result for gastritis and hiatal hernias.

A112
The Utility of Radiology and Endoscopy in the Evaluation of VBG Failures
Stevenson Tsiao *Houston TX*[1], Nabil Tariq *Houston TX*[1], Lee Morris [1], Patrick Reardon *Houston TX*[1], Vadim Sherman *Houston TX*[1]
Houston Methodist Hopsital[1]

Introduction: Patients with a history of vertical banded gastroplasty (VBG) have a long-term complication rate of 30-55%, often related to the band and resultant proximal gastric outlet obstruction (pGOO) Symptoms include reflux, vomiting, and solid intolerance resulting maladaptive eating leading to poor nutrition and weight regain. The purpose of this study is to assess the utility of upper gastrointestinal (UGI) series and esophagoduodenoscopy (EGD) in the evaluation of VBG failures.

Methods: We retrospectively reviewed VBG patients that presented between March 2007 and June 2021. All patients were specifically questioned regarding symptomatology and underwent EGD and UGI during their diagnostic work up.

Results: Patients most often presented with symptoms of reflux (73%), solid intolerance (59%), vomiting (57%), and nausea (36%). On EGD, 52% displayed gastric outlet obstruction or stricture at the band site, 29% had hiatal hernias, 22% had staple line breakdown, 15% had band erosion, 13% had dilation of the pouch. Gastritis and esophagitis were reported at 33% and 19% respectively. On UGI, gastroesophageal reflux (GERD) was in 30% of the patients, while slow transit of contrast and stricture were found only in 25%. Hiatal hernias were reported in 27%, and staple line breakdown 7%.

Conclusion: Although UGI may provide information regarding reflux and anatomical changes to the stomach, it does not correlate well with extent of obstruction at the band site. EGD detected more GOO and gastrograstric fistula compared to UGI, and also serves as a therapeutic intervention should there be an eroded band.

Presidential Grand Rounds V
Wednesday, June 8, 2022
9:30 AM – 10:15 AM

A113

Five-Year Outcomes of Revisional Bariatric Surgery: Gastric Band to Sleeve Gastrectomy or to Roux-en-Y Gastric Bypass

Joseph Carbonaro *New Haven CT*[1], Richard Seip *Hartford CT*[1], Ilene Staff *Hartford CT*[2], Connie Santana *Glastonbury CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Meagan Moskowitz *Meriden CT*[3], Aziz Benbrahim *MERIDEN CT*[3], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1] Hartford Hospital[2] Mid State Medical Center[3]

Introduction: Revisional bariatric surgery after an index adjustable gastric band (AGB) may be indicated to remedy insufficient weight loss/comorbidity resolution or complications. We examined outcomes 5 years following revision from AGB to laparoscopic sleeve gastrectomy (AGB-LSG) or from adjustable gastric band to Roux-en-Y gastric bypass (AGB-RYGB).

Methods: All patients who underwent revisional bariatric surgery from 1/2012 to 11/2015 at two affiliated medical centers were identified. We compared AGB-LSG to AGB-RYGB on 5 year weight loss [WL] and overall comorbidity resolution. In the low BMI group, rate of *amelioration of symptoms relating to complications with the index AGB were also recorded.*

Results: Five-year follow-up (5Y-FU) data were available for 104/142 cases; 15 were excluded for having undergone either a different revisional procedure or additional revisions during the 5-year follow-up period, leaving 49 AGB-LSG and 40 AGB-RYGB. Of these, baseline BMI was $\geq$35 in 73 patients (Group I), and <35 in 16 patients (Group II). In Group I at 5Y-FU, all weight loss measures and the decrease in comorbidities was greater in AGB-RYGB vs. AGB-SG (***Table 1***). In Group II, revisional surgery ameliorated symptoms of dysphagia/chronic ABG intolerance in 12/14 (86%) patients regardless of type of revision (**Table 1**).

Conclusion: For patients with insufficient WL following AGB, revisional surgery that includes a malabsorptive component (i.e., RYGB) induced greater weight loss compared to one without (LSG). For patients with BMI < 35 who experienced complications following AGB, revisional surgery ameliorated complications and augmented WL in more than 81% of cases.

A114

Predictors of Birth Weight, Small-for-gestational-age Infants, and Preterm Birth in Pregnancies Following Bariatric Surgery: A Scoping Review

Yang Yu *Rochester NY*[1], Susan Groth *Rochester NY*[2]
University of Rochester School of Nursing[1] University of Rochester[2]

Background

Preconception bariatric surgery increases the risk for small-for-gestational-age (SGA) infants and possibly for preterm birth and low birthweight neonates. However, factors that contribute to these adverse birth outcomes are poorly understood.

Objective

To synthesize available evidence on the predictors of SGA, preterm birth, and birthweight following bariatric surgery.

Methods

A literature search was conducted with two databases (PubMed and PsycINFO) to obtain relevant studies.

Results

A total number of 61 studies were included in this review. Results across studies were largely consistent in excluding surgery-to-conception interval, maternal comorbidities (diabetes, hypertension, anemia), smoking status, and maternal age as predictors of SGA, preterm birth, and birthweight. In contrast, most studies found that restrictive (vs malabsorptive) procedures, higher gestational weight gain, and higher maternal glucose levels were associated with better birth outcomes. Findings were highly mixed for the effect of surgery-to-conception weight loss,

pre-pregnancy body mass index, maternal micronutrients, and maternal lipid levels on birth outcomes. The examination of other factors such as maternal gastrointestinal symptoms and alcohol use was limited to one study, therefore no conclusions could be made.

Conclusion
This review identified factors that appear to be associated (e.g., surgery type, glucose levels) or not associated (e.g., surgery-to-conception interval) with birth outcomes following bariatric surgery. The mixed findings (e.g., micronutrients) and the limited number of studies (e.g., alcohol use) on several variables highlight the need for further investigation. Additionally, future studies may benefit from examining interactions among predictors and expanding to assess additional predictors such as maternal mental health.

A115
Revisional Bariatric Surgery (RBS) for the Management of Weight Regain: A Survey of Bariatric Surgeons
Spyridon Giannopoulos *Indianapolis IN*[1], Bhavani Pokala *Carmel IN*[1], Jill Nault Connors *Indianapolis IN*[1], William Hilgendorf *Carmel IN*[2], Lava Timsina *Indianapolis IN*[1], Benjamin Clapp *El Paso TX*[3], Omar Ghanem *Rochester MN*[4], Tammy Kindel *Milwaukee WI*[5], Dimitrios Stefanidis *Carmel IN*[1]
Indiana University School of Medicine[1] Indiana University Health North Hospital[2] Paul Foster School of Medicine, Texas Tech HSC[3] Mayo Clinic, Rochester[4] Medical College of Wisconsin[5]

Background: Weight regain (WR) after bariatric surgery occurs in nearly 20% of patients. Revisional bariatric surgery (RBS) may benefit this population, however, it remains controversial among surgeons. The aim of this study was to explore surgeon perspectives and practices for patients with WR after bariatric surgery.

Methods: A 39-item survey was piloted and posted on Facebook forums utilized by bariatric surgeons. Survey items included demographic information, questions pertaining to the definition of failure and success after bariatric surgery, and clinical vignettes involving revisional practices.

Results: 110 surgeons from 19 countries responded to the survey. Only two surgeons (2.4%) did not perform RBS citing insufficient experience and reduced effectiveness compared to non-operative treatments. Failure of bariatric surgery was defined as EWL<50% by 31.4%, as comorbidity recurrence by 17.4%, and as EWL<25% by 12.8%. Surgeon responses differed significantly by gender (p= 0.036, figure 1). 29.4% of respondents indicated that RBS is not successful in most WR patients, while 14.1% were undecided. 73% reported that they would be very likely to recommend RBS if sufficient evidence of benefit existed. Most frequently performed RBS procedures include conversion of sleeve gastrectomy to Roux-en-Y gastric bypass, adjustable gastric band to RYGB, and RYGB revision (21.9% vs 18.2% vs 15.3%, respectively).

Conclusions: This survey demonstrates significant variability in surgeon opinions regarding what constitutes failure after bariatric surgery and to whom they offer RBS. These findings may

relate to limited available clinical evidence on best management options for this patient population. Clinical trials investigating comparative effectiveness of various treatment options are needed.

A116

LAPAROSCOPIC SLEEVE GASTRECTOMY (LSG) CONVERSION TO BYPASS: OVERALL RATE, PREDICTORS OF CONVERSION AND WEIGHT LOSS OUTCOMES

Luis Pina *Danville PA*[1], David Parker *Danville PA*[1], Craig Wood *Danville PA*[1], Donovan Harris *Gibsonia PA*[1], Mark Dudash *Danville PA*[1], Sharma Cook Richardson *Danville PA*[1], Jon Gabrielsen *Danville PA*[1], Ryan Horsley *Scranton PA*[1], Alexandra Falvo *Scranton PA*[1], Christopher Still *Danville PA*[1], Anthony Petrick *Danville PA*[1], Vladan Obradovic *Manlius NY*[1]
Geisinger Health System[1]

Background: LSG is the most common Bariatric procedure in the US; however, the frequency of conversion to RYGB is unknown. The primary objective of the study was to determine both the prevalence and factors associated with conversion to RYGB. The secondary objective was to evaluate post-conversion weight loss outcomes.

Methods: A retrospective analysis of all LSG from 2011-2020 was done. Kaplan-Meier analysis was utilized to estimate the conversion rate over time after LSG. Cox regression was utilized to identify predictors of future conversion.

Results: Of 875 LSGs, 46 were converted to RYGB for refractory GERD. Median follow-up was 2.6 years. The 1-year conversion rate was 1.4%, increasing to 3.8%, 9.0% and 12.6% at 3, 5 and 7 years respectively. Female gender (HR=4.2, p=0.05) and age <55 (HR=3.5, p=0.04) were associated with greater chance of conversion. Asthma (HR=1.7, p=0.14) and GERD (HR=1.5, p=0.18) prior to LSG trended towards higher conversion but were not significant. Of those with BMI>35 at time of conversion, 18/25 had 1-year weight follow-up. Mean total body weight loss (TBWL) was 13.0% at the time of conversion. This subgroup had an additional 13.6% of TBWL 1-year after conversion to RYGB.

Conclusion: We found that conversion of LSG to RYGB increased with time to at least a 12.6% conversion rate at 7 years. Patients with GERD prior to LSG had a nonsignificant trend toward conversion, while younger patients and females had significantly higher rates of conversion. There may be additional weight loss benefit for patients converted to RYGB.

A117

The Safety of Surgical Bariatric Revision After Endoscopic Sleeve Gastroplasty: A Systemic Literature Review for the Intraoperative Technical Challenges Along with the Complications

Abdul-Rahman Diab *Tampa FL*[1], Ali Zakaria *Tampa FL*[1], Ali Abbas *Wesley Chapel FL*[1]
University of South Florida[1]

Background: The safety of bariatric surgical revision after Endoscopic sleeve gastroplasty (ESG) is unknown. There are concerns that the presence of indwelling needles and cinches within the gastric wall might cause failure of the surgical stapling.

Methods: A systematic literature review was performed in Cochrane Database, Embase, Medline, PubMed, and Scopus electronic databases using terms "endoscopic sleeve gastroplasty" and "revision" to identify pertinent articles. The initial search yielded 300 studies which were manually reviewed. Eight articles met the inclusion criteria with a total of 27 cases reported. These articles were reviewed for the intraoperative technical challenges along with the complications following these revisions.

Results: the revisional surgery was laparoscopic sleeve gastrectomy (LSG) and laparoscopic Roux-en-Y Gastric Bypass (LRYGB) in 25 (93%) and 2 (7%) patients respectively. Only 1 (3%) patient had an intraoperative complication of staple line misfiring during LSG; which was dealt with appropriately during the surgery without any postoperative clinical consequences. In 24 (89%) a single stage endoscopic-laparoscopic removal of the pre-existing sutures was done concomitant to LSG. Whereas pre-operative endoscopic suture removal was done in the remaining 3 cases. LRYGB was used instead of LSG in 2 cases to minimize the necessity of removing sutures.

Conclusion: Surgical bariatric revision is feasible after ESG. Both LSG and LRYGB can be safely done after the endoscopic sutures and prior adhesions are managed adequately. As ESG gaining popularity, more data is needed about the surgical revisional options.

Presidential Grand Rounds VI
Wednesday, June 8, 2022
12:00 PM – 12:45 PM

A118

The gut microbiome mediates a transferable cardiovascular benefit of sleeve gastrectomy.

Tammy Kindel *Milwaukee WI*[1], Tammy Kindel *Milwaukee WI*[2], Deemantha Fernando *Wauwatosa WI*[3], Fatima Sarvia *Milwaukee WI*[2], John Kirby *Milwaukee WI*[2]
Medical College of Wisconsin/Froedtert Hospital[1] Medical College of Wisconsin[2] Medical College of Wisconsin[3]

Introduction. Bariatric surgery, specifically sleeve gastrectomy (SG), results in substantial sustained weight loss with improvement in cardiovascular diseases. We have previously published that rodent SG improves hypertension and diastolic function independent of weight loss associated with unique shifts in the gut microbiome. We therefore tested the hypothesis that the gut microbiome directly mediates the improvement in cardiovascular dysfunction by performing fecal material transfer (FMT) studies from surgical to naïve rats.

Methods. We performed SG (n=6) or Sham (n=7) surgery in obese, Zucker rats at 8 weeks of age. Stool was collected from these surgical donor rats for future FMT. Three recipient groups (n=7-8/group) received daily oral consumption of SG-FMT/Nutella, Sham-FMT/Nutella, or Nutella alone. Animals were followed post-operatively for the effect of FMT on body weight, food intake, body composition, glucose tolerance, blood pressure, cardiac function, and cardiomyocyte stress.

Results. SG-FMT did not alter body weight, food intake, body composition, glucose tolerance or diastolic function after 10 weeks. SG-FMT resulted in significantly lower blood pressures (124±16 mmHg) compared to Sham-FMT (150±10 mmHg, p=0.002) and Nutella groups (143±12 mmHg, p=0.05), starting at 8 weeks of treatment. *In vitro*, SG-FMT plasma significantly reduced relative LDH secretion from H9 myoblasts compared to Sham-FMT (-32.8%, p<0.01) and Nutella groups (-15%, p<0.01) under metabolic-oxidative stress.

Conclusions. SG induces changes in the gut microbiome which are transferable to a naïve host to improve blood pressure and reduce cardiometabolic stress. This suggests that the gut microbiome is a mechanism for weight-loss independent, cardiovascular disease remission after SG.

A119

Impact of COVID-19 on eating behaviors and BMI in patients with a history of bariatric surgery

Antoinette Hu *Hershey PA*[1], Alexandra Harvey [2], Ann Rogers *Hershey PA*[1], Andrea Rigby *Hershey PA*[1], Melissa Butt *Hershey PA*[1]
Penn State Health Milton S. Hershey MC[1] Penn State College of Medicine[2]

Few studies have explored the impact of the COVID-19 pandemic on the eating behaviors, dietary quality, and changes in weight of post-operative bariatric surgery patients.

In this cross-sectional study, a survey on eating behaviors and attitudes towards food was emailed to patients who had bariatric surgery before March 2020, with a response rate of 17.90% (99/553). Patient charts were reviewed for weight measures.

Sixty-eight (68.69%) patients experienced weight regain and 23 (23.23%) experienced binge eating with 15 (65.22%) of those experiencing loss-of-control eating (LOCE). LOCE was significantly associated with grazing behavior (r=0.21, p=0.04), emotional over-eating (r=0.32, p=0.001), and food responsiveness (r=0.32, p=0.002). LOCE was negatively associated with dietary quality (r=-0.34, p=0.0009) and satiety responsiveness (r=-0.26, p=0.01). Grazing behavior was significantly associated with emotional over-eating (r=0.43 p<0.0001) and food responsiveness (r=0.51, p<0.0001) as well as negatively associated with dietary quality (r=-0.47, p<0.0001). Slow eating was negatively associated with grazing (r=-0.25, p=0.01), emotional over-eating (r=-0.30, p=0.003), and food responsiveness (r=-0.39, p<0.0001). When included in a regression model controlling for age and sex, emotional over-eating was a significant predictor of weight regain ($\beta = 0.25$; p=0.04).

Our results suggest that maladaptive eating behaviors are associated with LOCE and poor dietary quality during the COVID-19 pandemic, however slow eating may be protective against grazing, emotional over-eating and food responsiveness. To help prevent weight recurrence after surgery, patients should be counseled on not only the importance of slow eating but also the triggers and signs for LOCE, which may be exacerbated by the pandemic.

A120

A Protocol to Improve Emergency Department (ED) Communication and Reduce All-cause and Surgery-specific Postoperative Interventions

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

Background. Elevated rates of Roux-en-Y gastric bypass (RYGB) all-cause and surgery-related interventions, identified as 'Needs Improvement' in SAR, prompted investigation of causation. One potential causative factor identified was a failure of ED physicians to consult with the bariatric (Bari) team upon arrival of the bariatric patient to the emergency department (ED), leading to avoidable readmissions, unnecessary diagnostic tests/procedures, inappropriate diet and medication management, and lost educational opportunities. We, therefore, instituted a protocol to improve ED notification of bariatric patient ED encounters.

Methods. The protocol was developed in collaboration with hospital and ED administrators to provide oversight for bariatric patient care by the Bari team and to utilize admission/encounters as an educational opportunity to improve patient adherence to bariatric guidelines. The primary goal of the protocol was 100% compliance with notification of bariatric patient ED encounters following protocol initiation and the secondary objective was reduction of all-cause and surgery-specific RYGB interventions to the goal of 'As Expected' on SAR.

Results. Over a period of 7 months, the percentage of encounters reviewed increased from 28% to 100%. By December, ED compliance with notification of the Bari physician was 92% along with an increase in Bari team patient education (40% to 70%). Following initiation of the collaborative protocol, the number of all-cause and surgery-related interventions following RYGB significantly declined to meet 'as expected' criteria on SAR.

Conclusion. A protocol that improves ED compliance for notification of the Bari team with ED bariatric patient encounter reduces the incidence and risk for postoperative intervention.

A121

Bone Mineral Density Following Gastric Bypass versus Sleeve Gastrectomy: A Systematic Review and Meta-Analysis

Azizullah Beran *Toledo OH*[1], Ray Portela *Rochester MN*[2], Hazem Ayesh *Toledo OH*[1], Wasef Sayeh *Toledo OH*[3], Barham Abu Dayyeh *Rochester MN*[2], Omar Ghanem *Rochester MN*[2]

University of Toledo, Toledo, Ohio[1] Mayo Clinic, Rochester, Minnesota[2] University of Toledo, Toledo, Ohio.[3]

Introduction: Roux-en-Y gastric bypass (RYGB) and sleeve gastrectomy (SG) are the most common bariatric surgeries. While bariatric surgery is associated with the resolution of several obesity-related comorbidities, it can induce bone loss. Data regarding the impact of these two surgeries on bone mineral density (BMD) are sparse. This meta-analysis aims to compare BMD changes after RYGB vs. SG.
Methods: MEDLINE and EMBASE were searched through December 05, 2021, for eligible studies assessing BMD pre and post RYGB versus SG. The primary outcome was BMD changes: femoral neck BMD (FN-BMD), lumbar spine BMD (LS-BMD), total hip BMD (TH-BMD), and total body BMD (TB-BMD). The secondary outcomes were serum parathyroid hormone (PTH), calcium, and vitamin D levels. Data were pooled using the random-effects model and expressed as standardized mean difference (SMD) with 95% confidence intervals (CI).
Results: Five studies with 307 patients with obesity (157 patients underwent RYGB and 150 underwent SG) were included. Average follow-up period was 33.6 months (range 12-60). FN-BMD significantly decreased after RYGB compared to SG (SMD -0.46; 95% CI, -0.84, -0.08; P=0.02), but TH-BMD, LS-BMD, and TB-BMD were comparable between the two surgeries (Figure 1). There was no difference in calcium and PTH levels between the two surgeries, but RYGB was associated with lower vitamin D levels (SMD -0.63; 95% CI, -0.93, -0.32; P<0.001) (Figure 1).
Conclusions: Compared to SG, we found a decrease in FN-BMD in patients who underwent RYGB with comparable LS-BMD, TH-BMD, and total BMD. Large-scale studies are needed to validate our findings.

A123

Botulinum toxin injection with balloon dilation is an effective treatment for pyloric dysfunction after bariatric surgery

Linda Youngwirth *Raleigh NC*[1], Dustin Bermudez *Raleigh NC*[1], Lindsey Sharp *Raleigh NC*[1], Peter Ng *Raleigh NC*[1]
REX[1]

Introduction
Pyloric dysfunction contributes to post-operative nausea in bariatric patients. While botulinum toxin injection into the pylorus has been shown to be an effective drainage strategy after esophagectomy, published data supporting this technique after bariatric surgery remains limited. The purpose of this study was to determine if botulinum toxin injection into the pylorus provided relief of symptomatic pyloric dysfunction after bariatric surgery.

Methods
Our institutional database was queried for all patients undergoing esophagogastroduodenoscopy with injection of botulinum toxin into the pylorus. All patients had a history of bariatric surgery. Demographics, clinical factors, and outcomes were evaluated retrospectively for all patients.

Results
We identified 93 patients meeting inclusion criteria from January 1, 2019 to January 30, 2021. Of these patients, 63 (67.7%) had a duodenal switch, 12 (12.9%) had a conversion of a roux en Y gastric bypass to switch, and 18 (19.4%) had a sleeve gastrectomy. 66 (71.0%) patients underwent concurrent dilation. 67 (72.0%) patients reported improvement of their symptoms.

Conclusions
Botulinum toxin injection into the pylorus is effective in symptomatic relief of pyloric dysfunction after bariatric surgery. Further study is needed to better define the patient population, optimal timing, cost effectiveness, and alternative treatments.

Presidential Grand Rounds VII
Wednesday, June 8, 2022
12:45 PM – 1:30 PM

A124
Predictors of Pulmonary Embolus following Elective Bariatric Surgery
Uzair Jogiat *Edmonton* [1], Valentin Mocanu *Edmonton* [1], Jerry Dang *Edmonton* [1], Daniel Birch *Edmonton* [1], Noah Switzer *Edmonton* [1], Shahzeer Karmali *Edmonton* [1]
University of Alberta[1]

Objective:
Pulmonary embolus (PE) in patients with obesity carries a high mortality. An analysis of the MBSAQIP database was performed to determine predictors of PE in patients undergoing elective bariatric surgery.
Methods:
We extracted data from the MBSAQIP database on patients who underwent elective Roux-en-Y gastric bypass or sleeve gastrectomy. Data was extracted on patient co-morbidities, race, prior history of deep vein thrombosis (DVT), and type of DVT prophylaxis. A multivariate logistic regression model was developed to determine predictors of PE.
Results:
Prior history of DVT (OR: 3.28; 95% CI: 1.85-5.83; $p < 0.0001$), African American Race (OR: 3.03; 95% CI: 2.22 – 4.13; $p < 0.0001$), gastroesophageal reflux disease (GERD) (OR: 1.51; 95% CI: 1.11 – 2.04; $p = 0.008$) higher BMI (OR: 1.11; 95% CI: 1.01 – 1.20; $p = 0.023$), male sex (OR: 1.76; 95% CI: 1.26 – 2.45; $p = 0.001$), and older age (OR: 1.27; 95% CI: 1.10 – 1.46; $p = 0.001$) were associated with increased odds of PE. COPD, sleep apnea, hypertension were all not significant predictors of PE ($p > 0.05$). Neither combined mechanical and pharmacological DVT prophylaxis, nor pharmacological prophylaxis alone were significant predictors of PE ($p > 0.05$).
Conclusion:
Prior history of DVT is the strongest predictor of PE after bariatric surgery. African American Race, male sex, and GERD are additional risk factors in this patient population. Preoperative

identification of these high-risk patients may prevent delays in the diagnosis of PEs.

A125

Perceptions of Obesity, Weight Bias, and Weight-Based Discrimination Laws by Race/Ethnicity

Matthew Townsend *Durham NC*[1], Theodore Kyle *Pittsburgh PA*[2], Gwyn Cready *Pittsburgh PA*[3], James Zervios *Tampa FL*[4], Fatima Stanford *Boston MA*[5]
Duke University Medical Center[1] ConscienHealth[2] CreadyCo[3] Obesity Action Coalition[4] Massachusetts General Hospital[5]

Background: Weight bias is pervasive and harmful, yet few protections exist against weight-based discrimination. Perceptions of obesity bias and anti-discrimination laws are understudied, particularly among racial/ethnic groups historically underserved in obesity advocacy.

Methods: A 26-item online questionnaire was completed by 1888 adults: 328 Asian/Pacific Islander (API), 404 Hispanic/Latinx (H), 395 Non-Hispanic Black (NHB), 761 Non-Hispanic White (NHW). Logistic regressions identified predictors of support for anti-discrimination legislation controlling for age, gender, income, and self-reported weight. Chi-square and Kruskal-Wallis tests compared categorical and ordinal variables.

Results: Acknowledgement of societal weight bias was higher among White (94.1%) than API (89.3%), H (86.4%), or NHB respondents (83.0%)($p<0.05$ pairwise). Almost half of respondents personally experienced weight bias (47.0% H, 44.6% NHB, 40.5% API, 42.2% NHW, $p=0.27$). Higher rates of Hispanic (57.7%) than NHB (47.8%, $p=0.005$) or NHW respondents (43.9%, $p<0.001$) reported weight bias impacted ability to control their weight. Obesity as a disease was recognized similarly across groups (62.5% API, 61.1% H, 61.3% NHB, 60.4% NHW, $p=0.93$). In multivariable regression, black race (OR 1.38, $p=0.02$), female gender (OR 1.43, $p<0.001$), belief that obesity is a disease (OR 1.78, $p<0.001$), and personal experience of weight bias (OR 2.02, $p<0.001$) had higher odds of support for laws against weight-based discrimination.

Conclusions: Personal weight bias experience and recognizing obesity as a disease are widely shared across racial/ethnic groups. Education on medical models of obesity and building on a base of support from individuals who are black, female, and/or have experienced weight bias may strengthen obesity anti-discrimination legislative efforts.

A126

Portomesentric and splenic vein thrombosis (PMSVT) following bariatric surgery: Incidence, risk factors, clinical presentation, and treatment in a single-center population

Ashish Agarwala DO, Eric William MS IV, Vasu Chirumamilla MD, Farhad Anoosh MD, Arif Ahmad MD, FACS, FRCS
Vasu Chirumamilla *Port Jefferson NY*
Northwell Port Jefferson Long Island NY

Abstract
Background: Portomesenteric and splenic venous thrombosis (PMSVT) is a rare, but potentially lethal complication of bariatric surgery. Its risk factors are not fully understood due to its low incidence and the minimal number of case series published.

Objective: To report the incidence, patient demographics, risk factors, clinical presentations, treatment, and outcomes of PMSVT following bariatric surgery.

Design: Retrospective, single-center study at a bariatric center of excellence involving 7131 patients. This represents the largest case series in world literature.
Patients: 7131 morbidly obese patients underwent Laparoscopic/Robotic bariatric surgery between April 2004 and April 2020. Following their procedure, nine had PMSVT.
Results

A total of 7131 Laparoscopic/robotic bariatric procedures were performed at our center between April 2004 and April 2020. These included 3717 sleeves, 1911 bypasses, 1143 bands and 360 revisional bariatric surgeries. Of this population, 9 (0.13%) patients were diagnosed with PMSVT. Two patients were found to have thrombophilia. New onset abdominal pain was the most common chief complaint, while back pain, nausea, and vomiting, were also present. Thrombi were identified in various combinations of the splenic vein (5 patients), portal vein (8 patients), and superior mesenteric vein (7 patients). Two out of nine patients required operative intervention : 1. bowel resection; 2. splenectomy. Patients were treated by anticoagulation.

Conclusions: Portomesentric and splenic vein thrombosis has a low incidence, but can have potentially significant complications. Due to its vague presentation, a high level of familiarity with the condition's risk factors and presentation is vital for prompt diagnosis and care.

A127

An Interesting Phenomenon: Hypotension After Bariatric Surgery in Patients with ESRD

Magnus Chun *New Orleans LA*[1], Yichi Zhang *New Orleans LA*[1], Valeria Noguera *New Orleans LA*[1], Jenna Ransom *New Orleans LA*[1], Tristan Chun *New Orleans LA*[1], An Nguyen *LA LA*[1], Carlos Galvani *New Orleans LA*[1], Adarsh Vijay *New Orleans LA*[1], Hoonbae Jeon *New Orleans LA*[1], Mary Killackey *New Orleans LA*[1], Shauna Levy *New Orleans LA*[1], Anil Paramesh *New Orleans LA*[1]
Tulane University School of Medicine[1]

Introduction: Patients with ESRD and morbid obesity face challenges accessing kidney transplantation (KT). Bariatric surgery (BS) prior to KT can increase KT accessibility for these patients. However, the effect of BS on hemodynamics is limited in the literature. Here, we report the phenomenon of hypotension post-BS for our KT candidates that required medication to elevate their blood pressure post-BS allowing for dialysis.

Methods: We performed a two-year prospective analysis of KT candidates (BMI>35 and GFR<20) who received BS. We identified patients who developed hypotension (SBP <105 mm Hg) post–BS and did a multivariate logistic regression of variables associated with this.

Results: A total of 91 patients with ESRD were enrolled in our bariatric program (**Table 1**). Eighteen patients have undergone BS (75% Sleeve Gastrectomy (SG)/25% Roux-En-Y Gastric Bypass (RYGB)) to date. Nine patients developed hypotension at an average of 6 months post-bariatric surgery. Multivariate logistic regression analysis showed that pre-operative normotension ($p<0.001$) and RYGB ($p=0.05$) were significantly associated with the development of hypotension post-BS (**Table 2**). At 1-month post-operation, patients who underwent RYGB lost more weight than those with SG.

Conclusions: Patients with ESRD may have altered post-surgical hemodynamics. Postoperative hypotension is an unexpected finding and these patients may be unable to tolerate dialysis. Hypertension pre-operation and sleeve gastrectomy procedure were "protective" against post-operation hypotension, and these considerations should be kept in mind when choosing bariatric options for patients with ESRD. Further studies with the MBSAQIP database may help understand the prevalence and causes of hypotension in this patient cohort.

A128

Effects of sleeve gastrectomy and Roux-en-y gastric bypass on renal outcome in patients with nephropathy

Adrian Billeter *Heidelberg* [1], Emilia Lutz *Heidelberg* [1], Beat Müller *Heidelberg* [1]
University of Heidelberg Hospital[1]

Introduction: The effects of metabolic surgery on kidney function remain poorly understood. This study compares the impact of sleeve gastrectomy (SG) and Roux-en-y gastric bypass (RYGB) on renal outcomes in patients with nephropathy.

Methods: Fifty matched patients (25 RYGB and 25 SG) with preoperative albuminuria (urinary albumin/creatinine ratio (uACR) ≥3mg/mmol) and/or creatinine-cystatin C-clearance (eGFR) ≤60ml/min were included. Matching involved sex, age, body mass index (BMI), and glycemic control. Kidney function was assessed using creatinine, cystatin C, eGFR (creatinine-, cystatin C-, combined creatinine-cystatin C formula), and uACR. Outcomes were analyzed using Wilcoxon, Mann-Whitney U, c^2 and Pearson's correlation.

Results: Mean follow-up was 2.4±0.5 years. 48% (12/25) of patients had an improvement of nephropathy after SG compared to 68% after RYGB (17/25; p=0.152). UACR decreased after both procedures (SG: 22.9±39.8 to 13.0±23.5mg/mmol, p=0.002; RYGB: 22.6±47.3 to 8.3±28.5mg/mmol, p<0.001). Patients with nephropathy improvement after RYGB lost more weight than such with persistent nephropathy while no such association was found after SG. HbA1c and uACR correlated significantly after RYGB (r=0.423, p=0.035) but not after SG (r=0.195, p=0.350). Non-diabetic and non-hypertensive patients had a higher rate of nephropathy resolution compared to diabetic (26.1% vs. 55.6%, p=0.035) and hypertensive patients (15.4% vs. 51.4%, p=0.024).

Conclusion: Metabolic surgery seems to be an effective treatment of nephropathy regardless of the type of operation. It seems particularly effective for nephropathy resolution in non-diabetic

and non-hypertensive patients likely suffering from obesity-related glomerulopathy.
The role of glycemic control and considerable weight loss on nephropathy improvement requires further research.

Presidential Grand Rounds VIII
Wednesday, June 8, 2022
3:00 PM – 3:45 PM

A129

Preoperative Hill Grade and Incidence of Postoperative GERD in Sleeve Gastrectomy Patients

Justin Eagleston *Cincinnati OH*[1], Lauren Yoder *Cincinnati OH*[1], Stephanie Kerlakian *Cincinnati OH*[1], Angela Fellner *Cincinnati OH*[1], Katherine Meister *Cincinnati OH*[1], George Kerlakian *Cincinnati OH*[1], Kevin Tymitz *Mason OH*[1]
TriHealth[1]

BACKGROUND: Gastroesophageal reflux disease (GERD) is a common comorbidity with increased incidence and severity among patients with obesity. Sleeve gastrectomy is the most frequently performed bariatric surgery in the United States and is known to cause de novo GERD in up to 21% of patients. This study aimed to evaluate if pre-operative Hill classification (used to evaluate the lower esophageal sphincter or LES) was related to the incidence of de novo GERD after sleeve gastrectomy.

METHODS: Forty patients were enrolled into this pilot study in 2019. Patients had pre-operative upper endoscopy to evaluate the LES prior to sleeve gastrectomy. Patients completed the GerdQ questionnaire pre-operatively, at three months, and one-year post-operatively. Patients were divided according to Hill classification and analyzed using Pearson Chi-square.

RESULTS: Eight patients were Hill I, fourteen patients were Hill II, and nine patients were Hill III. Hill II patients were more likely to require over the counter (OTC) medications for GERD one-year post-operatively. Of Hill II patients, two were taking OTC medications weekly and six patients were taking OTC medications 4-7 times weekly. 42.9% of patients in the Hill II group did not require OTC medications, this was a significant difference from the Hill I and III groups ($p = 0.023$).

CONCLUSION: In this pilot study, patients with Hill II have increased symptoms of GERD. Future studies could confirm these findings with pH monitoring and subsequent upper endoscopy to evaluate for clinical signs of GERD. In hopes to improve patient selection for sleeve gastrectomy.

A130

Hepatic Vagotomy in Obese Patients Leads to Improvement of the Cholesterol to HDL Ratio

Anna Catinis *New Orleans LA*[1], Claudia Leonardi *Hammond LA*[2], Michael Cook *New Orleans LA*[3]
LSU School of Medicine[1] LSU Health Sciences Center[2] Louisiana State University[3]

Background: The obesity epidemic is rapidly growing, and visceral adiposity is associated with metabolic consequences secondary to peroxisome proliferator-activated receptor (PPAR)-induced inter-organ signaling pathways. PPARs are ligand-activated transcription factors that modulate vagal pathways which can improve blood pressure, arterial remodeling, cholesterol levels, and insulin sensitivity. However, an obesity-induced inflammatory milieu can interfere with the beneficial effects of PPAR activity, suggesting that a dysregulated PPAR-vagus pathway may play a role in the pathogenesis of obesity-related hypertension. Therefore, we hypothesized that hepatic vagotomy (HV) in patients with obesity would result in a significant reduction in blood pressure and/or the number of hypertension medications compared to control.

Methods: We conducted a retrospective chart review of 160 patients undergoing laparoscopic sleeve gastrectomy. Patients were divided into HV and control groups, and information was collected at each clinic visit.

Results: At six-months post-operation, the HV group was found to have significantly lower total cholesterol (TC)/high-density lipoprotein (HDL) ratios than the control group. The HV group also had a numerically better blood profile for TC, HDL, low-density lipoprotein (LDL), triglycerides, C-reactive protein, and LDL/HDL ratio. Hypertensive patients in the HV group showed numerically lower hypertension medication counts after six weeks when compared to control.

Conclusions: We present the first study to report clinically significant changes related to HV in human subjects. Our results did not support our initial hypothesis, but did demonstrate an improvement of the TC/HDL ratio with HV in patients with obesity. Future studies should confirm these findings in a randomized control trial.

A131

Out of Harm's Reach: Outpatient Surgery Reduces Post-Operative Opioid Exposure Among Bariatric Surgery Patients

Haley Daigle *Augusta GA*[1], Megan Shepherd *Knoxville TN*[1], Robert Heidel *Knoxville TN*[1], Kyle Kleppe *Knoxville TN*[1], Matt Mancini *knoxville TN*[1], Greg Mancini *Knoxville TN*[1]
University of Tennessee Medical Center Knoxville[1]

Perioperative pain control has been a rate-limiting step for discharge. Postoperative opioids increase nausea and reduce compliance with early ambulation in enhanced recovery pathways. Low opioid enhanced recovery pathways may enable same day discharge and reduce post-operative opioid use. This study looks at a unique time point: same day discharges during the COVID epidemic. The Metabolic and Bariatric Surgery Accreditation and Quality Improvement

Program (MBSAQIP) introduced the Bariatric Surgery Targeting Opioid Prescriptions (BSTOP) quality improvement collaborative to provide bariatric centers with guidance to reduce opioid use through patient education, multimodal pain control strategies, use of regional anesthesia, to minimize perioperative opioid use. Our center participated in BSTOP, collecting data on post-operative opioid use through examination of medication administration records, and patients' at-home opioid use. During the COVID pandemic, due to bed shortages, we began providing outpatient bariatric surgery. One barrier to the move to routine outpatient bariatric surgery is fear that pain will not be adequately controlled at home, which will lead to decreased ambulation, increasing risk for post-operative complications. In our sample of 94 patients (47 inpatient, 47 outpatient), inpatients used significantly more opioids (measured as milligram of morphine equivalents, or MME) than outpatients, with a median of 39.5 MME, compared to 27 MME ($p=0.016$). The idea that bariatric surgery recovery is too painful to allow for same day discharge is false and outpatient bariatric surgery results in less perioperative opioid exposure. If we want patients exposed to less opioids, we should get them out of the hospital sooner.

A132

Perioperative risk factors/predictors of myocardial infarction in patients with obesity undergoing bariatric surgery. An assessment of the MBSAQIP

Mauricio Sarmiento-Cobos *Boca Raton FL*[1], Roberto Valera *Weston FL*[1], David Romero Funes [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

Obesity and with its associated comorbidities represents high a significant risk factors for perioperative major cardiovascular events and mortality. Identification of predictors for postoperative myocardial infarction (MI) in patients undergoing bariatric surgery (BaS) is imperative for the prevention of mortality. The aim of our study is to identify this predictor following bariatric interventions.

METHODS

A retrospective analysis of the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) data base was performed from 2015 to 2019. Demographics, comorbidities, type of procedure and surgical approach were analyzed in patients with and without postoperative diagnosis of MI. Multivariate logistic regression was utilized to identify risk factors and predictors of MI.

RESULTS

A total of 752,722 patients were included in our study. Patients with postoperative diagnosis of MI were 207 and with no MI 752,515. The majority of patients were females with 61% and 79.6% respectively. Patients with MI had significantly higher rates of comorbidities when compared to no MI patients, as well as prolonged operative times. Identification of risk factors for MI using logistic regression analysis showed that age, hypertension(HTN), diabetes (DM), coronary artery disease (CAD), and chronic Kidney Disease (CKD) were the most significant predictors for this pathology following BaS.

CONCLUSION
Severe cardiac complications are unusual following bariatric surgery. and their incidence is associated to increased mortality . Older age, HTN, DM, CKD, and CAD are significant predictors and increase the risk of postoperative MI. Further studies are needed to better asses our findings.

A133
Association Between Social Determinants of Health and Bariatric Surgery Outcomes
Siobhan Nnorom *Washington DC*[1], Oluwasegun Akinyemi *Washington DC*[1], Stephanie Carter *Washington DC*[1], EDWARD BAUER *Washington DC*[1], Lawrence Prince-Wright *Washington DC*[1], Terrence Fullum *Washington DC*[1]
Howard University College of Medicine[1]

Objective
To assess the associations between social determinants of health and bariatric surgery outcomes.

Background
Social determinants of health (SDOH) include 5 key domains: economics, education, healthcare, social context, and the built environment. These aspects have been found to influence bariatric surgery utilization, yet its association with outcomes after bariatric surgery has not been well studied.

Methods
We included patients that underwent bariatric surgery at the Howard University Hospital between August 2008 to February 2021. The distressed communities index (DCI) was used to represent SDOH. The DCI examines economic well-being at the zip code level and provides a detailed view of the divided landscape of American prosperity. Baseline characteristics, length of stay, percent excess body weight loss (%EBWL) after 6 months, and readmission rates were examined. Logistic and linear regression were utilized.
Results
We identified 800 patients. Median age was 43 years. Majority were female (85%). The cohort was 92% Black, 5% White, 2% Hispanic, and 1% other. Regarding the most distressed communities, there was a statistically significant increased proportion of females (90%; $p<0.05$) and Blacks (99%; $p<0.05$). The mean %EBWL was 20 ± 8. %EBWL and readmission rates were not associated with SDOH; however, after adjusting for gender, living in a distressed community was independently associated with length of stay>1 day after bariatric surgery (OR 1.13, $p=0.041$).

Conclusion
SDOH could impact length of stay after bariatric surgery, but do not influence weight loss or readmission rates. Increasing access to bariatric surgery will be beneficial for all socioeconomic groups.

Presidential Grand Rounds IX
Thursday, June 9, 2022
9:30 AM – 10:15 AM

A134

Gut microbiome observations before and after bariatric surgery

Pavlos Papasavas *Hartford CT*[1], Dong-Binh Tran *Farmington CT*[2], Richard Seip *Hartford CT*[1], Amina Kureshi *Hartford CT*[1], Yini Lek [2], Dale Bond *Providence RI*[1], Godfrey Pearlson *Hartford CT*[3], Darren Tishler *Glastonbury CT*[1], George Weinstock *Farmington CT*[2]
Hartford Hospital[1] The Jackson Laboratory[2] Institute of Living, Hartford Hospital[3]

Introduction: Gut microbiome diversity may change following bariatric surgery. We report preliminary findings of a pilot study designed to identify diagnostic or prognostic indicators.

Methods: Patients undergoing SG or RYGB donated stool samples pre- and post-surgery, and intra-operative samples from the small intestinal mucosa (RYGB), gastric mucosa (RYGB and SG), and gastric fluid (SG). Within-patient analyses were possible in 9 patients with both pre- and post-surgery stool samples (n=4, RYGB; n=5, SG) or combinations of mucosal, fluid and > 1 stool sample (n=4). Microbiota was quantified by sequencing the V1-V3 region of the 16 S rRNA gene. Significant differences in microbiota composition with surgery were determined from alpha- and beta-diversity community analysis and abundance of individual taxa.

Results: The abundance of Oscillobacter (p=0.03), Bacteroides fragilis (p=0.043), and Bacteroides nordii (p=0.044) in stool significantly decreased from pre- to post-surgery, while Lactobacillus gasseri increased (p=0.009). The abundances of Lactillobacillus gasseri decreased slightly in all four SG patients and Bacterioides nordii decreased exclusively in RYGB patients. The structural composition of the top 20 genera in stool changed markedly in six patients (4 SG, 2 RYGB), but little in three patients (1 SG, 2 RYGB), again without clear relation to surgery type. Bacterial community composition varied between tissue (mucosal, fluid) and stool samples.

Conclusion: We detected significant changes in gut microbiome before and after bariatric surgery and noted variability between tissue and stool bacterial communities. Further studying of the contribution of tissue microbiome in patients undergoing bariatric surgery is warranted.

A135

The Impact of the COVID-19 Pandemic on the Length of Stay in Elective Bariatric Surgery

Jennifer Allison *Memphis TN*[1], Matthew Davis *Memphis TN*[1], Leah Hendrick *Memphis TN*[1]
UTHSC[1]

The COVID-19 pandemic has significantly impacted healthcare systems leading to strict visitor policies, widespread concern for hospital-acquired COVID-19 and significant system wide shortages. The goal of this study was to evaluate the impact of COVID-19 on hospital length of stay (LOS) for patients undergoing elective laparoscopic bariatric surgery. It was hypothesized

that LOS would be decreased during the COVID-19 pandemic.

Patients undergoing elective bariatric surgery between April 2019 and October 2021 were reviewed retrospectively. COVID-19 admissions were defined as those after March 1, 2020. LOS was categorized as <2 days or ≥ 2 days. Variables were evaluated for association with LOS by Chi-square, Fisher's exact test, or Student t-test as appropriate. Multivariable logistic regression was done for variables with $p<0.200$ after bivariable analysis.

A total of 212 patients were included with 146 patients undergoing surgery during COVID-19. By univariate analysis, patients with any comorbidity were 3.3x more likely to stay ≥2 days and those with complications were 4.2x more likely to stay ≥2 days. Patients during the pandemic were 4.3x more likely to stay <2 days. Those patients who were allowed visitors during the pandemic were 2.7x more likely to stay ≥2 days. After adjusting for covariates, patients undergoing surgery during the pandemic were 27.7% more likely to go home in less than 2 days.

Patients who underwent elective bariatric surgery during COVID-19 had decreased LOS. We plan to expand this study and determine if the change in LOS has any impact on short- and long-term outcomes.

A136

Bariatric Surgery Decreases the Length of Stay and Related Costs In Subjects Hospitalized due to Ventricular Arrhythmias: An analysis of the Nationwide Inpatient Sample (NIS) database

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

BACKGROUND

Obesity is a risk factor for the development of ventricular arrhythmias and sudden cardiac death. Bariatric surgery (BaS) decreases cardiovascular morbidity and mortality in patients with severe obesity and appears to improve some of the electrophysiological alterations associated with obesity. This study aims to analyze the rate of hospitalization due to ventricular arrhythmias after BaS.

METHODS

National Inpatient Sample (NIS) data collected from 2010 to 2015 was examined. Patients were classified in two groups: Treatment subjects were defined as patients with previous history of BaS, and control subjects as patients with BMI ≥ 35, without history of BaS. Hospitalizations with ventricular tachycardia as a primary diagnosis were identified. Secondary outcomes included the length of stay (LOS), and total cost of the hospitalization. Univariate and multivariate analyses were performed to assess the differences between groups.

RESULTS
There were 2,300,845 subjects, 2,004,804 controls and 296,041 treatments. The rate of hospitalization due to ventricular tachycardia in treatment group was lower compared to control (0.11% [n=317] vs. 0.15% [n=3015], p<0.0001); this association was found to be statistically non-significant after multivariate analysis (OR 1.10, CI: 0.97-1.25). Further analysis revealed decreased incidence of total hospitalization cost of over $45000 (OR 1.43, CI: 1.10-1.85) and LOS≥5 days (OR= 1.39, CI: 1.06-1.82) in the treatment group.

CONCLUSION
Patients undergoing BaS had a lower incidence of ventricular arrhythmias, but the likelihood of hospitalization was not significant. Nevertheless, BaS may decrease the cost and LOS when hospitalization is required. Further prospective studies are needed to better describe our results.

A137
The safety and the efficacy of endoscopic removal of eroded gastric bands and rings, a systematic review
Abdul-Rahman Diab *Tampa FL*[1], Ali Zakaria *Tampa FL*[1], Ali Abbas *Wesley Chapel FL*[1]
University of South Florida[1]

Background: Paucity of studies exist regarding the safety and efficacy of endoscopic removal of eroding gastric bands and rings. Additionally, five different techniques have been reported in the literature, without comparative data about their safety and efficacy.

Methods: A literature review was performed in Cochrane Database, Embase, Medline, PubMed, and Scopus electronic databases using terms “bands”, “rings” and “endoscopy” to identify pertinent articles. The initial search yielded 572 studies which were manually reviewed. Sixty-eight studies met the inclusion criteria.

Results: A total of 503 cases were included in the analysis. Success rate (defined as complete removal using solely endoscopic approach) was 92%. Failure of endoscopic removal was related to tissue overgrowth (adhesions and fibrosis), technical difficulties, incomplete erosion, and bleeding in 38%, 26%, 18% and 3% of the cases respectively. Gastric-band cutter system, mechanical lithotripsy, pre-removal stenting, simple removal, and laser; were the techniques of choice in 57%, 14%, 14%, 11%, and 4% of cases respectively. Adverse events occurred in 9% of cases, without any major morbidity or mortality. The most common adverse events were pneumoperitoneum, abdominal pain, vomiting, post stent removal strictures, and bleeding. Higher risk of adverse events was noticed with pre-removal stenting technique.

Conclusion: Endoscopic removal of eroded bands and rings is highly successful but associated with 8% risk of failure and 9% risk of adverse events. It is crucial to take into consideration the possible need for salvage laparoscopic intervention to address failures and adverse events at the time of removal.

A138

How Robotic Approach Changes the Impact of First Assistant on Operative Time in Bariatric Surgery: A 4 Year Analysis of MBSAQIP Database 2016-2019

Katherine Ho *Tucson AZ*[1], Chiu-Hsieh Hsu *Tucson AZ*[1], Yazan Ashouri *Tucson AZ*[1], Laura Karasek *Tucson AZ*[1], Saad Ajmal *Tucson AZ*[1], Iman Ghaderi *Tucson AZ*[1]
University of Arizona[1]

Introduction: The first assistant plays an important role in the operating room in bariatric surgery. The aim of this study was to examine the relationship between the type of first assistants (FA) and operative time (OT) comparing robotic and laparoscopic approaches in bariatric surgery.

Methods: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) data for 2016-2019 was queried. Log-normal regression was performed to evaluate the impact of FA on OT variations within and between groups. The variations were then compared between different surgical approaches for each procedure type, while adjusting for patient characteristics, operation year, and the procedure variables.
Results: A total of 666,182 patients who underwent robotic (R) and laparoscopic (L) sleeve gastrectomy, Roux-en-Y gastric-bypass, and duodenal switch, R-SG, L-SG, R-RYGB, L-RYGB, R-DS, L-DS, respectively, were included. The variability (percentage) was higher in the laparoscopic group (L-SG 8.05%, L-RYGB 9.19%, and L-DS 16.24%) compared to the robotic group (R-SG 1.91%, R-RYGB 5.04%, and R-DS 0.03%), Table 1. As the procedures become more complex (from SG to RYGB to DS), the impact of FA on OT variability in the laparoscopic approach increased. Conversely, the variability decreased in the robotic surgery group.

Conclusion: The FA has more of an impact on OT in the laparoscopic approach compared to the robotic approach. Our findings suggest that utilizing a robotic platform may reduce the need for skilled first assistants in complex bariatric surgery.

Presidential Grand Rounds X
Thursday, June 9, 2022
12:00 PM – 12:45 PM

A139

Laparoscopic Magnetic Sphincter Augmentation Device Placement for Patients with Medically-Refractory Gastroesophageal Reflux after Sleeve Gastrectomy

Samik Patel *Ypsilanti MI*[1], Barry Smith *San Antonio* [1], Robert Polak *San Antonio TX*[1], Morgan Pomeranz *Las Vegas NV*[1], Punam Patel *Las Vegas NV*[1], Richard Englehardt *San Antonio TX*[1]
Bariatric Medical Institute of Texas[1]

Background: The use of magnetic sphincter augmentation (MSA) in patients with de novo or persistent gastroesophageal reflux disease (GERD) after sleeve gastrectomy has not been thoroughly investigated.

Objective: The aim of this study is to evaluate the efficacy of MSA device placement in improving GERD symptoms and reducing anti-reflux medication usage in patients with persistent or de novo GERD after sleeve gastrectomy.
Setting: Private Practice

Methods: This is a retrospective analysis of patients who underwent laparoscopic MSA device placement between January 2018 and July 2020 at our institution after index sleeve gastrectomy.

Results: There was a significant improvement in the mean GERD-HRQL survey scores when comparing scores prior to (43.8) and after (16.7) MSA device placement ($p < 0.0001$). Majority of the patients did well without any postoperative complications (77%). Nearly 82% of patients were no longer taking any anti-acid medications after MSA device placement ($p < 0.0485$).

Conclusions: MSA device placement in patients with medically-refractory GERD after sleeve gastrectomy is a safe and viable alternative to Roux-en-Y gastric bypass (RYGB) without conferring additional risks. We show an improvement in reflux symptoms after MSA device placement as evidenced by decreased post-operative GERD-HRQL scores, decreased anti-acid medication usage, and overall patient satisfaction with the procedure. Further prospective and comparative studies with longer term follow-up are needed to validate the use of MSA in patients who have undergone sleeve gastrectomy.

A140

Magnetic sphincter augmentation for the treatment of refractory GERD after Roux-en-Y gastric bypass

Mark Smith *Bellaire TX*[1], Samik Patel *Ypsilanti MI*[2], Barry Smith *San Antonio* [3], Richard Englehardt *San Antonio TX*[2]
University of Texas-Houston[1] Bariatric Medical Institute of Texas[2] Syringa General Hospital[3]

Roux-en-Y gastric bypass is a common treatment option for refractory gastroesophageal reflux disease (GERD), particularly in patients with obesity. However, there remains a subset of patients that continue to have reflux following gastric bypass despite no obvious technical problems, such as gastrojejunal anastomotic stricture or obstruction. The use of a magnetic sphincter augmentation (MSA) device has been described as safe and effective in the treatment of GERD. We present a series of 5 patients who have undergone MSA device placement for the treatment of refractory GERD following gastric bypass. All patients had endoscopic and/or pathologic evidence of esophagitis, and one patient had biopsy confirmed Barrett's esophagus. Patients ranged in age from 43 to 64 years (mean 49.6). Preoperative DeMeester scores ranged from 21.9 to 71.6 (mean 52.8). All patients underwent manometry and had no contraindication to proceeding with MSA device placement. At the time of MSA device placement each patient had a small hiatal hernia that was repaired without mesh. All of the patients had improvement or

resolution of their reflux symptoms, with the majority able to discontinue their proton pump inhibitor. The only noted morbidity was a patient that required a single endoscopic balloon dilation 6 months postoperatively. In our patient population, placement of a MSA device was safe and effective in the treatment of refractory GERD following gastric bypass. The availability of an additional treatment option in these patients is important in improving quality of life and preventing progression to higher grade esophagitis or Barrett's esophagus.

A141

Revision of Bariatric Procedures have Improvement of Preoperative Comorbidities and Symptoms with Noninferior Weight Loss Compared to Primary Bariatric Surgeries

Lindsay Lindsey *Oklahoma City OK*[1], Laura Fischer *Oklahoma City OK*[1], Fernando Mier *Oklahoma City OK*[1]
University of Oklahoma[1]

Background

Revision of bariatric procedures is the third most common bariatric surgery performed in the United States, with studies showing limited additional weight loss. This study aimed to identify patients who underwent surgical revision and assess for resolution of preoperative symptoms, improvement of obesity-related comorbidities, and weight loss over time compared to patients who receive primary roux-en-y gastric bypass (RYGB) or vertical sleeve gastrectomy (VSG).

Methods

A single-institution prospectively managed database of patients who underwent bariatric surgery from 2018 to 2021 was analyzed, identifying patients who had a laparoscopic adjustable gastric band (LAGB), vertical banded gastroplasty (VBG), or VSG revised to either RYGB or VSG. The primary outcome was resolution of pre-operative adverse symptoms. Secondary outcomes included improvement of obesity-related comorbidities including gastroesophageal reflux disease (GERD), hypertension (HTN), and diabetes (DM), and noninferior change in post-operative body mass index (BMI) compared to primary RYGB or VSG.

Results

333 total patients were included: LAGB to RYGB (14), LAGB to VSG (10), VBG to RYGB (9), VSG to RYGB (19), primary RYGB (97), primary VSG (175). 78.8% patients had adverse preoperative symptoms while 9.6% had post-operative symptoms. Patients with comorbidities requiring medications improved: HTN (57.7%–36.5%), DM (25%–13.5%), GERD (63.5%–57.7%). By 12 months, the average decrease in BMI between revision (14.0±7.1) and primary surgeries (16.2±5.5) was found to be noninferior ($p=0.2$).

Conclusion

Revision bariatric surgery can have similar outcomes in terms of weight loss and improvement of obesity-related comorbidities while improving or resolving pre-operative adverse symptoms necessitating the revision.

A142

A single-institution 5-year retrospective analysis of laparoscopic sleeve gastrectomy staple-line reinforcement: Bioabsorbable Mesh vs Oversewing

Jesse St Pierre *Brooklyn NY*[1], Hooman Hajebian *New Orleans LA*[2], Jessica Koller Gorham *New Orleans LA*[2], James Wooldridge *New Orleans LA*[2], William Richardson *New Orleans LA*[2]
SUNY downstate Health Sciences[1] Ochsner Medical Center[2]

Background Staple-line reinforcement has been used to decrease complications such as staple-line bleeding (SLB) and staple-line leaks (SLL) in patients undergoing laparoscopic sleeve gastrectomy (LSG). There is little data comparing bioabsorbable mesh reinforcement (BMR) to oversewing the staple-line (OSL). The aim of our study was to compare BMR to OSL in LSG.

Materials and methods This is a single institution retrospective analysis comparing risks and benefits of BMR (group a) to OSL (group b) for LSG staple-line reinforcement between 2015 – 2020.

Results 857 patients were identified. There were 452 (52.74%) in group a and 405 (47.26%) in group b. SLB requiring transfusion occurred in 6 (1.32%) patients in group a and 6 (1.48%) in group b, NS (P = 0.848). One case of SLL was identified in group a (0.22%) and zero cases of SLL were identified in group b. The one-year mean direct cost of LSG in group a was $7881 compared to $6677 in group b.

Conclusion This retrospective study showed there was a low risk of bleeding or leak with either technique of staple-line reinforcement and there was no significant difference in staple-line bleeding or leak rate with bioabsorbable mesh versus oversewing. The use of bioabsorbable mesh was more expensive than oversewing.

A143

Prospective outcomes in patients undergoing laparoscopic sleeve gastrectomy with and without hiatal hernia repair

Antoine Ribieras *Miami FL*[1], Karen Manzur-Pineda *Miami FL*[1], Nestor De La Cruz-Munoz *Doral FL*[1]
University of Miami[1]

Background: Patients undergoing laparoscopic sleeve gastrectomy (LSG) are frequently diagnosed with hiatal hernia (HH).

Objectives: To prospectively compare perioperative outcomes in patients undergoing LSG with and without HH repair (HHR).

Methods: As part of randomized trial NCT04168060 evaluating the role of routine crural dissection during LSG, we analyzed data for an initial cohort of patients undergoing LSG with and without HHR. At time of surgery, patients with anteriorly visible HH underwent primary HHR followed by LSG. All others were randomized to standalone LSG *vs* complete crural

dissection with HHR if HH was identified, followed by LSG. Medication records were queried and validated questionnaires assessing pain, nausea/vomiting, reflux, and dysphagia were collected in the immediate postoperative period and at regular follow-up.

Results: Between November 2019 and June 2020, 98 patients (71 female) were enrolled. We diagnosed 44 patients with HH, including 35 visible anteriorly and another 9 in the 27 patients randomized to crural dissection. Compared to those without, patients with HH were significantly older and more likely to be Black. There were no differences in preoperative rates of gastroesophageal reflux disease or GerdQ and BEDQ scores. Operative time was prolonged in the HHR+LSG group, but median length of stay was similar. Analgesic and antiemetic use were similar and there were no differences in median scores assessing pain, nausea/vomiting, reflux, and dysphagia up to 6 months follow-up.

Conclusion: In this randomized, prospective study, concurrent HHR during LSG increased operative time but was not associated with additional morbidity up to 6 months.

A144

The Impact of PTSD and a History of Sexual Abuse on Bariatric Surgery Outcomes

Amanda Schaefer *Augusta GA*[1], Lilley Cushman *Augusta GA*[1], Brianna Stadsvold *Augusta GA*[1], Santu Ghosh *Augusta GA*[1], Aaron Bolduc *Augusta GA*[1], Renee Hilton *Augusta GA*[1]
Medical College of Georgia[1]

Background: Obesity is associated with a severe psychosocial burden, and mental illness is overrepresented in populations with severe obesity. However, the effects of post-traumatic stress disorder (PTSD) or history of sexual abuse on bariatric surgery outcomes have been rarely reported in the literature.

Objective: To evaluate the effect of PTSD or history of sexual abuse on weight loss outcomes in patients who undergo bariatric surgery compared to weight loss outcomes of patients with other common psychiatric diagnoses.

Methods: A retrospective analysis of patients who underwent sleeve gastrectomy or Roux-en-Y gastric bypass at our institution between January 2016 to July 2018 was performed. Patient demographics, lifetime psychiatric diagnoses, and percent excess weight lost (%EWL) at three months, six months, one year, two years, and three years were collected. Patients were categorized into five groups: Group 1, PTSD or history of sexual abuse; Group 2, anxiety; Group 3, depression; Group 4, anxiety and depression; and Group 5, no lifetime psychiatric diagnoses. Mean %EWL of each group at the specified time points were analyzed using one-way ANOVA.

Results: A total of 232 patients were included in analysis. 21 patients (9.1%) were identified as having PTSD or history of sexual abuse. There was no significant difference in mean %EWL between any group at three months, six months, one year, or two years postoperatively.

Conclusions: Patients with a history of PTSD or sexual abuse can achieve similar weight loss to

patients with other psychiatric diagnoses and those with no lifetime psychiatric diagnoses following bariatric surgery.

Presidential Grand Rounds XI
Thursday, June 9, 2022
12:00 PM – 12:45 PM

A145

Effects of an Enhanced Recovery After Surgery (ERAS) Protocol on Bariatric Patients with Type 2 Diabetes on Insulin

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

Background. Bariatric patients with Type 2 diabetes (T2D), particularly those on insulin with advanced disease, are at increased risk of postoperative morbidity. Implementation of an ERAS protocol promotes hospital recovery and may reduce morbidity. This study examines the effects of an ERAS versus standard care (SC) protocol on surgical morbidity following Roux-en-Y gastric bypass (RYGB) for patients with T2D on or not on insulin.

Methods: The study was a retrospective analysis of 70 ERAS, 70 SC patients with T2D. 38% of patients required insulin (INS+) and 62% did not (non-INS). Outcome measures included glycemic status, complications, length of stay (LOS), 30-day readmissions, reoperations, and mortality.

Results: ERAS and SC patients were similar in age, weight, BMI, HbA1c, and co-morbidities. INS+ vs. non-INS patients within each of the protocol groups were also similar in age and BMI but INS+ patients had significantly higher HbA1c, glucose, and co-morbidities. Postoperatively, there were no significant ($p>0.05$) differences between ERAS and SC for glycemic status, complications, 30-day readmissions, reoperations, mortality. LOS was reduced with ERAS (1.43 vs. 1.93 days, $p=0.004$). The impact of ERAS on LOS was more pronounced for INS+ (1.43 vs. 2.23 days, $p<0.01$, ERAS vs. SC) than for non-INS patients (1.42 vs. 1.74 days, $p<0.01$). Under ERAS there were no significant differences in LOS (1.43 vs. 1.42 days) between INS+ and non-INS patients despite higher health risks.

Conclusions. Implementation of an ERAS protocol for RYGB patients with T2D is associated with earlier hospital discharge without significant effect on complications, readmissions, or mortality.

A146

Post-Discharge Prophylaxis for Venous thromboembolism (VTE) Prevention After Bariatric Surgery

Olivia Samuels *New York NY*[1], Abraham Krikhely *New York NY*[2], Giovanni Dugay *New York NJ*[2], Marc Bessler *New York NY*[2]
New York Presbyterian Hospital[1] New York Presbyterian Hospital-Columbia University Irving Medical Center[2]

Objective: To Evaluate the Effectiveness of Extended Post Discharge VTE Prophylaxis using Eliquis (apixaban).
Venous Thromboembolism (VTE) after bariatric surgery is a major cause of morbidity and mortality. Inpatient chemical prophylaxis is a common practice that decreases fatal pulmonary embolism. Many VTEs happen post-discharge. Extended chemical prophylaxis may decrease the incidence of post-discharge VTE.
Methods: In May, 2017 we started routinely prescribing apixaban 2.5mg bid for 1-month post-discharge from bariatric surgery in patients without a contraindication. Patients with absolute hematocrit decrease of ≥9% were not given apixiban. We evaluated our prospective data for adherence, significant post-discharge bleeding requiring readmission or transfusion, and VTE to 90 days.
Results: Between January 2014 and October 2021, 2779 patients underwent bariatric surgery. Of these 1,059 (38%) were prior to establishing the Eliquis protocol and 1,720 (62%) were after the apixaban protocol. Of the 1059 patients prior to apixaban, 4 (0.4%) experienced post discharge VTE. Of the 1720 patients after establishing the apixaban protocol there was one post-discharge VTE (0.06%) in a patient who did not get apixaban due to decreased post-op hct. (intent to treat p=0.054, treated p=.01). There were 2 (0.12%) readmissions for postoperative bleeding in patients on apixaban neither of whom required transfusion or re-operation.
Conclusion: Apixaban 2.5mg bid was well adhered to and tolerated with few bleeding complications and no related re-operations or transfusions. Apixaban appears to be safe and effective in significantly decreasing post-discharge VTE. Larger studies are warranted to confirm these findings.

A147

Enhanced home health after bariatric surgery supports patient access and reduces length of stay and variable costs during COVID

Peter Ng *Raleigh NC*[1], Afton Carducci *Raleigh NC*[1], Lindsey Sharp *Raleigh NC*[1], Dustin Bermudez *Raleigh NC*[1], Linda Youngwirth *Durham NC*[1], Tricia Burns *Raleigh NC*[1], Erica McKearney *Raleigh NC*[1], Lauren Massey *Raleigh NC*[2]
UNC Rex Bariatric Specialist[1] UNC REX Hospital[2]

Introduction

The COVID-19 pandemic stressed inpatient hospital capacity and restricted elective surgery, limiting bariatric access. A novel outpatient home health program was introduced to support early discharge after bariatric surgery and preserve inpatient healthcare resources for COVID. This retrospective study evaluates the clinical/financial impact of enhanced home

health in early post-operative bariatric recovery.

Methods
Our program offered enhanced home health (EHH) to all bariatric patients with insurance inclusion. Patients were separated into 3 care tiers based on BMI and comorbidity with each tier adding complementary services. Tier 1 provided home intravenous hydration, anti-emetics x 3 days, and home nursing care. Tier 2 (BMI>50 kg/m2) added physical therapy. Tier 3 (plus comorbidity) added virtual primary care medical consultation. Patients were planned for scheduled discharge on post-operative day one by 10 am, if deemed medically appropriate.

Results
From December to June 2021, 355 bariatric cases were performed, 158 non-EHH patients and 197 EHH patients with the following combined case mix: duodenal switch (54.6%), revision (17.2%), sleeve gastrectomy (16.6%), SADI-S (7.7%), and Roux-en-Y gastric bypass (3.9%). The prior year average hospital length of stay (LOS) was 2.0 days, non-EHH LOS of 2.0 days, versus EHH LOS of 1.5 days. A 6% reduction in direct variable costs per case was demonstrated, $9607 non-EHH versus $9036 EHH. Comparative readmission rates for nausea/vomiting/dehydration (NVD) equaled 3.8% for non-EHH and 1.5% for EHH patients.

Conclusion
Enhanced home health preserved access to bariatric care while decreasing length of stay, variable costs, and reduced readmission for NVD.

A148
Is Universal Preoperative Psychosocial Evaluation Warranted in the Bariatric Population?: Analysis of a Single Center Experience
Jessica Wu *Los Angeles CA*[1], Jack Silva *LOS ANGELES CA*[1], Jamil Samaan *Los angeles CA*[1], Sam Teles *Los Angeles CA*[1], Sahil Gambhir *LA CA*[1], Stuart Abel *Los Angeles CA*[1], James Nguyen *Los Angeles CA*[1], Adrian Dobrowolsky *Los Angeles CA*[1], Matthew Martin *Los Angeles CA*[1], Kamran Samakar *Los Angeles CA*[1]
University of Southern California[1]

Introduction:
Many bariatric programs have implemented pre-surgical psychosocial evaluations (PSE) in accordance with guidelines and consensus statements from national organizations. The utility of PSE for screening bariatric patients and identifying risk factors for poor outcomes remains unclear. Our study aimed to evaluate the effectiveness and utility of routine PSE performed at our institution.

Methods:
This is a retrospective review of patients who underwent bariatric surgery between 2000 and 2017. Patients underwent PSE by a licensed behavioral health clinician and a post-operative telephone questionnaire. The PSE and post-operative questionnaire were analyzed and compared for identification of high-risk patients and concordance with postoperative psychosocial care requirements.

Results:
Of the 272 patients who underwent routine PSE, all (100%) of them were recommended for bariatric surgery. Thirty-nine patients (14%) were recommended for additional postoperative psychosocial counseling, but only 15% of these completed any postoperative counseling/therapy. An additional 12% who were not identified through the PSE prior to surgery subsequently entered psychosocial counseling/therapy postoperatively (Figure 1).
Clinicians conducting the evaluations practiced at different institutions, held various credentials (physicians, licensed clinical social workers, licensed professional counselors, doctors of psychology), and utilized different psychosocial assessments.

Conclusions:
At our institution, the PSE did not identify any patients that would be prohibited from proceeding with surgery. Patient participation in or the need for postoperative psychosocial care was not reliably identified through the PSE process. Furthermore, PSE did not change the clinical course of any study participants. There may be limited benefit of routine universal PSE in the bariatric population.

A149
Variation of Calibration Tube Use in Sleeve Gastrectomy
Diane Bronikowski *Morgantown WV*[1], Spring Szoka [1], Ben Reed *Morgantown WV*[1], Lawrence Tabone *Morgantown WV*[1], Salim Abunnaja *Morgantown WV*[1], Nova Szoka *Morgantown WV*[1]
West Virginia University[1]

Background:
Sleeve gastrectomy (SG) is the most popular bariatric operation, but surgical technique varies. Objective: To identify variations in calibration tube (CT) used during SG.

Methods:
A survey was distributed via email and social media to bariatric surgeons. Data was received and analyzed.

Results:
After eliminating incorrect screening question responses, 535 of 565 responses were analyzed. Demographics included 82% practicing in the United States, the majority in academic practice. Years in practice were 18% with 0-5 years, 20% with 6-10 years, 45% with 11-20 years, and 17% with greater than 20 years. Number of sleeves performed annually ranged between 25 to 300. Laparoscopic versus robotic sleeve gastrectomy were performed by 71% vs 6% of respondents. CTs used were reusable bougie (53.5%), disposable CT (37.4%), endoscope (5.4%), and 'other' (3.2%); less than 1% used no CT. Seventeen different types of disposable tubes were reported. The most common CT sizes were 36 French (Fr) (38%) and 40 Fr (36%), with sizes ranging from 18 to 54 Fr. The highest valued CT qualities included: efficient positioning, creating consistent sleeve size, and visualizing CT on introduction to stomach. Current spacing devices did not solve these issues. Fifty percent of respondents actively pursued alternate calibration devices.

Conclusion:
Approximately half of bariatric surgeons perform SG with a reusable spacing device sized 36 or 40 Fr, the second largest group uses disposable CTs in a variety of sizes. Further standardizing SG technique may help understand how final sleeve geometry affects GERD and weight loss surgical outcomes.

E-Poster/E-Video
Tuesday, June 7, 2022

A150

Conversion of Gastrojejunostomy with Choledochojejunostomy to Partial Gastrectomy with Roux-en-Y Reconstruction for Refractory Benign Anastomotic Stricture

Zachary Wargel *Columbia MO*[1], Emanuel Shapera *La Mesa* [2], Andrew Wheeler *Columbia MO*[1]
University of Missouri-Columbia[1] SHARP Grossmont Hospital[2]

Introduction
Revisional surgery after prior gastric surgery can often be complex requiring careful planning. Although revisional bariatric surgery is becoming more commonplace, at times bariatric surgeons may be asked to help manage a patient with complications after other gastric operations. Careful operative planning is imperative to ensure a successful outcome. We present our management of a patient with prior choledochojejunostomy and partial gastrectomy with Roux-en-Y reconstruction with gastric outflow obstruction who underwent conversion to partial gastrectomy with Roux-en-Y reconstruction incorporating choledochojejunostomy as part of biliopancreatic limb.

Case report
An 80-year-old male presented with epigastric pain and emesis after gastrojejunostomy and choledochojejunostomy reconstruction for a gastroduodenal resection due to B-cell lymphoma. Esophagogastroduodenoscopy (EGD) demonstrated an ulcerative stricture with benign pathology. The patient underwent laparoscopic conversion to more standard gastric bypass through partial gastric resection with creation of a new roux limb and a biliopancreatic limb that utilized the prior choledochojejunostomy as a portion of the biliopancreatic limb. He had complete resolution of symptoms with improved dietary tolerance and weight gain. He did have a remote upper endoscopy with dilation for gastrojejunostomy stricture with resolution of symptoms. At one year follow up, the patient was well, without issues, gaining weight appropriately and with an incred quality of life.

Conclusion
We demonstrate conversion of a gastrojejunostomy with choledochojejunostomy to a small gastric pouch with Roux-en-Y reconstruction using previously created choledochojejunostomy as part of the biliopancreatic limb. Careful intraoperative evaluation of prior operative anatomy is imperative to avoid intraoperative confusion and complications.

A151

COVID-19 Pandemic, Sleep, Eating Behaviors and Bariatric Surgery Weight Loss Outcomes

Genna Hymowitz *Centereach NY*[1], Gowri Yerramalli *Stony Brook NY*[2], Nina Devas *Stony Brook NY*[2], KONSTANTINOS Spaniolas *Stony Brook NY*[3], Aurora Pryor *Stony Brook NY*[3], Amy Rosenbluth *Stony Brook NY*[3], Caroline Sanicola *Holtsville NY*[3], Kinga Powers *Stony Brook NY*[3]
Stony Brook University[1] Stony Brook Medical School[2] Stony Brook Medicine[3]

Background:
Self-isolation during the COVID-19 pandemic has been associated with worsened eating behaviors and sleep hygiene, however, limited studies focus on patients with obesity. This study investigates effects of the COVID-19 pandemic on eating behaviors and sleep amongst three groups of bariatric surgery patients: patients who completed surgery prior to COVID-19 restrictions (Cohort 1), patients who began the pre-operative process prior to COVID-19 restrictions and subsequently completed surgery (Cohort 2), and patients who began the pre-operative process following COVID-19 restrictions and have not yet undergone surgery (Cohort 3).

Methods:
This study included 296 patients at a single bariatric center. Cohort 1 included 123 participants, Cohort 2 included 40, and Cohort 3 included 24. Participants completed measures of eating behaviors and sleep. Weights were obtained through chart review.

Results
Both higher levels of insomnia symptoms and poorer sleep quality predicted a higher level of emotional eating (b = .22, t (151) =2.75, p <.01, and b = .27, t (141) = 3.31, p <.01, *respectively*). Sleep quality was poorer (U = 1297.5, p <. 001) and levels of emotional eating higher (U = 1295, p <. 01) in Cohort 1 compared to Cohort 2. Post-operative %TWL did not differ between groups.

Conclusion
Results suggest a relationship between sleep disturbances and emotional eating among bariatric patients and indicate poorer sleep quality and more emotional eating in patients who underwent surgery prior to the COVID-19 pandemic. Despite this, findings do not suggest relationships between the COVID-19 pandemic and weight loss after bariatric surgery.

A152

Perioperative complications are associated with reduced one-year weight-loss after Sleeve Gastrectomy compared to Roux-en-y Gastric Bypass

Lee Ying *New Haven CT*[1], Grace Chao *New Haven CT*[1], Milot Thaqi *New Haven CT*[1], Maija Cheung *Branford CT*[1], Saber Ghiassi *Fairfield CT*[1], Geoff Nadzam [1], Andrew Duffy *New Haven CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Background: Though bariatric surgery perioperative complications are rare and recoverable, the impact of these complications on one-year weight loss is not well characterized.

Methods: This is a retrospective analysis of laparoscopic sleeve gastrectomy (LSG) and Roux-en-Y gastric bypass (LRYGB) at a large academic center between 2017 and 2019. Weight and complication data was extracted from our institution's Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database. Patients without one-year weight outcomes, or who were undergoing a revision procedure were excluded.

Results: 44 RYGB and 189 LSG were included in this study. Of the 35 patients with complications, 11 had a undergone LRGYB. Compared to those without complications, patients with complications had lower preoperative BMI (37.6 versus 47.6; $p<0.0001$), longer length of stay (2.2 versus 1.8 days; $p=0.03$), and lower one-year %Total Body Weight Loss (TBW) (5.5% versus 24%, $p<0.01$). The most common complications were dehydration (n=9), transfusion (6), and surgical site infection (4). Receiving postoperative transfusions was associated with the lowest one-year %TBW (-7.4%). 17 patients were readmitted, most commonly for nausea (5), sepsis (3), or pain (2). Complications were associated with a lower one-year %TBW in patients after LSG compared to RYGB (0.5% versus 22.9% one-year %TWL, $p<0.01$).

Conclusions: These results suggest perioperative complications may have lasting impacts on postoperative weight loss, especially after LSG. Patients known to have complications after surgery may benefit from closer follow-up to ensure appropriate post-operative weight loss. Longer term studies may be indicated.

A153

Intra-Thoracic Migration of the Stomach Two Years After Sleeve Gastrectomy

Benjamin Reed *Morgantown WV*[1], Kyle Davis *Morgantown WV*[1], Nova Szoka *Morgantown WV*[1], Salim Abunnaja *Morgantown WV*[1], Lawrence Tabone *Morgantown WV*[1]
West Virginia University SOM[1]

Objective: To delineate the rate of hiatal hernia (HH) after sleeve gastrectomy (LSG).

Methods: A retrospective review was conducted of patients who underwent LSG from 2015-2018. Records were reviewed one year preoperatively and two years postoperatively to identify HH on imaging, endoscopy, or operative reports.
Results: During 2015-2018, 545 patients underwent LSG as an index bariatric procedure. 1-year follow up was 82%, while 2-year follow up was 66%. 452 patients (82%) underwent preoperative endoscopy. 46 patients (8.4%) had a clinically significant HH detected intraoperatively, of which 44 underwent repair. An additional 77 patients (14%) had HH detected on preoperative endoscopy. Postoperatively, 184 patients (34%) underwent either endoscopy or an radiographic imaging. Prevalence of HH 2 years postoperatively was 29 (5.3% of included patients, 16% of patients with postoperative workup). 1 patient underwent HH repair after LSG.

The rate of recurrent and/or persistent HH was significantly higher than the rate of de novo HH (11% vs. 4%, p=0.02). The rate of recurrent HH among patients who underwent HH repair during their index operation was also significantly higher than the rate of de novo HH (16% vs. 4%, p = 0.01). Having a HH prior to LSG was associated with significantly higher rates of reflux postoperatively (20% vs. 38%, p=0.02), though there was no association between reflux and postoperative HH.

Conclusion: Postoperative HH occurs in < 10% of patients at two years after LSG and is associated with preoperative HH. Preoperative HH is associated with higher rates of reflux after sleeve gastrectomy.

A154

Laparoscopic Limb Distalization for Weight Regain after Roux En Y Gastric Bypass

Jillian Angelo *Boston MA*[1], Scott Shikora *Boston MA*[1], Ali Tavakkoli *Boston MA*[1]
Brigham And Women's Hospital[1]

This video abstract details the case of a laparoscopic limb distalization performed for weight regain after roux en y gastric bypass. The patient is a 32 year old female who underwent gastric bypass in 2010 for a pre-operative weight of 400 lbs (BMI 67). Post-operative nadir was 250 lbs (BMI 41). She presented to us in 2019 weighing 330 lbs (BMI 54) complicated by osteoarthritis of the knees. She was referred to medical weight loss specialists and was trialed on multiple medications. She underwent two endoscopic revisions but success was limited. Pre-operative work up included an UGI and EGD, and she was deemed a good surgical candidate. The video details the technique of lengthening the biliopancreatic limb in order to shorten the common channel. The patient subsequently did well and weighed 305 lbs (BMI 51) at thirty days post-operatively. Weight regain after gastric bypass is a challenging problem, and limb distalization is a viable option. Extensive patient counselling and careful patient selection is imperative in pre-operative planning. Current controversies of this technique include lengthening the roux versus the BP limb and the optimal length of the common channel.

A155

Quality-of-life & emotional well-being among Southeast-Asian patients with obesity seeking weight management

Wei Yu CHUA *Singapore* [1], Si Ru, Ashley CHEN *Singapore* [1], Yu An WONG *Singapore* [1], Sharen ASIF *Singapore* [1], Eugene Kwong Fei LEONG *Singapore* [1], Shefali Jay POOJARI *Singapore* [1], Qamaruzaman SYED GANI *Singapore* [1], Wen LIN *Singapore* [1], Shu Ning WAI *Singapore* [1], Javis FUNG *Singapore* [1], Rachel Patricia JOHNSON *Singapore* [1], bok yan so *Singapore* [1], Davide LOMANTO *Singapore* [1], Guowei Kim *Singapore Singapore*[1], Asim Shabbir *Singapore* [1]
National University Hospital, Singapore[1]

Background:

Individuals with obesity are more likely to report poor physical, emotional and social functioning

compared to those within a healthy BMI range. There has been little research, however, in a multi-ethnic Southeast Asian population.

Methodology:
Patient records were collected from the weight management clinic at the National University Hospital, Singapore between 2005 and 2018. Responses to the 36-Item Short Form Survey (SF-36) and the Patient Health Questionnaire (PHQ-9), were collected and analysed. Ethnicity was classified as "Chinese", "Malay", "Indian", and "Other". Data analysis was conducted using SPSS Statistical Software Version 28.0.1.0 (142). p-value of <0.05 was considered statistically significant.

Results:
Patients with higher BMI reported higher overall scores on the PHQ-9. Lower ages were associated with higher overall scores on the PHQ-9. Males were 33.7% less likely to report higher scores. Compared to Other patients, Chinese patients were 29.8%, 33.3%, and 35.3% less likely to report higher scores on apathy, low self-esteem, and feeling depressed, respectively. Lower BMI was associated with higher scores on all components of the SF-36. Male patients were 44.6%, and 68.6% more likely to score higher components of emotional function and emotional well-being, respectively. Male patients were 53.2% and 46.4% more likely to score higher on social function and energy level, respectively.

Conclusion:
In Southeast Asian patients with obesity, increasing BMI suggests a higher reported score on questionnaires relating to emotional well-being. Quality of life improves with decreasing BMI.

A156

Differential Expression of Angiopoietin like -3,4 and 8 in Non-Alcoholic Fatty Liver Disease Improved Rats Following Sleeve Gastrectomy

Mohammad Jamal *Kuwait* [1], Mariam AlSayegh *Kuwait* [1], Carol Dsouza *Kuwait* [1], Ghanim Al-Khaledi *labriya* [1], Suleiman Al-Sabah *SAFAT* [1], Fatemah AlOtaibi *aldhahar UT*[1], Waleed Al-Ali *Jabriya* [1], Preethi Cherian *Kuwait* [2], Irina AL khairi *Kuwait* [2], Hamad Ali *Jabriya* [2], Fahd Al-Mulla *Kuwait* [2], Mohamed Abu-Farha *Kuwait city* [2], Jehad Abubaker *Kuwait* [2]
Kuwait University[1] Dasman Diabetes Institute[2]

Aim
Angiopoietin-like proteins 3/4/8 (ANGPTL3, ANGPTL4 and ANGPTL8) are associated with the regulation of lipid metabolism, while lipid metabolism is essential for metabolism homeostasis. In this study, we focused on these proteins to understand their role and involvement in Non-alcoholic fatty liver disease (NAFLD) amelioration after sleeve gastrectomy.

Methods
ANGPTL3, ANGPTL4 and ANGPTL8 expression were assessed in liver, white adipose tissue (WAT), brown adipose tissue (BAT) and muscle of NAFLD male Sprague Dawley rats with diet

induced obesity (DIO) subjected to sham and sleeve gastrectomy (SG) surgery.

Results
The mRNA expression of ANGPTL8 was significantly increased in the liver tissue of SG group whereas ANGPTL4 was significantly decreased. The expression of ANGPTL3 remained unaltered. In WAT, the expression of ANGPTL4 significantly increased in the SG group, however there was no change observed in ANGPTL8. In BAT, the expression of ANGPTL4 and ANGPTL8 remained unaltered. In muscle, the expression of ANGPTL4 was higher in DIO-Obese and Sham animals compared to healthy control and SG group.

Conclusion
The study highlights the relationship between the expression of the ANGPTL proteins and their importance in regulating lipid metabolism. Together, ANGPTL8 is involved in the resolution of NAFLD after sleeve gastrectomy through the mechanism of lipogenesis inhibition.

A157
Comparative Analysis of Adjustable Gastric Band Revision to either Sleeve Gastrectomy or Roux-en-Y Gastric Bypass
David Leenen *Providence RI*[1], Marcoandrea Giorgi *Providence RI*[2], Andrew Luhrs *North Providence RI*[2]
Brown University/Rhode Island Hospital[1] Brown University/Miriam Hospital[2]

Introduction
Adjustable gastric band (AGB) is less effective as sleeve gastrectomy (SG) and roux-en-y gastric bypass (RYGB) for weight loss and has been shown to be associated with long term complications. Patients are increasingly seeking revision surgery after weight recurrence. Our study goal was to compare outcomes following AGB revision to either SG or RYGB.

Methods
An analysis of the 2020 MBSAQIP participant use data file was performed identifying all patients who had single stage revision of AGB to either SG or RYGB for any indication. Patient characteristics, 30-day complications and 30-day weight loss was compared between groups.

Results
Revision surgery was completed in 6131 patients - 3890 to SG and 2241 to RYGB. The two groups had significant difference in age, sex and race but no difference in pre-operative BMI. The operative length was significantly greater for the RYGB group than the SG group. The SG group had significantly more weight loss compared to the BB group. For complications, the RYGB group had significantly higher rates of mortality (0.3 vs 0%), length of stay > 2 days (12.9 vs 5.4%), surgical site infections (2.3 vs 1.0%) and any complication (6.1 vs. 2.7%).

Conclusions:
Revision from AGB is offered to different patient populations however BMI does not appear to be a determining factor. Revision from AGB to RYGB appears to have significantly longer

operative times, less weight loss and high peri-operative complications. Further research is needed to evaluate which factors cause the band to bypass group to have such differences.

A158

UNEXPECTED TYPE IIIA INTESTINAL MALROTATION IN A RYGB PATIENT

Amador Garcia Ruiz de Gordejuela *Barcelona* [1], Ainitze Ibarzabal Olano *Barcelona* [2], Enric Caubet Busquet *Barcelona* . [1], Susana Redondo Díaz *Barcelona* [3], Oscar González López *Barcelona* [1]
Vall d'Hebron University Hospital[1] Hospital Clinic. Barcelona[2] Servicare Serveis Medics[3]

Intestinal malrotation is an uncommon finding in adult patients. This finding in candidates to bariatric surgery may conditionate the surgery to be performed.

We present a case of a Type IIIA intestinal malrotation in a patient scheduled for a Roux-n-Y Gastric Bypass (RYGB).

A 52 years old woman with a BMI 41kg/m^2 with no past medical history. A grade B esophagitis in endoscopy was found so she was scheduled for a RYGB.

A simplified RYGB was going to be performed as in our usual practice. After constructing the pouch the angle of Treitz was not found and abnormal distribution of the large bowel was observed. Under the suspicion of an intestinal malrotation, an additional trocar was added to look for the ileocecal valve. The Ladd bands and a Type IIIA intestinal malrotation were found. Moving proximal from the ileocecal valve the angle of Treitz was identified and the simplified RYGB was completed.

The mesenteric defect was closed, but due to the abnormal distribution of the transverse colon and the small bowel, no Petersen Space was found.

Patient did an uneventful postoperatory and was discharge on postoperative day 3. 3 months after surgery she was doing well with an adequate weight loss and no complications.

A159

Assessing the Impact of a Virtual-Patient-Navigation-Platform on Time-to-Surgery for Patients Seeking Bariatric Surgery

Kaeli Zoretich *Columbus OH*[1], Mahmoud Abdel-Rasoul *Columbus OH*[1], Anna Chee *Columbus OH*[1], Sabrena Noria *Columbus OH*[1]
The Ohio State University College of Medicine[1]

Introduction: Approval for bariatric surgery is a complicated process. To aid patients, a virtual-patient-navigation-platform (VPNP) was designed to decrease time-to-surgery by providing individualized appointment reminders. The purpose of this study was to assess the impact of this app.
Methods: After IRB approval, a retrospective review was performed on patients who underwent bariatric surgery from July 2020 to February 2021. Baseline sociodemographic and medical

history was collected using the EMR. Patients were grouped into those that engaged (ENG) versus not engaged (NEG) with the VPNP. Comparisons of continuous and categorical variables were conducted using appropriate univariate analyses. A p-value<0.05 was statistically significant.
Results: Sixty-four patients were included in the analysis (ENG=78% [n=50] and NEG=22% [n=14]). Compared to the ENG group, patients in the NEG group were significantly more likely to be insured through Medicaid (57.1% vs 28%, p=0.04), single (50% vs 36%, p=0.02), and experience mild depression (PHQ-9 score=5-9; 33.3% vs 17%, p=0.02). There were no significant differences in obesity-related comorbidities, BMI, race, education, or gender. Finally, comparison of time-to-surgery demonstrated patients in the NEG group took longer to complete pre-surgery requirements (208.6 $\pm$73.6 vs 158.8 $\pm$59.1 days, p=0.0103).
Conclusions: Theis study demonstrated that our VPNP may shorten the time-to-surgery by approximately 1.5 months. Given that the platform was less likely to be used by patients in a lower socioeconomic bracket (i.e., insured through Medicaid), but was designed to help all patients navigate the complex process towards bariatric surgery approval, further work needs to be done to bridge this disparity.

A160

Pain Assessment and Management After Sleeve Gastrectomy: A Comparison Study of Robotic Versus Laparoscopic Approaches

Juan Barajas-Gamboa *Abu Dhabi* [1], Nada Eltabbakh *Dubai* [1], Mohamed Yaser Elhennawi *abu dhabi* [1], Terrence J. Lee-St. John *Abu Dhabi* [2], Oshin Kanwar *Abu Dhabi* [2], Gabriel Del Gobbo *Abu Dhabi OH*[1], Juan Pablo Pantoja *Mexico MEX*[1], Carlos Abril *Abu Dhabi* [1], Javed Raza *Abudhabi* [1], John Rodriguez *Cleveland OH*[1], Matthew Kroh *Cleveland OH*[3], Ricard Corcelles *Cleveland OH*[3]
Digestive Disease Institute, Cleveland Clinic Abu Dhabi, UAE[1] Department of Research and Biostatistics, Cleveland Clinic Abu Dhabi, UAE[2] Digestive Disease and Surgery Institute, Cleveland Clinic Ohio, USA[3]

Introduction: Sleeve Gastrectomy (SG) is the most common bariatric procedure worldwide. As a minimally invasive procedure, SG is performed both laparoscopic and robotic-assisted techniques.
A Potential advantage of the robotic-assisted is reduced postoperative pain. Studies evaluating pain assessment in robotic SG are limited and comparison between laparoscopic SG has not been reported. Evidence about pain management and its effects on pain scores in SG remains unknown. The aim of this study was to evaluate the pain scores after robotic SG compared to laparoscopic SG and to determine its correlation with the pain management.

Methods: This retrospective study was conducted between September 2015 and November 2020. Patients undergoing robotic and laparoscopic SG were included **(Table 1)**. Pain scores (Numeric Rating Scale) and pain medication use data were collected from immediate postoperative to 48-hours after surgery. Linear-mixed-effects model were used to compared pain ratings across laparoscopic and robotic groups after accounting for time and pain management.

Results: 484 patients were included, 49 robotic SG and 435 laparoscopic SG. Patients in the robotic SG rated their pain ~0.43 points lower than laparoscopic SG (p = .035). The magnitude of this group difference is moderate (~0.5 standard deviation). During the first 48-hours postoperative, parallel time-trends were found across groups: pain scores do not significantly differ from immediate postoperative through 8-hours postoperative, then significantly drop and remain constant during 12-48 hours, favoring robotic SG **(Figure 1).**

Conclusions: Our results suggested that robotic SG resulted in lower pain scores compared to laparoscopic SG after 12-hours postoperative.

A161

Weight Loss Following Endoscopic Revision of Gastric Bypass

Zakariya ALI *Erie PA*[1], Muhammad Asad *Erie PA*[2], Jawaid Kalim *Erie PA*[2], Amjad Ali *Erie PA*[2]
Penn State University[1] UPMC Hamot Medical Center[2]

Background: Dilation of the gastrojejunal anastomosis and enlargement of the gastric pouch has been attributed to weight regain after Roux-en-Y gastric bypass (RYGB).
The objective of this study was to analyze the weight loss and major complications of endoscopic revisions (EGRs) after RYGB at a community hospital with Center of Excellence designation by American Metabolic and Bariatric Surgery and American College of Surgeons.

Methods: From March 2017 to Nov 2021, 49 patients underwent EGR with the OverStitch suturing device for weight regain at UPMC Hamot Medical Center in Erie, PA. The procedures were performed in the endoscopy suite under general anesthesia by three separate bariatric surgeons. The data was entered in a commercially available software (Lapbase ®). Demographics and weight loss at every follow up visit were recorded in the database.

Results: There were 45 patients (M:F = 2:43) treated with EGR procedures for weight regain, with mean age 52.54 years (R 29–76) and mean BMI 38.21 kg/m2 (26.5–54.6) at the time of the procedure. The data was analyzed to determine the highest weight loss during the first 12 months after the procedure. The average of the highest weight loss after the procedure was 25.83 lbs (R 4.9-67 lbs). The highest weight loss was recorded at an average of 5.1 months. 4 patients were excluded for lack of postop follow-up. There were three leaks/intra-abdominal abscesses requiring intervention and no mortality.

Conclusion: EGR is feasible and safe for weight regain after RYGB. It can be used to stabilize weight regain.

A162

Clinical conundrum: A bypass with unexplained nausea and vomiting

Benjamin Clapp *El Paso TX*[1], Jisoo Kim *El Paso TX*[1], Andres Vivar *El Paso TX*[2]
Texas Tech HSC Paul Foster School of Med[1] Universidad Autonoma de Guadalajara[2]

Video Presentation: This video is about a female patient with angastric bypass with unexplained nausea and vomiting. The patient was readmitted 2 weeks after surgery. She had a normal CT scan with passage of contrast into the Roux limb. EGD showed normal pouch but some difficulty in passing the scope into the roux limb, it would go into the blind pouch. Since contrast passed, we initiated supportive care and started TPN through a PICC line. She eventually was able to eat and was discharged home. She returned again with nausea and vomiting and was taken for a diagnostic laparoscopy. This showed kinking and folding of the roux limb and lysis of adhesions was attempted. This was unsuccessful so a revision of the gastrojejunal anastomosis was undertaken. The was difficult and some technical pearls are discussed.

A163

Intestinal limb lenghts in morbidly obese patients submitted to bariatric surgery: anthropometric variability and effects on weight loss and nutritional complications

Francesco Saverio Papadia *Genova* [1], Lucia Soresini *Genova* [2], Alice Rubartelli *Genoa* [3], Gianfranco Adami *Genova* [2], Giovanni Camerini *Genoa Italy*[4], Flavia Carlini *Genoa* [4]
Ospedale Policlinico San Martino, Genoa, Italy[1] University of Genoa School of Medicine[2] Policlinico San Martino[3] Ospedale Policlinico San Martino[4]

In biliopancreatic diversion BPD, length of the alimentary limb (AL) and of the common limb (CL) is constant (200 and 50 cm), whereas the biliopancreatic limb (BPL) length varies, according to total intestinal length (TL).
Aim of the study is an evaluation of intestinal limb lenghts in morbidly obese patients submitted to BPD, and to analyze correlations between BPL length, weight loss and incidence of nutritional complications, as a proxy of intestinal absorption.
517 patients submitted to standard BPD between 1984 and 1988 were included in the study. Peri-operative fatalities (n=11) and revisional surgery cases (n= 1) have been excluded.
Nutritional complications were defined as occurrence of clinically relevant anemia, ostheoporosis, protein malnutrition and fat-soluble vitamin deficiencies.
Intestinal limb lengths of complicated (C) and uncomplicated (UC) patients have been compared.
209 (41.4%) patients experienced complications during a 30-year follow-up. BMI, age and gastric volume in C and UC patients were 47 e 46 kg/m2, 28 and 36 years, and 377ml and 403 ml, respectively (p= n.s.). Postoperative BMI of C vs. UC patients was 26 vs. 28 kg/m2.
Mean TL and BPL length in C and UC patients were 795 vs. 760 cm, and 540 vs. 510 cm, respectively (p= <0.05, Student's t).
Patients submitted to standard BPD who experienced long-term nutritional complications had longer TL and BPL lengths than uncomplicated patients, and achieved greater weight loss, despite identical AL and CL lenghts. Intestinal absorption surface is not the only determinant of energy and nutrient absorption after malabsoprtive bariatric surgery.

A164

The Role of Intraoperative Drain Placement and Postoperative Imaging in Detection of Anastomotic Leak after Laparoscopic Sleeve Gastrectomy

Sarah Kelso *Burlington VT*[1], Daniel James Wigmore *Hampton Bays NY*[2], Wasef Abu-Jaish *Burlington VT*[1]
University of Vermont Medical Center[1] Larner College of Medicine at UVM[2]

Background: Laparoscopic sleeve gastrectomy (LSG) is the most commonly performed bariatric procedure in the world. In an attempt to reduce the morbidity of a staple line leak, many surgeons place intraoperative drains (IOD) or perform postoperative imaging (POI). Several studies have demonstrated little or no benefit to these practices, yet there is no consensus on their utilization.

Methods: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) database was used to perform a retrospective study using data from LSG procedures performed between 2015 and 2018. Postoperative sepsis, septic shock, deep incisional surgical site infection (SSI), and organ/space SSI were used as markers of leak (MOLs). The impact of IOD and POI on the rate and timing of identification of these MOLs was analyzed with multivariate regression.

Results: There were 440,611 LSG procedures that met inclusion criteria, with 1,026 MOLs identified in 851 patients. Use of IODs (OR 1.564, p=<0.0001) and selective swallow study (OR 2.394, p<0.0001), but not routine swallow study (OR 1.032, p=0.6327), was significantly associated with increased incidence of identified MOLs. There was no significant difference in the time to identification of MOLs for IOD (11.45 vs. 11.88 days, p=0.5059) or POI (11.92 [routine] and 9.09 [selective] vs. 11.83 days, p=0.2347).
Conclusion: Patients with IODs and selective POI were more likely to have a marker of leak identified following LSG. The presence of these adjuncts may allow for increased identification of staple line leak, but do not appear to play a role in earlier identification.

A165

Retrospective Review of Laparoscopic Truncal Vagotomy with Hiatal Hernia Repair for Treatment of Dyspepsia and Upper Abdominal Pain After Roux-en-Y Gastric Bypass

Robert Woodruff *Lillington NC*[1], Robert Woodruff *Youngstown OH*[2]
Campbell University[1] St. Joseph's in Warren, Ohio[2]

Background: Dyspepsia and/or upper abdominal pain is common following Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) resulting in many patients remaining on proton pump inhibitors (PPI).

Objectives: Determine if laparoscopic vagotomy and hiatal hernia repair with posterior crural repair for LRYGB patients with dyspepsia can improve symptoms and get patients off PPI.

Settings: Community hospital, Private Practice

Methods: Retrospective chart review of the first twenty LRYGB patients with dyspepsia or upper abdominal pain treated with laparoscopic vagotomy with hiatal hernia repair between January 2020 and May 2020. Primary Endpoint was complete resolution of symptoms and off PPI. Secondary Endpoints were complications after surgery, length of surgery, and length of hospital stay.

Results: The first twenty patients who underwent truncal vagotomy with hiatal hernia repair were included in the study. Symptoms resolved in 7 (35%), improved in 8 (40%), did not change in 5 (25%), and worsened in 0 (0%). Of the 18 patients on PPIs preoperatively, 10 (55%) were weaned off PPIs and 3 (17%) had a decrease in PPI dose. 3 (15%) patients had postoperative complications due to tight crural closure.

Conclusions: Patients underwent the procedure for multiple etiologies with a common complaint of dyspepsia. Laparoscopic vagotomy and hiatal hernia repair seems to be an effective treatment for LRYGB patients with dyspepsia and/or upper abdominal pain but is associated with risk of complications. This treatment deserves further study with more clearly defined patient subsets.

A166

Conversion of Nissen Fundoplication to Roux En Y GastricBypass

Gabrielle Rolland *Orange CA*[1], Marcelo Hinojosa *Irvine CA*[1]
University of California, Irvine[1]

This is a video submission showing the conversion of a Nissen fundoplication to a Roux-en-Y gastric bypass in a patient with a BMI of 33 and history of T1a Esophageal Adenocarcinoma. The patient history is discussed below.

The patient is a 50-year-old male with history of GERD, Barrett's Esophagus with high grade dysplasia and T1a Esophageal Adenocarcinoma. In 2017 he underwent multiple Radio Frequency ablations and a Laparoscopic Nissen Fundoplication. He was referred back to our clinic for discussion of further intervention. During his preoperative work-up he was found to have a recurrence of his hiatal hernia and worsening of his gastroesophageal reflux disease symptoms. In the following video we will show you how we reduced his herniated fundoplication, performed a cruroplasty and then converted his fundoplication to a Roux-en-Y gastric bypass.

Since the operation the patient has been doing well and recovered without issue. His GERD symptoms have since resolved and he will continue with his regular surveillance esophagogastroduodenoscopies and intervention as warranted.

A167

Comparison of laparoscopic gastric band conversion to sleeve gastrectomy with primary laparoscopic sleeve gastrectomy

Sarah Kelso *Burlington VT*[1], Scott Olehnik *New York NY*[2], Peter Callas *Burlington VT*[3], Wasef Abu-Jaish *Burlington VT*[1]
University of Vermont Medical Center[1] Larner College of Medicine at UVM[2] University of Vermont[3]

Introduction: Laparoscopic gastric banding was once more popular than laparoscopic sleeve gastrectomy (LSG) and nearly as popular as Roux-en-Y gastric bypass. Due to unfavorable weight loss rates, many patients have undergone laparoscopic conversion of gastric banding to sleeve gastrectomy or gastric bypass. This study compares the outcomes of patients who underwent band conversion to sleeve gastrectomy with those who underwent primary LSG.

Methods: Retrospective outcomes of conversion-LSG were compared to those of primary-LSG using two patient populations: patients at an MBSAQIP-accredited bariatric center who underwent LSG between 2010 and 2020, and patients that met criteria in the MBSAQIP Data Registry from 2015 to 2018. Patient characteristics, weight loss, and complications were assessed.

Results: Forty-nine patient underwent conversion-LSG, while 827 patients underwent primary-LSG at the accredited center. Percent excess weight loss tended to be lower for the conversion group, even when accounting for weight loss from the gastric band, although this was rarely statistically significant. Rates of 30-day emergency department visits and readmission were not significantly different and complications were infrequent. Patients with conversion-LSG had significantly higher rates of reoperation (1.3% vs. 0.8%, $p<0.001$), deep surgical site infections (0.08% vs 0.03%, $p<0.001$), wound disruption (0.08% vs. 0.04%, $p=0.01$), and post-operative sepsis (0.13% vs. 0.07%, $p=0.04$) compared to patients with primary-LSG in the MBSAQIP data.

Conclusion: Patients undergoing laparoscopic conversion of gastric banding to sleeve gastrectomy had less robust weight loss compared to those undergoing primary laparoscopic sleeve gastrectomy. However, conversion-LSG is a safe procedure with minimally increased risk compared to primary-LSG.

A168
Right Thoracoscopic (VATS) Truncal Vagotomy for Intractable Marginal Ulcer
Jasleen Ghag *Ansonia CT*
UMHS

A complication following Laparoscopic Roux-en-Y gastric bypasses (LRYGB) is marginal ulcer (MU) formation. This is reported in up to 16% of patients that have undergone the operation. Between 85-95% of patients who present with MU post-LRYGB are likely to respond to medical therapy. However, there is a select group of patients that continue to suffer from symptomatic, non-healing MU despite appropriate medical management.
Current approaches to surgical management include, surgical revision to resect the entire ulcer bed and recreate a new gastrojejunostomy. In 2020, Di Palma *et al* illustrates that the success rates of revisional surgeries are low, with a recurrence rate of MU as high as 57%. In our case

report, we discuss the rare incidence in which both medical management and revisional surgery were unsuccessful. At which point the surgeon posed the patient with two options; reversal of LRYGB or truncal vagotomy to relieve the symptoms of the MU. The patient showed utmost reluctance to bypass-reversal, as her percent weight loss was substantial; BMI 57kg/M2 to 31kg/M2, in turn the patient agreed to truncal vagotomy.
Although uncommon, vagotomy plays a role in treatment of non-healing MU. As bariatric surgeries continue to rise annually, we should expect to see an increase in the incidence of these rare non-healing MU. With increasing rates, clinicians should be familiar with vagotomy as an option for treating these rare cases. Our case report shares a success story of a patient with a non-healing MU refractory to medical management and revisional surgery.

A169

Management of Perforated Marginal Ulcers after Roux en Y

Joel Hlavaty *Cincinnati OH*[1], Kevin Tymitz *Mason OH*[2], George Kerlakian *Cincinnati OH*[2], Angela Fellner *Cincinnati OH*[2], Katherine Meister *Cincinnati OH*[2]
TriHealth Good Samaritan Hospital[1] TriHealth[2]

Background:
Marginal ulceration is a major contributor to morbidity in patients that have undergone Roux en Y gastric bypass surgery.

Objective:
This study aims to evaluate a single institution experience managing perforated marginal ulcers and compare short term outcomes between non operative and operative management.

Methods:
A retrospective analysis was performed including patients presenting to our emergency department with perforated marginal ulcer from July 2011 to December 2021. Patients with large volume pneumoperitoneum, free fluid, and peritonitis were more likely to undergo operative management with graham patch. Patients undergoing non operative management were admitted with nasogastric decompression and underwent upper gastrointestinal study on median hospital day three and resumed oral intake if this demonstrated no contrast extravasation.

Results:
28 patients were included for analysis. 10 patients (36%) were treated with emergent operation and 18 patients (64%) treated with non operative management.
75% of patients were female. Mean age was 50.8 years. 32% of patients reported smoking and 25% reported NSAID use.
Length of stay was lower overall for patients managed non-operatively with a median of 5 days versus a median 7 days length of stay for operative management. p=0.006

There were also fewer presentations to the ER and readmissions over the following year for patients managed non-operatively (median 0.5 presentations and median 0.85 readmissions) compared to operative management (median 1.5 presentations and median 1.4 readmissions).

This was not statistically significant.

Conclusion:
Non operative management is a safe and effective option for select patients presenting with perforated marginal ulcers.

A170
Entirely Robotic Traditional Duodenal Switch Procedure
Romulo Lind *Orlando FL*[1], Muhammad Jawad *Orlando FL*[1], Gary Aghazarian *Orlando FL*[1], Muhammad Ghanem *Orlando FL*[1], Andre Teixeira *Orlando FL*[1]
Orlando Health Medical Center[1]

Bariatric surgery, due to the nature of the patients, has associated challanges that include thicker abdominal wall, increaed visceral fat and larger organs. The technical difficulties are particularly important in duodenal switch procedures , in whch a robotic approach may benefit patients in terms of length of hospital stay, readmission and reoperation rates. Recent studies support that minimally invasive approaches, such as robotic, appear to be a safe, effective and applicable to the bariatric population. The authors of this study would like to explcit techniques for performing an entirelly robotic laparoscopic duodenal switch.

A172
Postoperative follow-up within the bariatric surgery practice is associated with improved one-year weight loss for telemedicine patients
Lee Ying *New Haven CT*[1], Grace Chao *New Haven CT*[1], Milot Thaqi *New Haven CT*[1], Maija Cheung *Branford CT*[1], Saber Ghiassi *Fairfield CT*[1], Geoff Nadzam [1], Andrew Duffy *New Haven CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Background: When elective surgeries resumed during the COVID-19 pandemic of 2020, many in-person visits remained virtual. In this study we analyzed weight-loss outcomes for patients undergoing bariatric surgery during in 2020.

Methods: This is a retrospective comparison of laparoscopic sleeve gastrectomies (LSG) from January to November at a large academic center in two separate calendar years (2020 and 2017). The average age, preoperative BMI, one-year postoperative percent total weight loss (%TWL), and postoperative follow-up was compared between patients who had surgery in 2020 and 2017.

Results: There were 117 LSG cases in 2020, compared to 208 in 2017. There was no difference in the age of patients (years, 42.2 vs. 42), but patients in 2020 had a higher preoperative BMI (2020: 46.9, 2017: 43.5,; $p<0.05$). The one-year %TWL was lower for patients who underwent surgery in 2020 (2020: 17.9%, 2017: 22.1 %, $p<0.05$). Compared to outcomes in 2017, the average %TWL in 2020 was significantly lower for patients in 2020 who did not have one-year follow-up of any kind with bariatric surgery (22.1% versus 15.2%, $p<0.01$). There was no

significant difference for those who did have one-year bariatric surgery follow-up (22.1% versus 22.4%, p=0.99). Patient satisfaction did not change.

Conclusion: Compared to 2017, patients who underwent LSG during the COVID-19 pandemic tended to be similar in age but had a higher pre-operative BMI and lost less weight when they had no follow up. Ensuring follow-up within the bariatric surgery practice may improve weight loss in telemedicine patients.

A174

BYPASS OF THE BYPASS; PITFALLS OF ENDOSCOPIC ULTRASOUND-GUIDED GASTROJEJUNOSTOMY IN A PATIENT WITH ROUX EN-Y GASTRIC BYPASS AND A FROZEN ABDOMEN

Farah Abdul Razzak *Rochester MN*[1], Rabih Ghazi *Rochester MN*[1], Tala Mahmoud *Rochester MN*[1], Babusai Rapaka *ROCHESTER MN*[1], Eric Vargas *Rochester MN*[1], Andrew Storm *Rochester MN*[1], Barham Abu Dayyeh *Rochester MN*[1]
Mayo Clinic[1]

Background: Patients with surgically altered gastrointestinal anatomies are at increased risk of anastomotic strictures and gastric outlet obstruction. Laparoscopic gastrojejunostomy has been the traditional approach for such cases. However, with the advance in endoscopy, endoscopic ultrasound-guided gastrojejunostomy provides a novel efficacious and minimally invasive technique for palliation of gastric outlet obstruction.

Case: A 56-year-old female patient with a history of open roux en gastric bypass presented with recurrent vomiting in setting of iatrogenic gastric outlet obstruction (GOO) at pylorus level and gastro-gastric fistula representing dominant exit of gastric pouch. She underwent an EUS guided gastroduodenal anastomosis creation for palliation of GOO. One day post procedure, she presented with peritonitis due to leakage at anastomosis site. Urgent laparatomy was performed, but site of leak could not be identified. Hence, she underwent another endoscopy with good control of leak. Repeat CT abdomen/pelvis showed better control of leak with residual intra-abdominal collections. Hence, a third endoscopy was performed to upgrade the stents for additional sealing at anastomosis site. Patient had a course of improvement with follow up CT abdomen/pelvis scan showing no residual leak and good approximation of excluded stomach and small bowel. Patient was discharged 2 months later and reported resolving of nausea and vomiting.

Conclusion: In challenging anatomies including post-surgical ones, endoscopic ultrasound-guided gastrojejunostomy can be performed to provide access and successful palliation of gastric outlet obstruction. Nevertheless, complications could arise and approaching them as a multidisciplinary team that includes experts in surgery and endoscopy is important.

A175

Plotting trajectories of weight loss after bariatric surgery using the Heat Map Model. Do we follow our bariatric patients long enough?

Piyush Gupta *Shrewsbury MA*[1], Michelle McCarthy *Burlington MA*[1], Edward Frankenberger *Burlington MA*[2], Dmitry Nepomnayshy *Burlington MA*[1]
Lahey Clinic Hospital[1] Beth Israel Lahey Health[2]

Introduction – Patients undergoing bariatric surgery tend to have varying trajectories in terms of weight loss especially after the primary procedure. There are no current methods to identify these trends

Methods – A retrospective, single-center cohort study was performed from 2015-2019. Patients who underwent SG or GBP with a minimum follow-up of 2 years were included in the study. Excess BMI loss was calculated at 3-months, 6-months, 1-year, 2-year, 3-year, 4-year, and at 5-years from the index procedure. A heat map was created based on the performance of the whole cohort based on the tricolor grading scale. The sequential correlation was assessed between outcomes for short-term weight loss (< 2 years) and long-term weight loss (> 2 years).

Results – 191 patients were evaluated during the study period. Baseline demographic data are shown in Table 1. Index BMI at the time of the surgery was the only clinical parameter associated with better surgical outcomes. The sequential one-year EBMIL data had a good correlation (R 0.82 – 0.89), however significant discordance was noted between short-term (1-2 years) and long-term follow-up (3-5 years) (R 0.55-0.67) with the inflection point at 2 years. The highest congruence of consistent weight loss pattern is noted at 2 years from the procedure, however, after that, patients tend to have varying trajectories.

Conclusion – Clinical parameters are poor predictors of post-op weight loss. Patients with consistent trajectory even after 2 years tend to remain in the same cohort. Thus, a minimum follow-up of 2 years is recommended.

A176

Case series of long candy cane syndrome

Ahmed Shamia *cleveland OH*[1], Sebastian Valdivieso *New York NY*[2], Javier Andrade *Brooklyn NY*[3], Francisco Obregon *New York NY*[2]
Cleveland Clinic[1] Harlem Hospital Center[2] Woodhull Hospital[3]

Background:
Candy cane syndrome is one of the underappreciated reasons for abdominal pain after gastric bypass surgery.

Methods:
A retrospective analysis of all candy cane resections performed at Harlem Hospital Center between January 2019 and December 2020 were included. All patients had EGD performed to rule out ulcer disease or other causes of pain as part of pre-operative work up. Patients' characteristics including age, gender, BMI, length of symptoms, and presence of hiatal hernia were analyzed.

Results:

A total of twenty-five patients underwent candy cane resection during the study time period. The median age of patients was 46 years. The main symptoms were abdominal pain, followed by nausea and vomiting, GERD, and weight regain. The average length of the candy cane was 11 cm. Twelve patients out of twenty-five had only isolated candy cane on diagnostic laparoscopy. Four patients had dilated gastric pouch along with candy cane; the gastric pouch was partially resected. Four patients had hiatal hernia repair along with candy cane resection. Three patients had candy cane and mesenteric hernia defect. One patient had an incisional hernia, one patient had incarcerated trocar site hernia. Four patients out of twenty-five (16%) reported persistent abdominal pain on approximately 6 months follow up.

Conclusion:
Diagnostic laparoscopy and candy cane resection will improve the symptoms of 84% of the patients if all other pathology found on laparoscopy was treated. Effort should be made to resect excess roux limb in the index surgery.

A177

Relative Perfusion Response of Gastric Tube to Aortic and Portal Vein Occlusion Measured by Laser Speckle Contrast Imaging (LSCI) in Porcine Model

Saloni Mehrotra *Boston MA*[1], Yao Liu *Providence RI*[2], Vasiliy Buharin *Boston MA*[3], John Oberlin *Boston MA*[3], Mikael Marois *Boston MA*[3], Chibueze Nwaiwu *Providence RI*[2], Filippo Filicori *New York NY*[4], Steven Schwaitzberg *Buffalo NY*[1], Erik Wilson *Houston TX*[5], Nicole Bouvy *Cadier en keer* [6], Peter Kim *Boston MA*[2]
University of Buffalo[1] Brown University[2] Activ Surgical[3] Lenox Hill Hospital, Northwell Health[4] University of Texas, Houston[5] Maastricht UMC+ , Netherlands[6]

Introduction:
Impaired perfusion may cause tissue ischemia in revisional surgery. We determined real-time gastric perfusion under progressive aortic inflow/portal venous outflow occlusions in a gastric tube reliant on a single arterial supply using Laser Speckle Contrast Imaging (LSCI).

Methods:
ActivSight™ is an FDA-cleared laparoscopic device that displays tissue perfusion as a color heatmap. A novel prototype quantification feature can also display tissue perfusion in relative perfusion units (RPU). A porcine gastric tube entirely dependent on the right gastroepiploic artery was created (**Figure 1A**) and tissue perfusion was measured for 30s using LSCI under conditions of progressive aortic inflow/portal venous outflow clamping (**Figure 1B/1C**).

Results:
Average gastric perfusion decreased by 62±25%/59±12% from baseline with complete aortic/venous occlusion respectively. Perfusion exhibited a strong linear relationship as a function of distance from vascular source in both partial aortic/venous occlusion (Pearson's coefficient 0.93/0.94; 68± 3%/73± 4% lower RPU at gastric tip compared to base respectively) (**Figure 2A/2B**). At any given distance from vascular source in the meso-axial plane, inner

curvature/middle of stomach demonstrated higher perfusion compared to outer curvature with progressive arterial occlusion ($p<0.0001$) (**Figure 2A**) and venous occlusion ($p<0.005$) (**Figure 2B**).

Conclusions:
Regional perfusion in gastric tube declines linearly with increased distance from vascular source with both aortic/venous occlusions. Venous outflow and arterial inflow have significant impact on regional gastric perfusion, and inner curvature/middle of stomach region has relatively better perfusion than outer curvature. This prototype LSCI quantification tool may provide real time perfusion assessment in revisional gastric surgery.

A178
Laparoscopic Revision of a Non-divided Gastric Bypass with Gastrogastric Fistula to Divided Gastric Bypass with Resection of Fistula and Roux Limb
Isabella Alessi *columbia MO*[1], Shivesh Kabra *Columbia MO*[1], Andrew Wheeler *Columbia MO*[1]
University of Missouri-Columbia[1]

Background: Revisional bariatric surgery presents a unique set of challenges, particularly in the setting of a prior open index procedure. We present a video case report of successful revision of a patient with a previous open, retro-colic, non-divided gastric bypass that developed stenosis of the gastrojejunostomy and a gastro-gastric fistula, demonstrating our technique and management of the Roux limb.

Case Report: 52-year-old female with prior non-divided gastric bypass underwent planned laparoscopic conversion to divided Roux-en-Y gastric bypass. The patient suffered from obesity with a BMI of 57.1 kg/m^2, and lack of weight loss success, likely in part due to a fistulous connection to remnant stomach. After adequate bowel length was confirmed, the Roux limb was resected during small bowel reconstruction. The patient overall did well postoperatively and was discharged after 4 days.

Conclusion: Revisional surgery can be challenging but often offers patients positive outcomes when experiencing complications or weight regain after prior weight loss surgery. When converting a non-divided gastric bypass to divided gastric bypass, we recommend resection of gastrojejunostomy with reconstruction of appropriate sized pouch if enlarged, and in this case, removal of the fistula and connected remnant stomach. Furthermore, we recommend removing the Roux limb to avoid leaving a blind segment of intestine in the abdomen. This difficult procedure can be performed safely but requires experienced hands due to the often-unpredictable intra-operative findings and concomitant need for unplanned procedural modifications.

A179
The impact of Telehealth: Does it delay time to bariatric surgery?
John Mills *Mountain View CA*[1], Michelle Earley *Stanford CA*[1], Cara Liebert *Palo Alto CA*[1], Janey Pratt *Stanford CA*[1], Dan Eisenberg *Palo Alto CA*[1]

Stanford (Palo Alto VA)[1]

Background
The COVID-19 pandemic accelerated the implementation of telehealth throughout the U.S. healthcare system. At our institution, a fully integrated multidisciplinary bariatric clinic that relied on face-to-face visits to assess and prepare patients for surgery was converted to exclusively telehealth video or telephone provider visits. We hypothesized that the need to implement telehealth would increase the number of provider encounters and delay time to surgery.

Methods
In this retrospective review, designed as a noninferiority study, patients who underwent a total telehealth approach since March 2020 were compared to the same number of consecutive patients who underwent a traditional face-to-face approach 12-months prior, using a Wilcoxon test for continuous variables and chi-square or Fisher's exact test for categorical variables. Differences between time to surgery from initial consultation and number of preoperative visits were evaluated using Hodges-Lehmann method for nonparametric distributions. The noninferiority margin for time to surgery was set to 60 days, and for number of visits set to 2.

Results
There were 23 patients in each cohort. Age, sex, BMI, comorbidities did not differ between groups. The average number of days to surgery was 73 days shorter in the telehealth group, (90% CI [-171,11]). The estimated shift in the total number of visits was an additional 1 visit in the telehealth group, (90% CI [0,1]) (Table 1).

Conclusions
The total telehealth approach to preoperative bariatric multidisciplinary workup did not delay surgery and is non-inferior to the traditional approach in terms of number of total outpatient visits and time to surgery.

A180

Pre-op weight loss as a predictor of performance after bariatric surgery – Does it really matter?

Piyush Gupta *Shrewsbury MA*[1], Michelle McCarthy *Burlington MA*[2], Abigail Solom *Burlington MA*[2], Sara Tortorici *Burlington MA*[2], Dmitry Nepomnayshy *Burlington MA*[2]
Lahey Clinic Hospital[1] Lahey Hospital[2]

Introduction – Pre-op weight loss is an important marker of patients' adherence to the bariatric program and is assumed to be a predictor of post-op success however there is conflicting data in the literature regarding this.

Methods – A retrospective, single-center cohort study was performed from 2015-2019. Patients who underwent SG or GBP with a minimum follow-up of 2 years were included in the study. Baseline demographic data was obtained and was assessed for association with surgical

outcomes. Excess BMI loss (EBMIL) at 2 years was calculated and patients with an EBMIL > 75% at 2 years were considered as high weight loss category and patients with < 50% EBMIL at 2 years were considered as low weight loss category patients.

Results – 115 patients were evaluated during the study period. Baseline demographic data are shown in Table 1. Age, Sex, Diabetes Status, Charlson Comorbidity Index, and Pre-op Creatinine were not significant predictors of post-op weight loss. Index BMI – Weight at the time of surgery was the only factor associated with better surgical outcomes. Though pre-op weight loss did not correlate with post-op outcomes, patients with higher weight loss had higher odds of having better weight loss after surgery. (Figure 1)

Discussion – Higher pre-op weight loss from non-surgical interventions does correlate with better surgical outcomes but is not statistically significant moreover remaining weight neutral or minor weight gains with non-surgical interventions has no correlation with surgical outcome.

A181

Effect of COVID 19 Lockdown on Weight Change in Post-Surgical Bariatric Patients

Katarina Bade *Hartford CT CT*[1], Richard Seip *Hartford CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Darren Tishler *Glastonbury CT*[1], Ilene Staff *Hartford CT*[2], Connie Santana *Glastonbury CT*[1], Aziz Benbrahim *MERIDEN CT*[3], Meagan Moskowitz *Meriden CT*[3], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1] Hartford Hospital[2] Mid State Medical Center[3]

Introduction: Safe and effective weight loss immediately following bariatric surgery occurs in concert with both social and medical support. Interruption of support networks may threaten weight loss. During the COVID19 pandemic, a Connecticut state-mandated "lockdown" from 3/15 to 5/18/2020 suspended in-person services and interrupted social support. We investigated the effect of exposure to 63 days of COVID lockdown within 12 months of index sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB) on weight loss.

Methods: This single center, retrospective chart review identified 1057 patients with 1 year follow-up data who underwent SG or RYGB from 1/9/2016 to 12/30/20. Controls (Group C) (SG n750, RYGB n130) completed surgery and follow up from 1/9/2016 to 3/15/20, ***before*** lockdown. Lockdown patients (Group L) (SG n159, RYGB n18) completed surgery before 3/15/20, and follow up ***after*** the lockdown (5/20/20 to 12/31/2020). Weight loss (WL) was compared between C and L, within surgery types.

Results: Within surgery type, pre-surgery characteristics differed little between L and C (***Table 1, top***). Days to follow-up, and absolute and relative weight changes did not differ between L and C. Within L, 16% of SG patients and 20% of RYGB patients experienced virtual (telemedicine) visits with bariatric clinicians during follow-up, compared to 0.6% in Group C.

Conclusion: We detected no effect of 63 days of COVID lockdown on measures of weight

change at 1 year post SG or RYGB. Telemedicine visits may be useful to maintain/improve clinical management of surgical weight loss during suspension of live health services.

A182

Intussusception of the Jejunojejunostomy in Patients with Roux-en-Y Gastric Bypass: Surgical Correction and a Proposed Algorithm

Emanuel Shapera *La Mesa* [1], Andrew Wheeler *Columbia MO*[2]
SHARP Grossmont[1] University of Missouri, Columbia[2]

Introduction

Patients with Roux-en-Y Gastric Bypass (RYGBP) surgery can suffer bowel obstruction secondary to intussusception of the jejunojejunostomy (JJ) anastomosis. There is no established treatment algorithm. We present a case managed by resection with re-anastomosis, a brief review of literature and propose a treatment algorithm.

Case Report

A 41-year-old female who lost 72% of her excess weight after a RYGBP presented with abdominal pain and CT scan findings demonstrating a small bowel obstruction secondary to a JJ intussusception. She underwent diagnostic laparoscopy with anastomotic resection and re-anastomosis. She had an uneventful recovery until diagnosed with intraabdominal abscess POD 14. She underwent IR drainage and recovered with no further sequalae.
Review of literature demonstrates variable JJ intussusception incidence of 0.4-5% in post-RYGBP patients, in part due to the vague, transient nature of clinical and radiologic findings. Multiple operative strategies are possible. Ischemia is an absolute indication for resection & re-anastomosis but predisposes to leak, spillage, post-operative abscess. Small bowel plication can predispose to recurrence & required reoperation. Distalization of the Roux limb has also been reported and may offer reduced spillage and recurrence.

Conclusion

Jejunojejunostomy anastomosis intussusception is uncommon but likely underreported. When patients present with obstruction or evidence of ischemia, treatment is urgent surgical reduction and likely resection. We reserve plication for a dilated jejunojejunostomy with recurrent transient intussusception without obstruction or ischemia. Ultimately, choice of operative plan depends on patient's history and intraoperative findings.

A183

Functional Dyspepsia Before and After Sleeve Gastrectomy

Dawn Garcia *Glastonbury CT*[1], Ilene Staff *Hartford CT*[2], Richard Seip *Hartford CT*[1], Connie Santana *Glastonbury CT*[1], Trent Garcia *Newington CT*[1], Emma Tishler *South Glastonbury CT*[1], Alex Long *Bethany CT*[1], Jenny Rice *Glastonbury CT*[1], Cetin Sari *North Haven CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1] Hartford Hospital[2]

Introduction: Functional dyspepsia (FD), defined as "the presence of symptoms thought to originate from the gastroduodenal region, in the absence of organic disease," occurs more often in females and individuals over the age of 60 years. At a median of 13 months following sleeve gastrectomy (SG), dyspepsia occurs in 59.4% of patients. We aimed to report the prevalence of FD and preliminary results on predictors of development and resolution of FD after SG.

Methods: To assess FD, we examined 70 patients who completed a FD questionnaire, based on Rome III criteria, before and after SG between 5/15/2018-10/13/2021 at a single bariatric surgery center. Chi square was used to compare differences in proportions and a logistic regression to assess predictive factors.

Results: The prevalence of FD was 21% (15/70) pre- and 26% (18/70) post-SG. Following SG, FD resolved in 10/15 patients (67%) at a median time of 5.4 months. Thirteen of 55 (24%) patients without FD developed de novo FD post-SG after a median of 2.4 months. Gender, age, presence of diabetes mellitus, hypertension, hyperlipidemia, sleep apnea or esophageal reflux, and post-SG weight loss failed to predict resolution or development of FD post-SG.

Conclusion: The prevalence of FD before and after sleeve gastrectomy is 21% and 26%, respectively. Resolution and development of FD after SG occurs in 67% and 24% of patients, respectively. In this small sample, we could not identify predictors of resolution or de novo FD. Further studies on the relationship between FD and SG are warranted.

A184

Inconspicuous Intussusception after a Gastric Bypass in the Remnant Stomach: Case report and Review of the Literature

Tiffany Son *Gilbert AZ*[1], Eleanor Kitchell *Phoenix AZ*[2], David Podkameni *Gilbert AZ*[1], Christine Lovato *Phoenix AZ*[2]
Banner Gateway[1] Banner University Medical Center Phoenix[2]

Background: In the setting of prior gastric bypass surgery, here we describe a rare case of intussusception of the remnant stomach after 16 years.

Case Presentation: A 62-year-old female patient with BMI (35.7) who underwent a laparoscopic roux-en-y gastric bypass 16 years ago, presented with chronic, crampy, epigastric pain. The CT scan showed a small amount of contrast reflux into the duodenum. A small bowel enteroscopy showed the gastric antrum prolapsing into the duodenal bulb with biopsies negative for malignancy.

Results: The patient underwent a laparoscopic subtotal gastrectomy of the remnant stomach. The patient did well postoperatively and was discharged the next day. Pathology demonstrated gastropathy and duodenal metaplasia. In follow up, the patient had resolution of her abdominal pain symptoms.

Conclusion: Gastroduodenal intussusception after gastric bypass surgery is rare. In literature review of roux-en-y gastric bypass, there was only one other case report in which the patient had

a prior gastric plication. This complication can easily go unrecognized and the workup can be costly if not found early. Advances of double balloon enteroscopy, diagnostic laparoscopy, and a clinical high index of suspicion remains the most valuable diagnostic tool in patients with suspected intussusception.

A185

The Role and Effect of Telemedicine Visits for Bariatric Surgery Patients in the Pandemic Era

Jack Silva *LOS ANGELES CA*[1], Jessica Wu *Los Angeles CA*[1], Ryan Palmer *Los Angeles CA*[1], Kenzie Cohen *Los Angeles CA*[1], Tiffany Calero *Los Angeles CA*[1], Edward Compton *Los Angeles CA*[1], Matthew Martin *Los Angeles CA*[1], Stuart Abel *Los Angeles CA*[1], James Nguyen *Los Angeles CA*[1], Adrian Dobrowolsky *Los Angeles CA*[1], Kamran Samakar *Los Angeles CA*[1]
University of Southern California[1]

Introduction:

The Covid-19 pandemic necessitated changes in many facets of bariatric care, including increased use of telemedicine for preoperative consultation and postoperative clinic visits. This study analyzed the effect of preoperative telemedicine visits (PTV) versus in-person visits (IPV) at a single high-volume bariatric center.

Methods:

We conducted a retrospective review of bariatric surgery patients from 2018-2020, excluding revisional operations. Demographics, weight metrics, perioperative details and complications, and postoprative outcomes were collected. Patients with PTV were compared to the IPV cohort with univariate statistics and a multivariate regression model for failed excess weight loss (<50%) at six months.

Results:

185 patients were included, with 61% having purely IPVs and 39% in the PTV cohort. The two groups had similar preoperative weight loss, demographics, comorbidities, and early perioperative outcomes. PTV patients had higher percent excess weight loss (EWL) than the IPV group at six months (55% vs 43%, P<0.01), but no significant difference at one year (61% vs 52%, P=0.11). There were no differences in comorbidity resolution. On univariate analysis, PTV was associated with lower EWL failure at six months and remained an independent predictor on multivariate analysis (OR 0.47, P=0.03).

Conclusion:

A structured program of telemedicine visits for preoperative evaluation and counseling prior to bariatric surgery was implemented safely and effectively at this center with comparable perioperative and weight loss outcomes compared to patients who had standard in-person clinic visits. Continued use and expansion of telemedicine visits may be warranted as a method of increasing patient access and hospital resource utilization.

A186

Unexpected finding of thymolipoma in posterior mediastinum during Roux-en-Y gastric bypass

Wasef Abu-Jaish *Burlington VT*[1], Berna Buyukozturk *Burlington VT*[1], Sarah Kelso *Burlington VT*[1]
The University of Vermont Medical center[1]

Background

The incidence of gastroesophageal reflux disease (GERD) and hiatal hernia (HH) in the bariatric population is as high as 40% and 37%, respectively.
Laparoscopic Nissen fundoplication is the treatment of choice for GERD resistant to medical therapy in patients without obesity. In populations with obesity, laparoscopic sleeve gastrectomy (LSG) may be considered. LSG is relatively contraindicated in the presence of Barrett's esophagus (BE) however, and therefore laparoscopic Roux-en-Y gastric bypass (LRYGB) is the most effective surgical option in the setting of obesity, GERD with BE, and associated comorbid conditions.

Methods

We present an interesting finding of an unknown mediastinal mass encountered during HH repair and LRYGB in a 51-year-old male with morbid obesity and chronic GERD, found to have BE on pre-operative screening upper endoscopy.

Results

In this video, we show the dissection of the posterior mediastinum, excision of an unexpected lipomatous mass, primary posterior HH repair, and a LRYGB.

Discussion

While its normal anatomic position is in the anterior mediastinum, the thymic tissue can be located anywhere along its embryonic descent, and, in our patient, a benign thymolipoma was found posteriorly. There is no established role for routine upper endoscopy, barium esophagram, or manometry in preoperative workup of bariatric surgery patients. However, endoscopic screening for BE is commonly performed in selected high risk patients as it may affect surgical options.

Conclusions

Our case illustrates the types of masses that may be encountered in the mediastinal space during mobilization of the esophagus during LRYGB and HH repair.

A187

Perforated Marginal Ulcer Resulting in a Gastropericardial Fistula: Endoscopic Management of a Rare Complication After Roux-en-Y Gastric Bypass

Kenneth Copperwheat *Overland Park KS*[1], Maximillian Starr *Overland Park KS*[1], Andrew Nicholson *Kansas City KS*[1]
Menorah Medical Center[1]

Introduction:
Gastropericardial fistula is an extremely rare condition with very few cases reported worldwide, and no consensus on management exists.

Case Report
Our patient is a 55-year-old male with a history of roux-en-y gastric bypass. He presented to an outside hospital with chest pain and chills, and was diagnosed with a gastropericardial fistula from a perforated marginal ulcer. He underwent a pericardial window with drain placement, but was transferred to our facility after no clinical improvement. Upon arrival, he was taken to the operating room and covered stents were placed with a plan for eventual esophagojejunostomy. He stabilized, however, he was diagnosed with intrahepatic cholangiocarcinoma during the admission and elected to be discharged with hospice care.

Discussion:
A literature review by Hamid et al. discovered 95 reported cases of enteropericadial fistula along with their treatment. Their review noted success in treatment of the condition with management by conduit tissue transposition. Definitive plan for our patient was resection of the involved tissue with esophagojejunostomy. As he presented malnourished and deconditioned, he would likely not have been able to tolerate this, and covered stents were placed as a temporizing measure. Though the patient was discharged to hospice care, he was in stable clinical condition and tolerating diet.

Conclusion:
There exists no consensus on the optimal management of enteropericardial fistulas. Covered stents as a bridge to definitive therapy may be a treatment strategy as they are safe and easy to perform in the acute setting by many gastroenterologists or gastrointestinal surgeons.

A188
Maternal and Neonatal Complications of Pregnancy following Bariatric Surgery: a US Multicenter Prospective Cohort
Gretchen White *Pittsburgh PA*[1], Anita Courcoulas *Pittsburgh PA*[1], Nicholas Broskey *Greenville NC*[2], Wendy King *Pittsburgh PA*[1]
University of Pittsburgh[1] East Carolina University[2]

Background: Bariatric surgical procedures reduce the absorption of micronutrients needed for fetal development, increasing the risk of neonatal complications. ASMBS recommends that women avoid conception for 12-18 months after bariatric surgical procedures, yet few studies examine whether maternal and neonatal outcomes differ by time since surgery.

Methods: A 6-center prospective cohort study enrolled 135 US adult women (median age, 30

years, BMI, 47.2 kg/m^2) who underwent bariatric surgery (2006-2009; 80.7% Roux-en-Y gastric bypass) and reported ≥1 post-surgical pregnancy within 7 years. Differences in maternal and neonatal outcomes by conception date (0-<18 versus ≥18 months post-surgery) were assessed. **Results:** Thirty-nine of 189 of pregnancies occurred <18 months post-surgery. C-section (42.5%) and preterm labor or rupture of membranes (40.9%) were the most common maternal complications, with similar prevalence by postoperative period (see **table** for outcomes by timeframe). Severe vomiting (13.0%) and pre-term delivery (27.2%) were less common 0-<18 versus ≥18 months. The most common neonatal complications were miscarriage (22.6%), large for gestational age (LGA, 23.0%), NICU admission (12.2%), and small for gestational age (SGA, 11.5%). SGA was more common, while LGA and NICU admissions were less common <18 versus ≥18 months post-surgery.

Conclusions: Among a large cohort of US women who underwent bariatric surgery, most maternal and neonatal complications were not more common <18 months post-surgery. However, a larger sample size is required to evaluate more refined early post-surgery timeframes and additional factors, such as maternal age and weight changes leading up to and during pregnancy, associated with these complications.

A189

Robotic versus Laparoscopic Outcomes of Sleeve Gastrectomy and Roux-en-Y Gastric Bypass: An Updated Analysis of the MBSAQIP Database

Alexander Friedman *Hartford CT*[1], Richard Seip *Hartford CT*[1], Ilene Staff *Hartford CT*[1], Connie Santana *Glastonbury CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Jason Wade *Hartford CT*[1], Dale Bond *Providence RI*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1]

Introduction: Robotic-assisted techniques are increasingly used in bariatric surgery. We investigated the safety and operative outcomes of robotic and laparoscopic bariatric surgery.

Methods: We used the MBSAQIP national registry from 2015-2019 to identify patients who underwent SG (CPT 43775) or RYGB (CPT 43644) with a robotic or laparoscopic technique. Analyses excluded patients with emergent surgery, revisional surgery, ASA class 5, and those with conditions present at the time of surgery.

Results: A total of 685,932 and 68,465 patients underwent laparoscopic and robotic bariatric surgery, respectively. The robotic approach had significantly longer operative time by 25 and 33 minutes for SG and RYGB, respectively, with no difference in days to discharge or 30-day mortality. Within SG, the robotic approach had statistically significant higher incidences of ED visits (6.7% vs. 6.1%), re-admissions (3.3% vs. 2.9%), and interventions at 30-days (1.0% vs. 0.8%). Within RYGB, the robotic approach had statistically significant higher rates of re-admission (6.9% vs. 5.7%) and re-operation (2.5% vs. 2.2%), however the laparoscopic approach demonstrated higher rates of serious adverse events (2.8% vs. 3.2%) driven by higher rates of blood transfusion (0.7% vs. 1.1%).

Conclusion: While the robotic approach involves longer operative times, it does not affect length of stay or 30-day mortality. There are slightly higher rates of ED visits for robotic SG, higher rates of re-admissions for robotic SG and RYGB, and slightly higher rates of blood transfusion for laparoscopic RYGB. Overall, both techniques are safe with very low complication rates at 30-days.

E-Poster/E-Video
Wednesday, June 8, 2022

A190

UNEXPECTED TYPE IV HIATAL HERNIA IN A RYGB PATIENT

Ainitze Ibarzabal Olano *Barcelona* [1], Amador Garcia Ruiz de Gordejuela *Barcelona* [2], Enric Caubet Busquet *Barcelona* . [3], Manuel Morales *Barcelona* [4], Oscar Gonzalez Lopez *Barcelona* [3]
Hospital Clinic[1] Vall d'Hebron University Hospital[2] Vall d'Hebron University Hospital[3] Servicare[4]

Hiatal hernias are common in bariatric patients. Large hiatal hernias can be challenging in those patients due to laborious dissection of the hiatus and risk for the blood supply to the new pouch. Preoperative endoscopy can usually discriminate for big hiatal hernias but not always. We present a case of a Type IV hiatal hernia in a patient operated for a Roux-n-Y Gastric Bypass (RYGB). A 56 year old man with a preoperative BMI of 44kg/m2 and type 2 diabetes was scheduled for bariatric surgery. Preoperative endoscopy showed a small-medium hiatal hernia with no esophagitis. Patient referred pyrosis. A RYGB was indicated. Intraoperatively a Type IV hiatal hernia with half of the stomach herniated into the mediastinum was found. A careful dissection of the hiatal hernia and reduction of the herniated stomach was performed. 360 degree dissection of the hiatus was carried out with special care of the left gastric artery. The hernia sac was partially removed. Once the anatomy was reconstructed, the hiatus was closed with a running barbed non-absorbable suture. The RYGB was then continued with no incidences. Patient had an uneventful postoperatory and was discharged on postoperative day 2. 3 months after surgery he was doing well, with adequate weight loss, no symptoms of dysphagia nor pyrosis, and no treatment for type 2 diabetes.

A191

Bariatric Surgery (BS) In Patients with Ehlers Danlos (EDS) Patients: Case Series with long term outcomes and cautionary tales

Corrigan McBride *Omaha NE*[1], TONY MURANTE *Omaha NE*[1], Vishal Kothari *Omaha NE*[1], Tiffany Tanner *Omaha NE*[1], Ivy Haskins *Omaha NE*[1]
University of Nebraska Medical Center[1]

Introduction: EDS is an inhereted connective tissue disease. Several subtypes have chronic intestinal manifestations and have been shown to have anastomotic leaks after intestinal surgery. There are limited case reports of EDS and BS.

Methods: All BS patients with EDS from 2001-present were reviewed for immediate and long-term complications(IC/LTC), weight loss(WL) and need for revision.

Results: Four patients have had WLS and 3 more are pre-op All were female. Only 1 patient had her diagnosis at the time of her primary BS. She started with a Lap-Band, revised to a Lap Sleeve and ultimately a Gastric Bypass. IC include severe N/V requiring PPN for several weeks. The others were diagnosed at 2,7,14 yrs. after primary WLS. Two had gastric bypass, neither had IC. All 3 have had LT constipation and 2/3 have GERD and dysphagia despite normal pH/M. The final patient had a Lap sleeve, converted to a Lap SAIDI converted to a Roux for bile reflux. The Roux conversion was the one IC- a significant leak that resulted in a 30X110cm abscess (pic). The total body weight loss has been 35-44% (mean-39.5%).

Discussion: EDS always raises concers of anstomotic issues but sleeve and anastomotic WLS can be done safely. You need to be prepared for post op GI motility issues . However, if there is a leak the soft tissue issues can be profound. Even with a GBP they may have ongoing GERD/dysphagia. Because of delays in diagnosis you may have already operated on someone with EDS.

A192

Comparison of cost and outcomes of Sleeve Gastrectomy and Roux-en-Y gastric bypass before and 1-year after implementation of a clinical optimization cost reduction initiative

Daniel Slack *Charlotte NC*[1], Vilok Vijayanagar *Hopewell VA*[2], Kyle Thompson *Charlotte NC*[3], Iain Mckillop *CHARLOTTE NC*[4], Selwan Barbat *Charlotte NC*[2], Timothy Kuwada *Charlotte NC*[2], Keith Gersin *Charlotte NC*[2], Roc Bauman [2], Abdelrahman Nimeri *Charlotte NC*[2]
Carolinas Medical Center, Atrium Health[1] Atrium Health Carolinas Medical Center[2] Atrium Health Dept of Surgery[3] Atrium Health[4]

Introduction

Quality of metabolic and bariatric surgery [MBS] continues to improve, but few studies have examined cost of MBS. Our study assessed different costs and outcomes in Sleeve Gastrectomy (SG) and Roux-en-Y Gastric Bypass (RYGB).

Methods

We conducted a clinical optimization cost reduction study after SG or RYGB from June 2018 to August 2020 at two MBSAQIP centers of excellence. Cost saving measures included reduction or elimination of staple line reinforcement, Endo-stitch suturing device, changed energy devices and endoscopic staplers. Mean cost of SG was used as standard for comparison [1.0], cost of RYGB was calculated as compared to the mean cost of SG.

Results

1258 patients were included with 659 in the control group and 599 in the intervention group. Overall demographics and comorbidities were equal among groups. RYGB cost was more than SG [1.65 vs 1.0 $P<0.0001$] and there was larger variability in the cost of RYGB compared to SG between surgeons [Circular most expensive followed by linear with Hand-sewn least expensive,

P<0.0001]. After cost reduction, significant reduction in staple line reinforcement [SLR] was seen in SG P<0.0001 and reduction in SLR P<0.0001, stapler reloads P<0.0001 and staplers in RYGB P<0.0003. No significant differences were noted between groups for complications or readmissions in SG and RYGB.

Conclusion

SG costs less than RYGB and there is more variability in cost in RYGB [circular most expensive and hand-sewn least expensive]. Most significant cost reduction was noted in staple line reinforcement [SLR] in SG and SLR and stapler cost in RYGB.

A193

Prader-Willi syndrome and Gastric Bypass: Sustainable weight loss with long term results for up to 19 years

Ana Pimienta *Mexicali* [1], Mauricio Sierra *Mexico City* [1], Juan Pablo Pantoja *Mexico MEX*[2], Miguel Herrera *Mexico City MEX*[3], David Velazquez-Fernandez *Mexico City* [1], Marcela Rodriguez [1], Verónica Vázquez-Velázquez *Mexico City* [1], Reyna Soriano [1], Emma Adriana Chávez-Manzanera *Mexico City* [1]

INCMNSZ[1] INCMNSZ, Cleveland Clinic Abu Dhabi[2] INCMNSZ, ABC Medical Center[3]

The obesity associated with Prader-Willi syndrome (PWS) results from a chronic imbalance between energy intake and expenditure due to hyperphagia, decreased physical activity, reduced metabolic rate and an inability to vomit. Obesity control is notoriously difficult; thus, the role of bariatric surgery in PWS remains controversial as long-term data are lacking.
We evaluated the outcomes of bariatric surgery in PWS.
Between June 2002 and June 2016, three PWS patients with mean age of 32 years underwent Laparoscopic Roux-en-Y Gastric bypass in our unit. There is no lost-to-follow-up in this study. The best mean percentage of total weight loss was achieved at 5 years (48.4 ± 7.1). Successful weight loss has been seen in al three patients in their consecutive consults up to their last follow up. The mean %TWL were 42.7% at 2 years, 47.4% at 5 years, 48.4% at 6 years, 46.8% at 7 years, 44.6% at 8 years, and 41.2% at 9 years. At 10 years the mean %TWL was 38% and the mean %EWL of 59.3 ± 1.3%. The trend of weight changes was similar in all patients. Changes in obesity-related comorbidities were seen in all three patients. Type 2 diabetes mellitus remission in 50%; Obstructive sleep apnoea-syndrime in 33.3%; and complete remission (100%) in hypertension and dyslipidaemia. There was no mortality.
Bariatric surgery produced notable and sustainable weight loss and comorbidity resolution in PWS. This study suggests that bariatric surgery can be performed in PWS patients along with multidisciplinary long-term follow up.

A194

Laparoscopic management of intermittent small bowel obstruction caused by gastric band tubing

Wasef Abu-Jaish *Burlington VT*[1], Anne Vogt *Burlington VT*[1], Sarah Kelso *Burlington VT*[1]

The University of Vermont Medical center[1]

Introduction

Laparoscopic adjustable banding procedure (LABP), a once popular bariatric procedure, has fallen out of favor due to inferior weight loss and frequent band, tube, and port-related complications. Due to weight loss failure, 20-30% are converted to gastric bypass or sleeve gastrectomy.

We present an unusual case of a 41-year-old woman who developed food intolerance and recurrent partial small bowel obstructions (pSBO) 10 years after LABP. Fluoroscopic and endoscopic assessment revealed esophageal dilatation and esophagitis, and her symptoms failed to improve after band emptying. CT revealed terminal ileal obstruction attributed to the tubing.

Intraoperative findings

We show the tubing and adhesions constricting the terminal ileum 15 cm proximal to the ileocecal valve causing pSBO. Adhesions were lysed and the bowel freed after division of the tube and removal of the gastric band. Concurrent endoscopy revealed neither erosion nor leak. She was discharged after 1 night of observation.

Discussion

LABP has recently fallen out of favor with the concurrent rise in popularity of the laparoscopic sleeve gastrectomy (LSG). Complications associated with the subcutaneous port or band itself are well-known, but morbidity related to the tubing is not. Rarely described are SBOs caused by tubing via formation of an internal hernia. These have occurred up to 10 years following LABP, and the majority of these cases noted redundancy in the tubing as the likely cause.

Conclusion

Our case illustrates that intermittent pSBO in patients with LABP requires early CT evaluation and bariatric surgery consultation followed by laparoscopic intervention to avoid serious complications.

A195

A Single Surgeon's Experience With the Single Anastomosis Loop Duodeno-Ileostomy (SADI/SIPS) Surgery

Emily Goddard *York PA*
WellSpan York Hospital

Objective: The single anastomosis loop duodeno-ileostomy with sleeve gastrectomy (SADI-S) has been proposed as a primary weight loss procedure. The procedure has not yet been thoroughly studied to better understand the risk profile. The goal of this study was to evaluate long-term outcomes after primary laparoscopic SADI-S.

Methods: This was a retrospective study. Patients who underwent a SADI-S by a single surgeon

at our institution between 2016-2020 were reviewed. Excess weight loss post-operatively was calculated. Total protein, albumin, vitamin A and D, were followed post-operatively, along with post-operative complaints. Reoperations were analyzed.

Results: 93 patients underwent a SADI-S. The mean preoperative BMI was 50.5 ± 8.5 kg/m2. 12 (12.9%) required re-operation due to malnutrition and 81 (87.1%) did not. Re-operation occurred at 11.5 ± 8.2 months. Reoperations included conversion to RNYGB, elongation of the common channel, and feeding tube placement. Low albumin was more prevalent in patients requiring re-operation at 5-7 mos. (72.7% vs 29.4%; p=0.013), and 1 year (75% vs 29.2%; p=0.006). Low total protein levels were more prevalent in the re-operative group at 5-7 mos. (100% vs. 35.3%; p=<0.001) and 1 year (91.7% vs. 42.1%; p=0.003). GERD was present in 41.7% of the re-operative group vs 16% (p=0.051). Diarrhea was present in 66.7% of the re-operative group vs 7.4 (p=<0.001).

Discussion: SADI-S resulted in significant weight-loss. 12.9% of patients required reoperation due to protein malnutrition. Weight loss was greater in the re-operative group at 6-7 months and 1 year. Diarrhea was a major complaint in those requiring reoperation.

A196

The Long-Term Complications Associated with a Biliopancreatic Diversion and Duodenal Switch: A Case Series and Review of the Literature

Victoria Gershuni *Saint Louis MO*
Washington University in St. Louis

BACKGROUND: The prevalence of stage 3 obesity (BMI>40kg/m2) has doubled over the past 20 years. There is increasing interest and utilization of biliopancreatic diversion with duodenal switch (BPD-DS), a restrictive and malabsorptive procedure, for management of obesity because it results in the greatest excess weight loss and resolution of comorbidities. While highly effective, BPD-DS has the potential for complications, including malnutrition with vitamin and trace element deficiencies. Despite modifications to technique, extensive long-term follow-up with ongoing supplementation and nutritional support is necessary.

METHODS: We report the presentation and management strategies for six individuals who presented to our institution with malnutrition and vitamin deficiency after BPD-DS.

RESULTS: Five women and one man presented with severe malnutrition and nutrient deficiencies, including low plasma concentrations of vitamins A, C, K, B1, B6, B12, folate, and copper. Malnutrition varied in presentation and occurred as soon as 3 months post-operatively; multiple individuals developed peripheral neuropathy with altered sensation and gait disturbance. Other presentations included night blindness and liver failure complicated by bleeding esophageal varices and hepatorenal syndrome with need for hemodialysis. Individuals were treated with a combination of total parenteral and enteral nutrition with vitamin supplementation until nutritional recovery. Five individuals underwent surgical revision – three conversions to Roux-en-Y and two with Braun enteroenterostomies.

CONCLUSION: While BPD-DS is an important option for the treatment of severe obesity, it is not without significant nutritional risk. It is essential that providers are aware of these risks and can provide nutritional optimization in the setting of malnutrition after BPD-DS.

A197

In Short Term Follow-up, High Dose Dry Vitamin D3 (cholecalciferol) Can Prevent and Treat Secondary Hyperparathyroidism After Duodenal Switch.

Lindsey Sharp *Raleigh NC*[1], Collin Sharp *Raleigh NC*[2], Peter Ng *Raleigh NC*[1], Linda Youngwirth *Durham NC*[1], Dustin Bermudez *Raleigh NC*[1]
UNC/Rex Healthcare[1] Student--Wake Forest University[2]

Background: Secondary hyperparathyroidism (hPTH) is common following bariatric procedures, especially those with more distal bypasses like the duodenal switch (DS).

Setting: Private practice in Raleigh, NC

Methods: Patients undergoing DS between December 1st, 2020 and September 30th, 2021 were included. PTH and 25-OH vitamin D (VitD) levels were obtained preoperatively (preop) and at 3, 6, and 12 months postoperatively. Patients were placed on a vitamin regimen consisting of a multivitamin high in vitamins A,D,E,K, calcium citrate 2400mg, and dry vitamin D3 (cholecalciferol) 30,000 IU daily.

Results: Preoperatively, 31% (n=79/259) of patients had hPTH and 98.7% of those had a preop Vit D level <60 ng/ml. Of the patients with preop hPTH, 63% were normalized at 3 months and 6 months. Of the preop hPTH patients, who had hPTH persisting at 3 months and 6 months, 79% (n=23/29) and 93% (n=13/14) had Vit D <60 at 3 and 6 months, respectively.

Of the patients without hPTH preop, 15% (n=21/142) developed hPTH at 3 months and 90.5% (n=19/21) of those had Vit D <60 ng/ml at 3 months. 77.8% (n=7/9) had hPTH resolved at 6 months, and of those that corrected 44.4% (n=4/9) achieved a Vit D >60 ng/ml, and the 2 (22%) that did not correct had a Vit D <30 ng/ml.

hPTH was present in only 7% (n=6/81) of patients at 6 months.

Conclusions: In short term follow-up after DS, the vast majority of secondary hPTH cases can be corrected and prevented by achieving Vit D levels >60 ng/ml.

A198

De-Cheesing the Jejunojejunostomy

John Mitko *Chicago IL*[1], Lindsey Klingbeil *Chicago IL*[2], Andres Giovannetti *Chicago IL*[1], Francisco Quinteros *Chicago IL*[1], Rami Lutfi *chicago IL*[1]
Chicago Institute of Advanced Surgery[1] Chicago Institute for Advanced Surgery[2]

47 year-old with BMI of 35.7 kg/m^2, obstructive sleep apnea, hypertension, and reflux presenting for gastric bypass. The index operation and hospital course were uneventful, the patient was discharged on POD 1. POD 4, the patient developed crampy abdominal pain and bloating. She went to an outside hospital and was found to be tachycardic with a heart rate in the 130's and a leukocytosis of 13,000. A CT scan found the roux limb to be dilated and air in the remnant stomach. With these findings, we were concerned for an early obstruction at her jejunojenunostomy so she was transferred and taken for an emergent diagnostic laparoscopy. Intra-operatively, the roux limb was dilated with relative decompression of the biliopancreatic limb and common channel. Intra-operative endoscopy found a significant amount of food in her pouch and roux limb. We felt this was causing the obstruction at her JJ. An enterotomy was made on the roux limb and the obstruction was relieved using a foley balloon inserted through the roux limb past the anastomosis. The enterotomy was closed in a single layer using V-lock suture. Repeat endoscopy was performed, leak test was negative and a nasogastric tube was placed into the roux limb. The NG was removed on POD 1 and patient was started on a liquid diet. She tolerated liquids and was discharged home POD 1. She developed a wound infection in the RLQ. This was treated by opening the incision and a short course of antibiotics. Patient has since done well.

A199

TEMPORARY WEIGHT LOSS PROCEDURE TO BENEFIT ACTIVE DUTY MILITARY PERSONNEL CHALLENGED BY OBESITY - A CASE SERIES

Connor Arellano *San Diego CA*[1], Gordon Wisbach *San Diego CA*[1], Kyle Gadbois *Escondido CA*[1], Kyle Checchi *San Diego CA*[2]
Naval Medical Center San Diego[1] Department of Navy[2]

INTRODUCTION: Obesity is an increasing challenge for the United States Military. Active duty personnel are prohibited from undergoing permanent surgical procedures for weight loss. We present twelve active duty service members who were unsuccessful in remaining within Navy Weight Standards by diet and exercise alone.

METHODS: We enrolled twelve active duty patients who qualified for intragastric balloon (IGB) per FDA-guidelines and were interested in the program with intent to remove the IGB after 6 months. Weight loss data is examined at 6 months after IGB placement using data available from our institution's Bariatric Surgery Registry, the electronic medical record, and patient surveys.

RESULTS: The IGB resulted in weight loss for all 11 of the patients for whom complete data is available. The mean BMI of the patient's decreased 2.96 (SD=1.2) representing a mean 20% loss of excess body weight. Mean EBW loss is 21.3 lb (range 7-58 lb). Weight loss is based on 6 month follow up from IGB placement which is available for 11 of 12 enrollees. Most complications presented are minor, however one patient experienced a major complication

requiring operative repair.
CONCLUSIONS: The IGB is an effective temporary reversible endoscopic weight loss procedure available to active duty patients with obesity. Despite one complication requiring early urgent device removal and surgical repair, the device appears safe for use in the active duty population. Further research is needed to determine if the IGB can improve readiness, increase retention of personnel.

A200

Intragastric balloon induced pancreatitis (BIP), a literature review

Abdul-Rahman Diab *Tampa FL*[1], Ali Zakaria *Tampa FL*[1], Ali Abbas *Wesley Chapel FL*[1]
University of South Florida[1]

Background: Intragastric balloon placement is one of the FDA approved endoscopic bariatric therapies. Intragastric balloon induced pancreatitis (BIP) is an extremely rare complication. It occurs either due to extrinsic compression of the pancreas (compressive balloon pancreatitis), or due to obstruction of the ampulla following balloon partial deflation and migration (obstructive balloon pancreatitis). Our aim was to identify the causes and the outcomes of this adverse event.

Methods: A literature review was performed in Cochrane Database, Embase, Medline, PubMed, and Scopus electronic databases using terms "intragastric balloon" and "pancreatitis" to identify pertinent articles. The initial search yielded 437 studies which were manually reviewed, and 24 studies met the inclusion criteria.

Results: A total of 40 patients were reported in the literature. The mean age was 30 years old with females representing 68%. Pancreatitis occurred after a mean of 96 days of balloon placement. Pancreatitis was mild, moderate, and severe in 58%, 35% and 7% respectively. Most of the cases (90%) were compressive pancreatitis. Mean volume of fluid inside the balloon was 575 ml. Early balloon removal was needed in 79% of the cases whereas conservative management was adequate in the rest.

Conclusion: Intragastric balloon induced pancreatitis is an extremely rare adverse event that can occur while using the recommended balloon's fluid volume and placement duration. Fortunately, most cases are mild but necessitated early balloon removal. Further research is needed to identify the risk factors and the possible ways of conservative management to avoid early removal.

A201

Safety and Efficacy of Revisional Surgery as a Treatment for Malnutrition After Bariatric Surgery

Ahmet Vahibe *Rochester MN*[1], Michael Sarr *Rochester MN*[2], Manpreet Mundi *Rochester MN*[2], Barham Abu Dayyeh *Rochester MN*[2], Travis McKenzie *Rochester MN*[2], Todd Kellogg *Rochester MN*[2], Robert Vierkant *Rochester MN*[2], Omar Ghanem *Rochester MN*[2]
Mayo Clinic[1] Mayo Clinic, Rochester, MN[2]

Background: Malnutrition after bariatric surgery is a rare yet potentially life-threatening complication. The safety and efficacy of revisional surgery in malnourished patients are poorly described.

Methods: We performed a retrospective chart review of patients who underwent revisional bariatric surgery for severe malnutrition at our institute between 2008 and 2020. Data were analyzed for the latest follow-up postoperatively. Associations of demographic and clinical characteristics with dichotomous outcomes of interest were carried out using Fisher exact tests, Cochran-Armitage tests for trend, and two-sample t-tests when appropriate.

Results: 53 patients were included with median follow-up of 24 months. The anatomy before revision was 8% restrictive and 93% bypass anatomy. Bariatric and abdominal operations before our revision had a median of 2 (range 1-7) and 3 (range 1-9), respectively. Thirty-seven (70%) operations were performed via open approach, while 2 of the 16 laparoscopic operations required conversion to open (Table 1). The percentage of patients requiring supplemental or total nutritional support decreased from 89% preoperatively (47% on enteral feedings, and 42% on TPN±tube feedings) to 14% at the last encounter after revision (8% still requiring enteral feedings and 6% on TPN). Early and late complications are detailed in Table 2. Two patients died during our median follow-up of 24 months, all occurred >1 year postoperatively. No correlation existed between discontinuation of supportive nutrition, or Clavien-Dindo major complications, and any preoperative variable.

Conclusion: Revisional surgery for severely malnourished bariatric surgery patients is effective in the discontinuation of supportive nutrition. Postoperative complications are increased but not prohibitive.

A202

Management of Bougie Induced Esophageal Perforation during Laparoscopic Sleeve Gastrectomy

Digvijay Bedi *Ahmedabad*
Hope Obesity Centre

Abstract

Introduction Bougie is used while performing LSG to calibrate the stomach. We encountered a case of bougie induced lower esophageal perforation while trying to negotiate it across gastroesophageal junction. We will discuss the cause, mechanism of perforation, and its management.

Materials and Methods A 36 y/o female patient having BMI of 40.2kg/m2 was posted for Laparoscopic Sleeve gastrectomy (LSG). After omentectomy attempt to introduce the bougie across gastroesophageal junction, for calibration of sleeve , failed. After multiple attempts it could be negotiated into the stomach and LSG was completed uneventfully. On first post-operative day patient tolerated liquids well. On second post-operative day patient was asymptomatic but had tachycardia of 120/min. Patient was taken for oral contrast CT Scan which showed leakage of contrast into the mediastinum.

Patient was taken into OR and laparoscopy done which showed perforation of lower esophageal end. It was repaired with 2-0 Vicryl interrupted sutures. Large bore drain was kept. On 2nd post-op day drain showed presence of saliva in it and methylene blue was positive for leak. Patient then underwent endoscopic fully coated stent placement.

Result Patient was slowly started on liquids and was discharged after two days uneventfully. Stent was removed after 5 weeks and perforation showed good healing confirmed by oral contrast CT scan.

Conclusion Application of excessive force to push the bougie can lead to lower esophageal injury. High index of suspicion and early intervention is must to avoid unpleasant outcomes

A203

Comparison of two advanced bipolar devices for laparoscopic sleeve gastrectomy in an acute heparinized caprine model

Kevin Lewis *Blue Ash OH*[1], John Cummings *Cincinnati OH*[1], John Matonick *Somerville NJ*[1], William Petraiuolo *Blue Ash OH*[1], Robin Blackstone *Raritan NJ*[1]
Ethicon Endo-surgery[1]

Advanced bipolar devices seal and transect vessels to reduce blood loss and surgical complications during laparoscopic sleeve gastrectomy (LSG). ENSEAL X1 Curved Jaw Tissue Sealer (Ethicon Endo-Surgery, Inc.; Cincinnati, OH) is an advanced bipolar device with 360° continuous shaft rotation, and 16% longer jaw and 9% wider aperture compared to LIGASURE Maryland (Medtronic, PLC; Minneapolis, MN).

This study compares effectiveness of ENSEAL X1 Curved Jaw Tissue Sealer (NSLX137C) and LIGASURE Maryland Jaw Open and laparoscopic Sealer/Divider with Nano-coating (LF1937) to seal vessels in an acute caprine LSG model.

Gastroepiploic vessels along the greater curve of the abomasum were sealed and transected. After which, a hemostasis assessment was performed using a validated bleeding scale before and after manipulation to ensure seal integrity. Manipulation was performed by rolling the sealed vessel between the thumb and forefinger. The percent difference and a two-sided 95% confidence interval (CI) were calculated to establish equivalency at 10%.

Average systemic, systolic blood pressure was 140 mmHg (SD=15.7, Range=120-195, N=482) and activated clotting time was 822 s (SD=188, Range=380-1,000, N=84) across all applications. Success rate for Enseal was 95.4% (230/241) vs Ligasure 95.9% (231/241) for a percent difference of -0.41% and 95% CI of -4.1% to 3.2% indicating equivalency ($P<0.001$). Success rate after manipulation for Enseal and Ligasure was equal, 94.2% (227/241) for a percent difference of 0% and 95% CI of -4.2% to 4.2% indicating equivalence ($P<0.001$).

ENSEAL X1 Curved Jaw and LIGASURE Maryland provide equivalent effectiveness to seal vessels in an acute heparinized caprine LGS model.

A204

A PANORAMIC VIEW OF MULTIREVISIONAL BARIATRIC SURGERIES

Amador Garcia Ruiz de Gordejuela *Barcelona* [1], Javier Osorio *L'Hospitalet de Llobregat* [2], Ainitze Ibarzabal Olano *Barcelona* [3], Lucía Sobrino Roncero *Barcelona* [2], Oscar González López *Barcelona* [1]
Vall d'Hebron University Hospital[1] Bellvitge University Hospital[2] Hospital Clinic Barcelona[3]

Background. Revisional bariatric surgery is gaining popularity yearly. Rates of revisional procedures grow but indications are not always clear. Third or even fourth procedures are less known and reported.

Methods. Retrospective review of multioperated bariatric patients (2 or more) from 3 tertiary referral centers. We analyzed indications for the procedures and their results.

Results. All 3 centers included more than 2000 procedures each for the last 20 years. There were 423 second, 28 third and 3 fourth procedures, representing 9.03%, 0.6% and 0.09% of the whole bariatric procedures. Most of the second procedures were conversions (339 out of 423), mainly from Sleeve Gastrectomy (313 cases). Main indications were insufficient weight loss and reflux. Third and fourth procedures were mainly to treat sequelae or side effects from previous procedures. Third revisional procedures were mainly conversions to deal with complications (18 out of 28) and all 3 fourth revisions were reversals to normal anatomy. Morbidity was slightly higher from primary procedures. No mortality was found in those revisional procedures. Most common final procedure was RYGB (190 cases) and in 56 normal anatomy was reconstructed.

Conclusions. Weight loss issues are not always the main indication, mainly in third and fourth surgeries. After second surgeries, metabolic side effects are the main indication. Distribution of conversion, modifications and reversals vary from the number of procedures. Morbidity is slightly higher than primary cases in referral centers.

A205

Post-operative Outcomes of Sleeve Gastrectomy for Patients with Pre-existing GERD

Ila Sethi *Centereach NY*[1], Fareed Cheema *Bellerose NY*[1], Amy Rosenbluth *Stony Brook NY*[1], Kinga Powers *Stony Brook NY*[1], Aurora Pryor *Stony Brook NY*[1], KONSTANTINOS Spaniolas *Stony Brook NY*[1]
Stony Brook University Hospital[1]

Background: For sleeve gastrectomy (SG) patients with preoperative GERD diagnoses, the literature surrounding worsening postoperative GERD is discordant. Moreover, few studies use functional testing to determine GERD status, relying on symptomatic evaluations instead. This study aimed to evaluate the effects of SG on patients with GERD diagnosed through 24-hour esophageal pH-testing.

Methods: This was a retrospective, single-center case series. SG patients with preoperative pH

testing were identified and compared based on DeMeester scoring. Preoperative demographics, endoscopy results, need for conversion surgery, and changes in gastrointestinal quality of life (GQLI) scores were compared. 2- sample independent t-tests assuming unequal variances were used for statistical analysis.

Results: 20 SG patients had preoperative pH testing. 9 patients had abnormal DeMeester scores (cut-off 14.7) and were GERD positive; median DeMeester score 26.7 (22.1-31.15) and median BMI of 41.3 (38.35-47.09) kg/m2. 11 patients had negative DeMeester scores and were GERD negative, with a median DeMeester score of 9.0 (4.5-13.1) and median BMI of 43.9 (36.7-49.6) kg/m2. The two groups had similar preoperative endoscopic findings and use of GERD medications. Concurrent hiatal hernia repair was performed in 33.3% of patients (22% vs. 36% for GERD positive vs negative patients, p=0.512). Only one patient in positive GERD cohort required conversion to gastric bypass (11%). No significant postoperative differences were noted in GQLI, heartburn, or regurgitation symptoms.

Conclusion: Selected patients with GERD diagnosis undergoing SG do not experience profound worsening of their GERD postoperatively. SG may be a viable surgical option for selected patients with GERD at baseline.

A206

Laparoscopic Resection of Candy Cane Limb after Roux En Y Gastric Bypass

Jillian Angelo *Boston MA*[1], David Spector *Boston MA*[1]
Brigham And Women's Hospital[1]

This video abstract details a case of a laparoscopic resection of a candy cane limb after a RYGB for candy cane limb syndrome. The patient was a 49 year old male s/p RYGB in 2007 who developed epigastric pain, nausea and vomiting with food requiring hospitalizations and TPN, which improved his nutritional status but symptoms were life limiting. Pre-operative work-up included UGI and EGD, both of which showed a normal appearing gastric pouch and roux limb, but a long blind limb. He was offered operative resection. The video describes the dissection and removal of the candy cane segment. The patient subsequently did well and was discharged home on post-operative day one. He remains symptom free thirty days post-operatively.

A207

Marginal ulcers and associated risk factors after Roux-en-Y gastric bypass.

Matthew Wynn *Temple TX*[1], Kristen Tecson *Dallas TX*[2], David Provost *Killeen TX*[1]
Baylor Scott & White Temple[1] Baylor Scott & White Research Institute[2]

Background: As the prevalence of morbid obesity continues to climb in America, so does the popularity of the Roux-en-Y gastric bypass (RYGB) to achieve weight loss goals; however, a long-term risk of RYGB is marginal ulceration, which requires urgent surgery if perforated.

Objectives: We sought to identify characteristics associated with elective vs. urgent presentation for marginal ulcer following RYGB.

Methods: Retrospective data for consecutive cases with marginal ulcers that required surgical intervention from May 2016 to February 2021 were queried from our institution's bariatric database and differences in patient characteristics and clinical course were assessed according to presentation.

Results: There were 43 patients who underwent surgery for marginal ulcer during the study timeframe. Twenty-four (56%) patients presented electively and were treated with resection of the gastroenterostomy and re-anastomosis; the remaining 19 (44%) presented urgently with perforation and were treated with omental patch repair. Demographics, comorbidities, and medications were similar between groups. Patients with urgent presentations were less likely to have bleeds (0% vs. 33%, $p = 0.0056$) and strictures (16% vs. 46%, $p = 0.0368$), but were more likely to require admission to the intensive care unit (32% vs. 4%, $p = 0.0325$) and have a longer median length of stay (2 vs. 5 days, $p < 0.0001$).

Conclusions: Bariatric surgeons must properly counsel patients about the risk of marginal ulcer development to help prevent perforation, intensive care unit stays, and long hospitalizations.

A208

The prevalence of obesity-associated comorbidities in Southeast-Asian patients with obesity in a multi-ethnic cohort

Wei Yu CHUA *Singapore* [1], Si Ru, Ashley CHEN *Singapore* [1], Sharen ASIF *Singapore* [1], Yu An WONG *Singapore* [1], Kwong Fei Eugene LEONG *Singapore* [1], Geetha KAYAMBU *Singapore* [1], Peiying Serene LIM *Singapore* [1], Wen Joo NEO *Singapore* [1], Xin Yi, Candice WEE *Singapore* [1], bok yan so *Singapore* [1], Javis FUNG *Singapore* [1], Davide LOMANTO *Singapore* [1], Guowei Kim *Singapore Singapore*[1], Asim Shabbir *Singapore* [1]
National University Hospital, Singapore[1]

Introduction

There remains a paucity in literature on the profile of Class II and above Southeast Asian patients with obesity. This study presents the prevalence of comorbidities in association with increasing BMI.

Methodology

Prospectively collected data including demographics, anthropometric measurements, and comorbidities for 1573 patients who visited the weight management clinic at our institution between 2005 and 2018 were analysed. Logistic regression was conducted using SPSS Statistical Software Version 28.0.1.0 (142). BMI, age, gender, and ethnicity were considered as indicators for the prevalence of comorbidities. p-value of <0.05 was considered statistically significant.

Results

Joint pain was the most prevalent self-reported comorbidity (54.02%) followed by obstructive sleep apnoea (OSA; 27.48%). The most prevalent comorbidity was hypertension (HTN; 42.02%), followed by type II diabetes mellitus (T2DM; 26.77%), and hyperlipidaemia (HLD; 18.63%). Increasing BMI and age were associated with increased prevalence of T2DM, HTN,

OSA, and joint pain. Males were 33.0%, 89.4%, and 98.4% more likely to harbour T2DM, HTN, and OSA respectively. Patients of Indian decent were 57.4% more likely to harbour T2DM when compared to Chinese. Also, they were 30.1% & 41.5% less likely to be associated with HTN & OSA, respectively.

Conclusion
In Southeast Asian patients with obesity, increasing age and BMI are associated with heightened prevalence of T2DM, HTN and self-reported OSA. The prevalence of metabolic comorbid illness is more among males, and Indian ethnicity is associated with highest prevalence of T2DM.

A209
Association between prior bariatric surgery and severity of COVID-19
Amina Kureshi *Hartford CT*[1], Ilene Staff *Hartford CT*[1], Richard Seip *Hartford CT*[1], Jeff Mather *Hartford CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Connie Santana *Glastonbury CT*[1], Devika Umashanker *Glastonbury CT*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1]

Background: Obesity is a risk factor for poor clinical outcomes in patients with COVID-19. We explored the effect of bariatric surgery on the severity of COVID-19 infection among persons with obesity.

Methods: A retrospective review of our electronic medical record identified 161 metabolic and bariatric surgery (MBS) and 5879 non-surgical (NSurg) patients with BMI≥35 who had tested positive for SARS-CoV-2 between 3/1/2020 and 12/31/2020 (before the vaccine rollout) within a single healthcare system. MBS patients were included if COVID-19 occurred >6 months post-bariatric surgery. The highest historical BMI (HHBMI) within five years prior to infection was extracted as a 'pre-surgery' weight. The analytic study sample included all the surgery cases and a random sample of non-surgery patients stratified to achieve a subset not different from MBS based on gender, age, obesity class, and HHBMI.

Results: The proportion of MBS patients hospitalized in our healthcare system for COVID-19 was lower than NSurg (8.7% vs.11.9%, p=0.247). No MBS patient required mechanical ventilation compared to 2.2% of NSurg (p=0.058). Need for ICU care (2.5% vs. 3%, p=1.000) and mortality (0.6% vs. 1.2%, p=1.000) were also lower for MBS compared to NSurg.

Conclusion: Although differences did not reach statistical difference, COVID-19 related outcomes, including mortality, inpatient hospitalization, need for ICU care and mechanical ventilation, were favorable for the patients with a history of bariatric surgery compared to patients with a similar degree of obesity and no history of bariatric surgery. Larger studies are required to confirm these findings.

A210

Redo Sleeve Gastrectomy with Omental Anchoring

Estella Huang *La Jolla CA*[1], Arturo Martinez Gamboa *Tijuana* [2], Ryan Broderick *La Jolla CA*[3], Jonathan Li *La Jolla CA*[1], Joaquin L Serra *San Diego CA*[3], Santiago Horgan *La Jolla CA*[3], Ariel Ortiz Lagardere *Coronado CA*[2]
University of California San Diego[1] Obesity Control Center[2] University of California at San Diego[3]

We present a case highlighting redo sleeve gastrectomy with omental anchoring. We believe that this novel technique of anchoring the proximal portion of the sleeve to the omentum decreases the risk of sleeve herniation and helps to prevent post-sleeve reflux.

A211

The Associations of BMI Status and Treatment Seeking Behavior with Weight Related Abuse

Lucero Molina *Stony Brook NY*[1], Genna Hymowitz *Centereach NY*[1], Yvette Karvay *New York NY*[2], Carlos Toro Huamanchumo *Lima* [3]
Stony Brook University[1] Fordham University[2] Universidad San Ignacio de Loyola[3]

Background

Extant literature has examined the impact of weight related abuse (WRA) in populations with obesity. However, differences between bariatric treatment seeking versus community samples and samples with versus without morbid obesity have not been explored. This study sought to evaluate verbal WRA (vWRA) differences between treatment seeking versus community samples and individuals with and without morbid obesity in Peru and the US.

Methods

1109 participants were recruited from Peru (n=571) and the US (n=538). The treatment seeking group (n=115) included individuals pursuing or interested in weight loss treatment and the community sample (n= 786) included non-treatment seeking individuals. Participants completed the verbal subscale of the WRA Questionnaire in either Spanish or English.

Results

Chi square tests of independence suggest no difference in experiencing vWRA between individuals with (10.2%) versus without morbid obesity (61.4%, p >.05). However, independent samples t-tests suggested that individuals with morbid obesity experience higher levels of vWRA (M_{vWRA}=2.83) than individuals without morbid obesity (M_{vWRA}=1.45;t(102.72)=-7.93, p<.001). Moderated regression analyses suggest that the interaction between BMI and treatment seeking status did not significantly predict vWRA (p >.05).

Conclusions

This study is novel in examining differences in vWRA for individuals with and without morbid obesity and treatment seeking versus community samples in the US and Peru. Individuals with morbid obesity experienced higher levels of vWRA than those without, suggesting vWRA is

positively associated with BMI status. Future research should explore the link between BMI and treatment status relative to WRA.

A212

Care of Post-Bariatric Surgery Patients: Qualitative Feedback Highlights need for Consistent and Effective Guidelines

Makenzie Barr *Lexington KY*[1], Shannon Kelly *San Luis Obispo CA*[2]
University of Kentucky[1] California Polytechnic State University[2]

Following bariatric surgery, approximately 20-30% of individuals regain weight. Continued support and consistent messaging throughout the surgery journey is imperative for patients to ensure long-term success. This study aimed to understand benefits of current surgical programs to promote sustainable weight loss and areas of improvement. Nationally, post-bariatric surgery patients were recruited through Reddit to participate in an online survey and optional focus group session. Survey data included demographics, BMI, and support desires following surgery. Optional focus groups were analyzed using an iterative approach to identify main themes and subthemes. Survey participants (n=24) were predominately female sex (77.3%), white (87.5%), 42 years of age (42.4±13.5 years average), have a post-operative BMI of 37.6±8.6 kg/m2, and 33.3% re-gained weight since surgery (range 7-75 pounds). Of post-op support, 79.2% of patients desired more physician aid, followed by 58.3% desiring more dietitian support. Two interviews and two focus groups were held. Four main themes were identified including desire for post-op psychological support (n=20), inconsistent nutrition guidance (n=23), ineffective clinic nutrition support (n=22) and web-based support benefits (n=32). One participant stated, "I think I found my support group, not through my hospital, but it was through one of the online forums." Patients benefit from interaction with providers and support networks, however, conflicting messaging between surgical programs can lead to confusion, lack of confidence, and potential weight re-gain. Current research identifies the need to enhance support of post-operative patients, particularly those with weight re-gain. Standardization of nutrition and lifestyle support guidelines could be of benefit.

A213

Conversion of Sleeve Gastrectomy to Roux-en-Y Gastric Bypass for Weight Regain or Medical Indications

Leslie Schuh *Carmel IN*[1], Edward Rowland *Carmel IN*[2], Brenda Logan *Carmel IN*[2], Christopher Crawford *Carmel IN*[2], christopher evanson *Carmel IN*[2], David Diaz *Carmel IN*[2], Margaret Inman *Carmel IN*[2]
Ascension St. Vincent Carmel Hospital[1] Ascension St Vincent Carmel Hospital[2]

Introduction: Laparoscopic sleeve gastrectomy (SG) is the most frequent bariatric surgery globally. Although most patients achieve adequate weight loss and comorbidity improvement, a subset seek conversion to another procedure.

Method: A retrospective chart review of all SG patients examined the frequency and

characteristics of SG patients returning for conversion to laparoscopic Roux-en-Y gastric bypass (LR) for weight regain versus medical conditions.

Results: From 2006 through March 2021, 99 of 2186 SG patients (4.5%) initiated the preparation process for conversion to LR. Patients seeking conversions were significantly younger (40.1 vs 44.9 years) and more likely to be female (87.9 versus 77.5%) than those satisfied with SG. Sixty-nine patients obtained a LR and 4 remain in the preparation process. The primary indication for surgery was a medical condition in 63 patients (61 related to GERD, and 1 each for intractable vomiting/malnutrition and gastric perforation/abscess) and weight-related concerns in 6 patients. Weight and BMI pre-conversion were 242.5 lb and 39.3 kg/m^2 and 197.9 lb and 32.2 kg/m^2 1 year post-conversion. Weight loss and complications did not differ by indication for surgery. Of 26 patients initiating but not achieving conversions, the most common reason was failure to initiate or complete required medically supervised weight loss (19/26 noncompleters).

Conclusions: A small percentage of SG patients inquire about conversion to LR. Most patients initiating the conversion process had medical concerns, primarily worsening GERD. While most patients inquiring about conversion completed the process, the required 6-month medically supervised weight loss was a barrier for 19% of patients.

A214

Management of Perforated Duodenal Ulcer after Gastric Bypass: A Video Case Report

Isabella Alessi *columbia MO*[1], Emanuel Shapera *La Mesa* [2], Andrew Wheeler *Columbia MO*[1]
University of Missouri-Columbia[1] SHARP Grossmont Hospital[2]

Introduction: Marginal ulcer is a relatively common complication after gastric bypass, but remnant gastroduodenal ulcers are less common and difficult to diagnose given access to the remnant stomach is challenging. Perforations of both marginal ulcers and duodenal ulcers can occur, but the latter can pose a diagnostic challenge since typical findings on imaging, such as contrast extravasation or free air, may not be as easily seen as in the former. We present a case of a perforated duodenal ulcer after gastric bypass and steps of operative management.

Case Report: 36-year-old female with a history of tobacco abuse who had undergone a laparoscopic gastric bypass 14 years prior with subsequent laparoscopic internal hernia repair presented with severe abdominal pain, lactic acidosis and CT scan findings concerning for a duodenal perforation. She underwent emergent successful laparoscopic modified Graham patch repair of the ulcer with remnant gastrostomy tube placement. The patient had an uneventful recovery and was discharged on postoperative day 6.

Conclusion: Duodenal ulcer perforation after gastric bypass is an uncommon finding relative to marginal ulcer perforation. Early diagnosis is imperative, and management can often be achieved with a minimally invasive approach with good outcomes. Remnant gastrostomy decompression may aid in the success of the repair.

A215

Prospective randomized comparison of linear endostaplers during laparoscopic sleeve gastrectomy

Yannis Raftopoulos *Holyoke MA*[1], Elana Davidson *Amherst MA*[1], Pavlos Papasavas *Hartford CT*[2], Shruthi Rajkumar *Holyoke MA*[1]
Holyoke Medical Center[1] Hartford Hospital[2]

Introduction

The development of laparoscopic linear endo-staplers (LLES) has enabled minimally invasive approaches to bariatric surgery, but there are few published randomized clinical trials comparing LLES in sleeve gastrectomy (LSG). The objective of this study was to compare two LLES in LSG.

Methods

Sixty consecutive patients were prospectively randomized to undergo LSG with either the tri-staple technology (Medtronic) or the AEON (Lexington Medical) LLES. The measured parameters included patient demographics, LLES characteristics, patient symptoms, hospital stay, specimen characteristics, and adverse events (AEs) (stapler misfires, staple line leaks, and postoperative bleeding). Postoperative bleeding was examined by blood transfusion; hemoglobin difference (preoperative to recovery room and 24 hours postoperatively); non-routine staple line clipping; and evaluation of five laparoscopic and corresponding endoscopic images for staple line bleeding (pre-pyloric, incisura, mid-sleeve, proximal sleeve and gastro-esophageal junction) with a 0-5 visual analogue score (VAS) assessed by an independent blinded bariatric surgeon.

Results

Both groups were similar in patient demographics. There was a significant difference in favor of the AEON LLES in 4/5 laparoscopic images (pre-pyloric: 1.7 ± 0.7 vs. 2.36 ± 0.76, $p=0.007$, mid-sleeve: 1.46 ± 0.62 vs. 1.86 ± 0.68, $p=0.019$, proximal sleeve: 1.6 ± 0.77 vs. 2.0 ± 0.83, $p=0.038$, gastro-esophageal junction: 1.43 ± 0.67 vs. 1.86 ± 0.77, $p=0.014$) and 3/5 endoscopic images (pre-pyloric: 1.56 ± 0.56 vs. 2.36 ± 0.76, $p=0.006$, incisura: 1.66 ± 0.54 vs. 2.0 ± 0.52, $p=0.021$, mid-sleeve: 1.63 ± 0.49 vs. 2.0 ± 0.45, $p=0.005$). There was no statistical difference in the other measured parameters.

Conclusions

Both devices were equally safe and effective in terms of LLES characteristics, patient symptoms, pathology characteristics, hospital stay, and AEs. Bleeding VASs were significantly lower with the AEON LLES.

A216

Three-Port Robotic Sleeve Gastrectomy: Pushing the Boundaries of Bariatric Surgery

Catalina Breton *Tallahassee FL*[1], Jongin Baek *Tallahassee FL*[2], Philippe Gaillard *Tallahassee FL*[3], Andres Ramirez *tallahassee FL*[3], Alexander Ramirez *Tallahassee FL*[4]
Florida State University/ GSR program[1] Florida State University/ TMH[2] Florida State University[3] Tallahassee Memorial Hospital/Florida State University[4]

Laparoscopic sleeve gastrectomy is the most common bariatric procedure worldwide. Robotic surgery establishes a new age of minimally invasive surgery. Standard guidelines for robotic-assisted sleeve gastrectomy (RSG) require the use of four robotic arms, with an additional fifth port required for liver retraction. Our institution uses a novel approach using three ports and a homemade intracorporeal liver retractor with successful outcomes.

We performed a retrospective review of eighty-two consecutive and non-randomized patients undergoing RSG at Tallahassee Memorial HealthCare from January 2020 to February 2021. All patients are classified as Class II morbidly obese. We excluded fifty-three patients due to simultaneous procedures or prior bariatric surgery. This twenty-nine patient cohort had a mean age of 43 years with an initial mean BMI of 46, and 79% were female. The mean operative time was 1.2 hours, and most cases had a surgical resident's active participation. There was a maximum 2-day stay, and most were discharged on a postoperative day one (62%). The thirty-day readmission rate was 3.8% (four patients) and included treatment of non-fatal pulmonary embolism, superficial wound care, and nausea (3%, 3%, and 7%, respectively). This cohort had no postoperative pneumonia, urinary tract infections, deep tissue infections, leaks, strictures, or deaths. Mean weight loss at 3 and 6 months follow up were 36.8 and 59.4 pounds, respectively. This study demonstrates the feasibility and safety of our technique is comparable to the traditional robotic approach.

A217

Is Post-Operative Nausea and Pain Different for Bariatric Procedures?

Milot Thaqi *New Haven CT*[1], Lee Ying *New Haven CT*[1], Grace Chao *New Haven CT*[1], Evans Simmons *New Haven CT*[1], Andrew Duffy *New Haven CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Background: Pain and Post-operative nausea and vomiting (PONV) are postoperative complications influencing length of stay and patient satisfaction. There is a lack of evidence examining differences for Pain and PONV for bariatric surgery depending on procedure, approach or primary vs. revisional

Methods: We performed a prospective review of patients undergoing laparoscopic and robotic bariatric surgery from a single institution. Utilizing post-operative questionaries, patients were asked daily to report their degree of pain on a scale of (0-10), and nausea (0-10), as well as any episodes of nausea/ vomiting post-operatively until discharge.

Results: These results reported represent preliminary data obtained from 62 patients who underwent bariatric surgery in late 2021. Of these patients 22 (35%) underwent robotic surgery, and 40 (65%) underwent laparoscopic surgery (primary Roux-en-Y gastric bypass, primary sleeve gastrectomy, and revisional bariatric surgeries). Based on the preliminary data, there was no statistical difference in Pain or PONV robotic vs laparoscopic surgery (Pain: (SD=0.8, p= 0.08 and SD=0.7, p=0.06 respectively), (PONV: POD1 and POD2 nausea SD=2.4, P=0.38 and SD=2.6, P=0.88 respectively). No differences existed for either sleeve gastrectomy vs gastric

bypass or primary vs. revisional surgeries.

Conclusion: Our study uniquely examines surgical approach, procedure, and revisional status and its effect on Pain and PONV. Current data do not demonstrate any differences between the groups indicating need for Pain and PONV management in all cases.

A218

Time and Extent of Ketosis after Carbohydrate and Fat Deprivation in Obese, Non-Obese, Sleeve Success, & Failure

Scott Monte *Williamsville NY*[1], Angela Chen *New Hyde Park NY*[2], Stefani Papazaharias *East Amherst NY*[2], Christina Sanders *Buffalo NY*[2]
Synergy Bariatrics a Department of ECMC[1] State University of New York at Buffalo[2]

Background

Low energy and very low calorie ketogenic diets with <50 g of carbohydrates typically result in beta-hydroxybutyrate (BHB) levels ≥0.5 mmol within 1-2 days (a common marker of ketosis). It is not known how quickly, or to what extent, people with severe obesity enter in ketosis versus those that are not obese, or that had bariatric surgery.

Methods

Eight subjects with severe obesity adhered to 10-day High Protein, Low-Carb, No Fat dietary intervention consisting of four protein shakes and two protein-rich snacks daily (approximately 140g protein, 28g carb, 0g fat = 650-700 kcal/day). Plasma BHB levels were recorded from fingerstick (KetoMojo) each morning after an approximate 12-hour fast. Subjects journaled date and time of protein shakes, snacks, water, and physical activity. Data are presented as mean±SD.

Results

Subjects were 35.9±3.8 years with BMI 50.1±6.3. The baseline fasting BHB level was 0.13± 0.05 mg/dL. BHB level at Day 10 was 0.59±0.35 mg/dl (change of 0.46±0.35mg/dL). Subjects reached the 0.5 mg/dl threshold by 7.0±1.3 days. Subjects lost an average of 12.3±5.1 lbs (4.0%±0.2% of total body weight). Non-obese, sleeve success and failure subjects for comparison remain in enrollment phase.

Conclusion

Subjects with severe obesity required approximately 7-days to enter ketosis when restricted to predominantly high protein diet. This appears to be significantly longer than established timelines in previous research and may have implications for chronic and pre-operative nutritional approaches in severe obesity. Non-obese, sleeve success and failed weight loss cohorts will be compared to subjects with severe obesity when enrollment completes.

A219

Increasing Prophylactic Enoxaparin Dosing From 30 mg to 40 mg Does Not Increase Risk of Bleeding in Bariatric Surgery Patients

Haley Daigle *Augusta GA*[1], Ryan Taylor *Knoxville TN*[1], Robert Heidel *Knoxville TN*[1], Greg Mancini *Knoxville TN*[1], Matt Mancini *knoxville TN*[1], Kyle Kleppe *Knoxville TN*[1]
University of Tennessee Medical Center Knoxville[1]

Balancing the risk of venous thromboembolism and post-operative bleeding is an ongoing challenge in the bariatric surgery population,
and current chemoprophylaxis recommendations are inconsistent. Enoxaparin dosing at 30mg Q12 hours was thought to be inadequate for prophylaxis in patients with obesity and an increase to 40mg was recommended by our pharmacy department. A perceived increase in post-operative bleeding prompted the following retrospective investigation. A control group (30mg enoxaparin twice daily) was compared to an intervention group (40mg enoxaparin twice daily)
over consecutive three-month intervals for patients undergoing laparoscopic Roux-en-Y gastric bypass (RYGB), laparoscopic vertical sleeve gastrectomy (LVSG), conversion from LVSG to RYGB, and gastric band removal. Demographics and rates of VTE and bleeding complications were recorded. 162 total patients were included, 84 in the control group and 78 in
the intervention group. The study populations were comparable regarding age, gender, BMI, procedures performed, and overall size. There were no VTE events in either group. Despite 3 patients in the intervention group experiencing post-operative bleeding (3.8%), and none in the control group, this did not reach statistical significance [p = 0.11]. Notably, 2 of these 3 patients received only 30mg enoxaparin in pre-op, and had subsequent doses held due to concern for postoperative bleeding risk. 40mg enoxaparin twice daily did not increase post-operative bleeding risk in our study, however further research is needed to further determine optimal dosing and duration. Perhaps a stronger predictor of post-operative bleeding is intraoperative blood loss.

A220

One Anastomosis Gastric Bypass (OAGB) as a bariatric procedure in a teaching tertiary hospital in Athens during COVID-19 pandemic

Emmanouil Onoufrios Sgouromallis *ATHENS* [1], Konstantinos Livanos *Chalandri* [1], Georgios Xenakis *ATHENS* [1], Melissanthi Bechraki- Triantafyllou *ATHENS* [1], Parmenion Patias *Athens* [1], Ilias Margaris *Athens* [1]
2nd Surgical Dept, George Gennimatas General Hospital, Athens, Greece[1]

BACKGROUND: OAGB is a bariatric procedure with excellent results while presumed to have a lower learning curve than classic RYGB. COVID-19 pandemic has severe ramifications in the global health system and this effect is amplified in obesity management due to both the fear of perioperative mortality of bariatric patients and the social stigma that often follows.

METHODS: We retrospectively analyzed the data of 67 consecutive OAGBs performed in our center from March 2020 to end of December 2021.

RESULTS: 47 patients were female, mean age was 41.64 while mean preoperative BMI was 50.45. Mean Hgb decrease was 1.43 postoperatively with mean hospital stay of 4.47 days. All procedures were performed by an attending surgeon as supervisor and two 5th year residents with bariatric surgery experience. There were 3 postoperative leaks, 2 of which resolved with conservative management. No patients were infected during their hospital stay while one patient was admitted to the COVID clinic due to a mild infection two months post operatively with an uneventful course. During the short follow-up period hypertension, diabetes and obstructive sleep apnea were significantly improved or disappeared while no patient reported symptoms of reflux esophagitis.

CONCLUSION: OAGB is feasible as a procedure, with an acceptable learning curve in tertiary centers. COVID pandemic did not decrease bariatric procedures; however one patient who was the only death in our study was admitted in ICU with 24 hours delay due to the decreased availability of ICUs during the pandemic, a factor to be considered during this period.

A221

In Short Term Follow-up, High Dose Dry Vitamin D3 (cholecalciferol) Can Prevent and Treat Secondary Hyperparathyroidism After Single Anastomosis Duodenoileostomy with Sleeve Gastrectomy (SADI-S).

Lindsey Sharp *Raleigh NC*[1], Collin Sharp *Raleigh NC*[2], Peter Ng *Raleigh NC*[1], Linda Youngwirth *Durham NC*[1], Dustin Bermudez *Raleigh NC*[1]
UNC/Rex Healthcare[1] Wake Forest University[2]

Background: Secondary hyperparathyroidism (hPTH) is common following bariatric procedures, especially those with more distal bypasses like the single anastomosis duodenoileostomy with sleeve gastrectomy (SADI-S).

Setting: Private practice in Raleigh, NC

Methods: Patients undergoing SADI-S between December 1st, 2020 and September 30th, 2021 were included. PTH and 25-OH vitamin D (Vit D) levels were obtained preoperatively (preop) and at 3, 6, and 12 months postoperatively. Patients were placed on a vitamin regimen consisting of a multivitamin high in vitamins A,D,E,K, calcium citrate 2400 mg, and dry vitamin D3 (cholecalciferol) 30,000 IU daily, total.

Results: Preoperatively, 42.5% (n=17/40) of patients had hPTH and 100% of those had a preop Vit D level <60 (ng/ml). The average Vit D level in the hPTH group was 19 and in the normal PTH group was 31 (p=0.005).

Of the patients with preop hPTH, 86% (n=12/14) were normalized at 3 months. The two patients with persistent hPTH had Vit D <60. At 6 months, hPTH resolved in 1 of these patients with an increase in Vit D from 57 to 85. In the patient without resolution of hPTH, the Vit D decreased from 23 to 18.

Of the group that did not have hPTH preop (n=23), none (n=18) developed hPTH at 3 months (avg Vit D=98). And none (n=6) developed hPTH at 6 months (avg. Vit D=83).

Conclusions: In short term follow-up after SADI-S, the vast majority of secondary hPTH cases can be corrected and prevented by achieving Vit D levels >60.

A222

Perceived Social Support and Coping Strategies among Bariatric Patients During COVID-19

Alexandra Harvey *Philadelphia PA*[1], Melissa Butt *Hershey PA*[2], Antoinette Hu *Hershey PA*[2], Ann Rogers *Hershey PA*[2], Andrea Rigby *Hershey PA*[2]
Penn State College of Medicine[1] Penn State Health[2]

The COVID-19 pandemic increased challenges to bariatric patients' strict diet and exercise regimen, increasing reliance on social support and effective coping strategies for post-operative success. Social support and adaptive coping can be effective in the prevention and treatment of weight recurrence. Social support is associated with increased weight loss in bariatric patients and has been perceived by patients as necessary for effective post-operative care. The objective of this study is to investigate perceived social support and coping methods among bariatric patients and its association with weight during the COVID-19 pandemic. Adults (n=99) who underwent bariatric surgery prior to March 2020 completed a self-report questionnaire regarding coping strategies and perceived support during the COVID-19 pandemic. Respondents reported a wide range of weight recurrence (0.00 - 31.40 kg) from their lowest recorded weight. Participants also reported a high level of perceived social support, but it was not significantly associated with weight recurrence. Problem-focused coping strategies were significantly associated with weight recurrence (r=0.21, p=0.04), possibly due to an increase in weight prompting patients to engage in problem-focused coping. Weight recurrence was also significantly associated with venting (r=0.21, p=0.04), behavioral disengagement (r=0.20 p=0.048), and planning (r=0.30, p=0.003) coping methods during the pandemic. Our findings suggest that utilization of problem-focused coping methods are associated with weight recurrence regardless of perceived social support. Understanding which coping methods are associated with better post-operative health outcomes (such as increased weight loss) will help clinicians better counsel patients on how to address stressors they may encounter post-operatively.

A223

Comparison of Robotic Surgery vs. Laparoscopic Surgery at a Single Center of Excellence: 90 day Perioperative Outcomes of Gastric Sleeve

Vasu Chirumamilla MD, Ashish Agarwala DO, Farad Anoosh MD, Arif Amad MD FACS, FRCS

Vasu Chirumamilla *Port Jefferson NY*[1], Arif Ahmad *Port Jefferson NY*[2], Ashish Agarwala *Setauket NY*[3], Farhad Anoosh *port jefferson NY*[4]

Northwell Port Jefferson Long Island NY[1] Northwell[2] John T Mather Memorial Hospital[3] brookhaven memorial hospital medical cen[4]

Abstract
Comparison of Robotic Surgery vs. Laparoscopic Surgery at a Single Center of Excellence : 90 day Perioperative Outcomes of Gastric Sleeve

Background : Robotic Surgery is gaining popularity and availability. Comparative studies of Gastric Sleeve performed via Laparoscopic versus Robotic Platform at a Single Site Center of Excellence are lacking.

Objective : To report our experience of Gastric Sleeve performed via Robotic or Laparoscopic Surgery

Methods : A retrospective review of Gastric Sleeve performed via Laparoscopic Surgery (N = 1626) and Robotic Surgery (N = 1443) during 2016 to 2021 . All patients underwent surgery for Gastric Sleeve by one group. Data was collected by independent party following MBSAQIP database and Center of Excellence guidelines.

Results: We reviewed LS & RS groups in % respectively: Length of Stay (1.5 ,1.2) Use of Blood Transfusions (0.1, 0.1) , Surgical Site Infections 04.0.1), 90 day readmissions (1.5,1.2), Staple Line Leak rate (0.3,0.1) , Venous thromboembolism DVT (0.2,0.2) Pulmonary Embolism (0.12,.07), Concomitant Hiatal Hernia Repair(37,47), BMI >45 (36,40), BMI >50 (15,20), Return to Operating Room (0.1,0.1), Stroke (0.1,0.0). LS group cost approximately $471.00 more than RS group.

Conclusions
Gastric Sleeve performed via Robotic Surgery offers comparable perioperative outcomes to Laparoscopic Surgery. While maintaining low negative outcomes, higher BMI patients and concomitant hiatal hernia patients were increased in the Robotic Surgery group. With comparable high volume, cost was lower in Robotic Group.

A224
Bariatric Surgery in the Elderly Population: A Multi-Surgeon Single Institution Retrospective Review
Michael Kachmar *Stratford NJ*[1], Nicholas Mason *Voorhees NJ*[1], Christopher Sandifer *East Orange NJ*[1], Adam Goldstein *Cherry Hill NJ*[2], Adeshola Fakulujo *Cherry hill NJ*[2], Marc Neff *Cherry Hill NJ*[2], Louis Balsama *Stratford NJ*[1]
Rowan School of Osteopathic Medicine[1] Jefferson Health New Jersey[2]

Background: Obesity is a leading cause of preventable death worldwide. As the elderly become the fastest growing population, they too face this epidemic. Bariatric surgery aids in weight loss and decreases obesity-related co-morbid conditions. We aimed to quantify excess weight loss (EWL) for elderly patients undergoing bariatric surgery at a single institution and compare our

results to EWL previously reported for general and elderly populations. We hypothesized that EWL for our elderly population would be statistically similar to previously reported EWL in general and elderly populations.

Methods: Bariatric surgery performed from 2011-2017 at a single institution by 4 bariatric surgeons was analyzed. Weight loss was measured at 3, 6, and 12 month follow-up. 103 patients met inclusion criteria - mean age of 65.75 years old and mean preoperative BMI of 45.95 kg/m^2. Laparoscopic sleeve gastrectomy (87.4%) and laparoscopic gastric bypass (12.6%) were both included in the study.

Results: Mean EWL of was 31.9%, 43.7%, and 53.4% at 3, 6 , 12 months respectively. EWL at one year was statically the same as prior reviews of elderly bariatric patients (EWL 53.37%) ($p = 0.995$). Our elderly patients lost less weight than the general population (EWL 61.2%) ($p <0.001$). No thirty day mortality was observed. Average length of hospital stay was 1.58 days.

Conclusion: Our elderly patients undergoing bariatric surgery were noted to have EWL similar to those previously reported in both the non-elderly and elderly populations. Bariatric surgery is both efficacious and well tolerated in the elderly population with repeatable results.

A225
Measure Twice, Cut Once: New Technique of the Sleeve Gastrectomy
Marissa Novack *Buffalo NY*[1], Aaron Hoffman *Buffalo NY*[1]
University at Buffalo[1]

As the sleeve gastrectomy has increased in popularity becoming the most performed bariatric surgery, the technical aspects of the operation have been critiqued in hopes of decreasing complication rates. The most serious post-operative complications include staple line leaks, for which current research has demonstrated a leak rate of 1-2%, and gastric sleeve stenosis or strictures, which has an incidence of up to 4%. These complications, depending on the post-operative time frame, are likely caused by technical errors during surgery and can lead to symptoms of dysphagia, reflux, nausea, and vomiting. Although difficult to study, many articles in the literature support the correlation between the surgical technique of creating the sleeve and post-operative complications. The traditional method of multiple staple fires alongside a bougie allows for a greater margin for error which can lead to kinking or twisting of the staple line. Subsequently, these areas of staple line irregularity can create high pressure zones and partial obstructions contributing to post-operative symptoms and complications. By utilizing the bariatric clamp or the single-fire 230mm stapler, the degrees of freedom are decreased resulting in less variability of the shape of the sleeve. This technique allows for the removal of the fundus and body without distorting the remaining stomach's anatomy, while still producing a curved sleeve. Although our one-year post-operative data is still being accrued, there have been no staple line leaks or sleeve stenosis to date in our 230mm stapler group.

A227

Impact of super-super-obesity on early and late outcomes following laparoscopic sleeve gastrectomy

Nathan Haywood *Charlottesville VA*[1], Aimee Zhang *Charlottesville VA*[1], Jessica Pawly *Charlottesville VA*[1], Joshua Scott *Charlottesville VA*[1], Peter Hallowell *Charlottesville VA*[1], Bruce Schirmer *Charlottesville VA*[1]
University of Virginia[1]

Background: There is a paucity of data regarding long-term outcomes of patients with super-super-obesity (SSO), Body Mass Index (BMI)>60kg/m^2, following laparoscopic sleeve gastrectomy (LSG). A high-volume single-center experience was reviewed to evaluate the safety and long-term efficacy of LSG in patients with SSO compared to those without (non-SSO).

Methods: The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Project database was used to identify all patients undergoing LSG at a single institution between 1/1/2014 and 12/31/2019. Patients were stratified by BMI>60kg/m^2. Pre-operative comorbidities, operative characteristics, post-operative complications, short-term (1, 3, 6 month) and long-term (12, 24 months) outcomes were compared.

Results: Of 468 patients undergoing LSG, 65 (13.9%) had BMI>60 kg/m^2. SSO had higher preoperative rate of obstructive sleep apnea (73.8% vs 48.3%, p<0.01) and hypertension (66.2% vs 49.0%, p=0.01). While SSO had higher rate of postoperative UTI (3.1% vs 0.5%, p=0.04), there was no difference in rates of other post-operative complications. Percent excess BMI loss was higher at all time points in the non-SSO group. However, percent total body weight loss was comparable for both groups at all intervals (Table). Sub analysis of diabetic patients demonstrated similar pre- and post-operative Hemoglobin A1c (pre: 6.85±1.36 vs 7.13±1.70, p=0.76; post: 5.79±1.12 vs 5.85±1.0, p=0.551) and insulin requirement rate (pre: 30% vs 17%, p=0.17; post: 15% vs 7%, p=0.24).

Conclusions: LSG can safely and effectively be performed in patients with BMI>60kg/m^2. Similar weight loss and improvement in glycemic control demonstrate the substantial benefit of LSG in this high-risk group.

A228

Bariatric Tourism is Safe and Effective When Performed in a High-Volume Center (19801 patients) Following ASMBS Guidelines

Ariel Ortiz Lagardere *Coronado CA*[1], Jonathan Li *La Jolla CA*[2], Arturo Martinez Gamboa *Tijuana* [1], Ryan Broderick *La Jolla CA*[2], Estella Huang *La Jolla CA*[2], Joaquin L Serra *San Diego CA*[2], Lucia Chavez *Tijuana* [1], Alejandra Valdez *Tijuana* [1], Santiago Horgan *La Jolla CA*[2]
Obesity Control Center[1] UCSD[2]

Background

Bariatric tourism has experienced a significant rise in demand since the turn of the century, allowing patients to circumvent barriers such as financial cost/insurance. However, uncertainty

remains regarding safety and efficacy. We analyzed the safety and efficacy of a high volume bariatric tourism program in TJ that follows ASMBS/ACS guidelines and regulations.

Methods
A retrospective review was performed identifying bariatric tourism operations performed in a Joint Commission International Accredited center. All patients underwent a standardized protocol including an online bariatric education program, a nutritionist guided pre-operative weight loss program and pre-operative internal medicine and psychological evaluation. All patients underwent a barium swallow 72 hours post-operatively. Demographic and post-operative data were collected.

Results
19801 patients were identified in a 20 year period (04/2000 to 10/2021). The average age was 42.2 years (13-78), BMI 42.3 (25.22-76). 53.1% of the operations were sleeve gastrectomies, 38.2% adjustable gastric band (AGB), and 8.7% gastric bypass. 9.7% of cases were revisional. The average length of stay was 22.4 hours with follow up to 24 months.
The average EWL at 2 years was 76.18%. The total 30-day morbidity rate was 1.2%: intra-abdominal bleed (0.001%), acute incarcerated hiatal hernia (0.001%), gastric outlet obstruction (0.001%), venous thrombosis (0.0006%), intrabdominal infection (0.0002%), pulmonary embolism (0.0002%), acute gastric leak (0.00005%). There were no mortalities.

Conclusion
Our study demonstrates that bariatric tourism when performed in an accredited center is both safe and effective. The keys to success include a standardized and regimented program ensuring patient compliance and quality provider care.

A229
A Multidisciplinary Perioperative Protocol for Pre-Heart Transplant (LVAD) Patients Undergoing Sleeve Gastrectomy
Bhavani Pokala *Carmel IN*[1], Spyridon Giannopoulos *Indianapolis IN*[1], Dmitrios Stefanidis *Indianapolis IN*[1], Jennifer Choi *Indianapolis IN*[2]
Indiana University School of Medicine[1] Indiana School of Medicine[2]

Background
In end-stage cardiac disease, left ventricular assist devices (LVAD) can bridge to definitive treatment via heart transplantation (HT). Given limited organ allocation, however, patients with obesity are often deemed ineligible citing increased morbidity and decreased graft survival. Existing studies indicate that sleeve gastrectomy (SG) can be safe and effective for weight loss in this setting, yet no standardized perioperative treatment algorithms exist. This study describes initial outcomes of a multidisciplinary protocol developed for management of LVAD patients undergoing SG.

Methods
A single-institution, retrospective review was conducted for LVAD patients undergoing laparoscopic SG from 2017-2021. During this period, a standardized perioperative protocol was

devised and employed by bariatric and cardiothoracic surgery teams. Patient demographics, preoperative characteristics, and postoperative outcomes were collected.

Results
Seven patients, including two females, with mean age of 47.5 years (range 31-62) met criteria from 2017-2021. Average preoperative BMI was 45.1kg/m^2 (39.2-54.4). Average BMI at maximum weight loss was 31.5kg/m^2 (23-43.1) with average %EWL of 71.5% (35.0-111.4%). Average LOS was 4.3 days (3-7). One patient had postoperative bleeding requiring transfusion without invasive intervention. No additional in-hospital complications occurred. Regarding current transplant status, one patient proceeded to HT, one is currently listed, two are undergoing additional pre-transplant work-up, one has inadequate weight loss, and two died of unrelated, traumatic causes (intracranial bleed post-fall and motorcycle collision).

Conclusion
A multidisciplinary perioperative management protocol can be employed to standardize care and potentially improve outcomes for LVAD patients undergoing SG. Comparative effectiveness studies can further evaluate benefits of this approach.

E-Poster/E-Video
Thursday, June 9, 2022

A230
Weight loss following bariatric surgery is sex- and operation-dependent.
Vance Albaugh *Baton Rouge LA*[1], Danxia Yu *Nashville TN*[2], You Chen *Nashville TN*[2], Brandon Williams *Nashville TN*[2], Matthew Spann [2], Charles Flynn *Nashville TN*[2], Wayne English *Nashville TN*[2]
Pennington Biomedical Research Center[1] Vanderbilt University Medical Center[2]

Background: Weight loss following bariatric surgery is highly variable and whether sex differences exist remain unclear as >80% of patients are women. Pre-clinical studies demonstrate numerous sex-specific responses to bariatric surgery, though no such effects have been reported clinically.

Methods: Total weight loss (percent) over time following RYGB (n=3700) and VSG (n=1221) was modeled up to 5 years at a single academic center from a retrospective, observational cohort. Modeled estimates were adjusted for known clinical confounders (age, preoperative body weight, procedure type (RYGB, VSG), race, and presence of insulin resistance/diabetes).

Results: Percent total weight loss demonstrated a strong sex by procedure interaction, with women having a significant weight loss advantage with RYGB compared to VSG [adjusted difference at 5-years: 7.35% (95% CI: 6.11,8.60); P<0.0001]. Men showed similar weight loss with RYGB or VSG (adjusted difference at 5-years: 0.25% (-1.87,2.36); P=0.82; P-interaction between sex and procedure type=0.0001]. Women experienced greater weight loss than men, and RYGB had greater weight loss than VSG [adjusted difference at 5-years: 3.66 (2.53,4.79) and

5.63% (4.55,6.70), respectively; both P<0.0001]. Expectedly, increasing age, preoperative weight, and diabetes were associated with less weight loss. Follow up characteristics were similar across sex and operation.

Conclusions: Weight loss after bariatric surgery is sexually dimorphic and operation-dependent. These factors affect patient expectations, procedure selection, risk/benefit ratio, and possibly other long-term outcomes. Further studies are needed to corroborate these potential effects and their long-term implications.

A231

Fellowship Gastric Bypass Learning Curve: which is the best technique?

Zachary Taylor *Stanford CA*[1], Yulia Zak *Stanford CA*[1], Micaela Esquivel *Stanford CA*[1], Dan Azagury *Stanford CA*[1]
Stanford Hospital and Clinics[1]

BACKGROUND: As bariatric surgery trends shift toward vertical sleeve gastrectomy (VSG) away from Roux-en-Y gastric bypass (RYGB), adequate fellow training to RYGB is imperative. Identifying a RYGB technique with a quicker learning curve may be beneficial.

METHODS: Retrospective review of RYGB performed by three fellows at a teaching hospital over a three-year period from August 2019 to present. RYGB involving fellows performed for weight loss were included. Current techniques include a linear stapler partially handsewn (HS) gastrojejunal (GJ) anastomosis and circular stapled (CS) GJ anastomosis. The aim was to identify a difference between techniques using operative times as surrogates for fellow learning curves.

RESULTS: Of 142 cases reviewed, 18 were excluded. Average operative times for RYGB for CS GJ were shorter compared to HS GJ, 188min (CS) vs. 284min (HS), p=0.002. By the second academic quarter, CS GJ operative times decreased by 9% compared to an increased operative time of 9% by the fourth quarter for HS GJ. Adding 29 revisional cases (VSG to RYGB), demonstrated shorter operative times in CS GJ comparatively, 190min (CS) vs. 281min (HS), p=0.005.

CONCLUSION: CS GJ has a quicker learning curve translating into shorter operative times and has been adopted as the technique of choice following fellowship. HS GJ has a steeper learning curve; however, there is value in learning additional techniques given patient factors may prevent a CS GJ technique. Implementing a RYGB technique with a shorter learning curve to reach proficiency earlier in the year may be of value in fellow training.

A232

Assessment of Bariatric Surgery Effects on Body Mass Index, Type 2 Diabetes, Hypertension, and Risks for Cardiovascular Diseases in Sudan

Mohammed Al Bashir *Khartoum*

University of Khartoum

Introduction: In Sudan where the health resources are limited and high prevalence of tropical diseases, obesity would complicate health challenges even more. The field of bariatric surgery lacks research on Sudanese patients. This is due to the fact that until 2018, there were no centers specialized in the surgical management of obesity and its related comorbidities in the entire African Horn countries. This research is the first on patients underwent laparoscopic sleeve gastrectomy (LSG) or gastric bypass (LGB) in Sudan.

Methods: A cross-sectional study of 62 patients who underwent LSG or LGB at a bariatric center in Khartoum, Sudan between January 2019 and December 2020. Data were collected via interviews and laboratory results then analyzed using IBM SPSS.

Results: At the time of survey, the mean age of patients was 33.98 ± 9.07 years, the mean time since surgery was 9.37 ± 6.19 months. 91.94% of patients underwent LSG, and only 8.06% underwent LGB. The mean excess BMI loss (EBMIL) was 62.21 ± 26.26%. Before surgery, 21% of the patients had hypertension and 30.65% had type 2 diabetes. After surgery, all the hypertensive patients and more than 83% of the diabetics recovered. The mean HbA1c level was 6.15 ± 1.11 after surgery in patents previously diagnosed with type 2 diabetes.

Conclusion: Bariatric surgery displayed major effects in the recovery from diabetes and hypertension without the use of medications in Sudanese patients with improvement in HbA1c levels in all diabetics. Patients also presented significant %EBMIL that would decrease Cardiovascular diseases risk.

A233

Short-term Outcomes of Sleeve Gastrectomy in Patients at King Fahad Specialist Hospital in Buraydah, Saudi Arabia

Mohammed Al Bashir *Khartoum* [1], Bandar Assakran *Buraydah* [2]
University of Khartoum[1] Chief[2]

Introduction: The Kingdom of Saudi Arabia is considered among the top countries with high obesity prevalence. To fight this problem, the government has established governmentally-funded centers for the surgical and medical management of obesity and its comorbid conditions. The Bariatric Center at King Fahad Specialist Hospital in Buraydah is the only governmental center for the surgical of obesity in the entire Qassim region.

Methods: A retrospective study of 77 patients who continued to follow up with the surgical team after they underwent sleeve gastrectomy at the Bariatric Center of King Fahad Specialist Hospital in Buraydah between January 2017 and December 2018. Data were collected from patients' files then analyzed using IBM SPSS. The research is still ongoing and more data analysis will be carried for other data collected from those patients. Also, data will be added from patient who underwent sleeve gastrectomy between January 2019 and March 2020.

Results: In compression with the pre-surgical values, the following was noted; the HDL levels after 6, 12, 24 months showed an increase by 0.12, 0.53, 0.35 mmol/L. The LDL decreased by 0.52, 0.77, and 0.73 mmol/L after 6, 12, and 24 months respectively. Regarding the fasting blood glucose, it decreased by 0.92, 1.21, and 0.97 mmol/L after 6, 12, and 24 months respectively. In diabetics, the HbA1c levels decreased by 1.68, 2.13, and 2.27 after 6, 12, and 24 months respectively.

Conclusion: SG can reduce the diabetic complications and the risks for cardiovascular conditions by increasing HDL, and lowering LDL and HbA1c.

A234

LAPAROSCOPIC BARIATRIC SURGERY IS FEASABLE AND SAFE IN SETTINGS OF INTESTINAL MALROTATION

Donovan Harris *Gibsonia PA*[1], Alvin J Chang *Danville PA*[2], Mark J Dudash *Danville PA*[2], Craig Wood *Danville PA*[3], Ryan Horsley *Scranton PA*[3], Alexandra Falvo *Scranton PA*[3], David Parker *Danville PA*[3], Anthony T Petrick *Danville PA*[3], Vladan Obradovic *Manlius NY*[3]
Geisinger medical Center[1] Geisinger Medical Center (GMC)[2] Geisinger Medical Center (GMC)[3]

Background: Intestinal congenital rotational anomalies, malrotation/nonrotation and situs inversus are very rare in adults (0.00001 to 0.19%). They are usually asymptomatic and found incidentally at surgery or after diagnostic imaging. During bariatric surgery, such anatomical anomalies can pose an additional technical challenge. Familiarity with such anomalies, early detection and understanding the anatomy allow for safe laparoscopic intervention.

Methods: We retrospectively reviewed, prospectively maintained, Geisinger Bariatric Surgery Registry of all bariatric surgeries in last 20 years. The occurrence of intestinal rotational anomalies noted at initial surgery and perioperative and long-term outcomes were analyzed.

Results: Ten cases (out of 7814; 0.13%) of rotational anomalies were found. Two situs inversus and eight with intestinal malrotations. There were 4 males and 6 females, average age 43.7 years and BMI of 46.6 kg/m2. Eight procedures were completed by laparoscopic approach including one robotic assisted, one was laparoscopic converted to open and one was done by open bariatric surgeon. There were nine RYGB's and one sleeve gastrectomy. No perioperative or immediate 30-day complications were reported. Average LOS was 1.8 days.

Conclusion: Bariatric surgery to include anastomotic cases can be safely performed in patients with rotational anomalies. Peri-operative and long-term outcomes are similar to patients without rotational anomalies. Early operative recognition by routine initial visualization of ligament of Treitz allows early recognition of the anatomic anomalies and technical considerations.

A235

Emerging Trends in Robotic and Laparoscopic Metabolic Weight Loss Surgery: An Analysis of the MBSAQIP Database

Alexander Friedman *Hartford CT*[1], Richard Seip *Hartford CT*[1], Ilene Staff *Hartford CT*[2], Connie Santana *Glastonbury CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Jason Wade *Hartford CT*[1], Dale Bond *Providence RI*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1] Hartford Hospital[2]

Introduction: With over five years of data, MBSAQIP has become one of the most robust databases in bariatric surgery. We documented the trends that have emerged over time with improvements in robotic and laparoscopic techniques.

Methods: We used the MBSAQIP national registry from 2015-2019 to identify trends for robotic (RA) and laparoscopic (LA) bariatric surgery, particularly within SG (CPT 43775) or RYGB (CPT 43644). Analysis excluded patients with emergent or revisional surgery, ASA class 5, and those with conditions present at the time of surgery.

Results: The use of robotic surgery increased from 6.2% in 2015 to 13.6% in 2019. From 2015 to 2019, most outcomes remain unchanged or improved. With regard to SG, RA continues to have a significantly higher rate of operative length, conversion, 30-day readmission and intervention though there was a decrease in unplanned ICU admission and significant adverse events. With regard to RYGB, RA continues to have a significantly higher rate of operative length and 30-day readmission. In 2019, laparoscopic RYGB no longer shows a significantly increased risk of bleeding and need for transfusion in comparison to RA.

A236

Analyzing Outpatient Follow Up from Sleeve Gastrectomy vs. Roux-en-Y Gastric Bypass

Alexander Friedman *Hartford CT*[1], Richard Seip *Hartford CT*[1], Ilene Staff *Hartford CT*[2], Connie Santana *Glastonbury CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Jason Wade *Hartford CT*[1], Devika Umashanker *Glastonbury CT*[1], Dale Bond *Providence RI*[1], Darren Tishler *Glastonbury CT*[1], Pavlos Papasavas *Hartford CT*[1]
Hartford Hospital[1] Hartford Hospital[2]

Introduction: 30-day follow-up is a crucial component of quality improvement initiatives that aim to advance patient outcomes. The MBSAQIP database has allowed us to further investigate characteristics of patients demonstrating better adherence to follow-up.

Methods: We used the MBSAQIP national registry from 2015-2019 to identify characteristics that predict better adherence to 30-day follow-up after metabolic and bariatric surgery. The patient cohort included those who underwent sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB). Analysis excluded those with emergent surgery, ASA class 5, and those with conditions present at the time of surgery.

Results: There is no clinically significant difference in 30-day follow-up between RYGB and SG, (95.9% vs. 95.2%, p<0.001) and between robotic and laparoscopic approach (95.4% vs. 95.4%, p=0.8). There is no difference between females and males (95.4% vs. 95.3%, p=0.5). Rates of 30-day follow-up improved with age, particularly in those >70 years old (97% vs. 95.3%, p<0.001). Slight differences were noted in patients who underwent additional procedures by a second provider and those who experienced severe adverse events. Patients who were discharged home had higher follow-up rates relative to those who did not (95.4% versus 91.1%; p<0.001).

Conclusion: Approximately 5% of all patients undergoing metabolic and bariatric surgery are lost to follow-up at 30-days. We noted slight differences in follow-up rates based on age, procedure type, discharge destination, and occurrence of severe adverse events following the index procedure. These results could help us identify groups for whom increased effort to maintain follow-up contact may be warranted.

A237

Reducing Barriers to Informed Decision-Making for Metabolic and Bariatric Surgery among Spanish-Speaking Latinx Patients: Initial Implementation of a Spanish-Focused Education Program at a Predominantly English-Speaking MBSAQIP Bariatric Center

Connie Santana *Glastonbury CT*[1], Tara McLaughlin *Vernon Rockville CT*[1], Richard Seip *Hartford CT*[1], Dale Bond *Providence RI*[1], Alexander Friedman *Hartford CT*[1], Jane Sweeney *Unionville CT*[1], Pavlos Papasavas *Hartford CT*[1], Darren Tishler *Glastonbury CT*[1]
Hartford Hospital[1]

Background. Despite higher rates of obesity in the Latinx population, disparities in access to care exist that lead to fewer patients receiving life-saving metabolic and bariatric surgery (MBS). Informed decision making about MBS among Spanish-speaking Latinx patients may be undermined by most preoperative educational programs being conducted in English. To address these educational barriers, we implemented a Spanish-focused bariatric surgery education program (SFBEP) that included virtual Spanish education sessions and support groups as well as Spanish-speaking navigators, nutritionists, and psychologists. The current study evaluated whether the proportion of Spanish-speaking attendees at the MBS educational session increased after SFBEP implementation.

Methods. We identified patients whose preferred language was Spanish and attended a MBS education session conducted in English from 03/2019-02/2020 (all in-person). We compared this cohort to the Spanish-speaking patients who attended a SFBEP (11/2020-10/2021, all virtual) during the first year of the program. Chi-square test compared the proportions of Spanish-speaking attendees before and after implementation.

Results. Prior to SFBEP implementation, 5% (43/822) of bariatric education session (BES) attendees were Spanish-speaking versus 13% (227/1724) after SFBEP implementation (p<0.0001).

Conclusion. Implementation of the SFBEP appeared to increase Spanish-speaking Latinx patient attendance. However, it is also possible that increased attendance may be due in part to the COVID-19 pandemic and related factors (e.g., virtual vs. in-person visits, easing of Medicaid requirements for bariatric surgery, media exposure to messages regarding obesity and COVID severity). Future studies will evaluate whether the SFBEP contributes to increased number of patients progressing to MBS and overall treatment satisfaction.

A238

COST ANALYSIS OF CARDIOVASCULAR DISEASE-RELATED HOSPITALIZATIONS IN PATIENTS AFTER BARIATRIC SURGERY

Roberto Valera *Weston FL*[1], Mauricio Sarmiento-Cobos *Boca Raton FL*[1], Manjot Kaur *Miami 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

Obesity is a major risk factor for cardiovascular diseases (CVD). Health care spends US$244.8 billion every year on CVD costs and hospitalizations. Bariatric surgery (BaS) is highly effective in attaining long-term weight loss and providing solutions for CVD forms. This study aims to analyze the outcomes in cost-analysis of CVD-related hospitalizations in BaS patients.

METHODS

A retrospective analysis from the National Impatient Sample from 2010 to 2015. Patients with obesity were defined as having a BMI ≥ 35. Two groups were identified: treatment group, defined as patients with history of bariatric surgery (HBaS), and control group as patients without HBaS. CVD included were: coronary artery disease, heart failure, stroke, atrial fibrillation and related procedures. Univariate and multivariate analyses were conducted to compare characteristics and outcomes between groups.

RESULTS

A total of 82,955 subjects were included. Treatment group comprised 4,549 subjects with a mean age of 59.4 years and the control group comprised 78,406 subjects with a mean age of 60.1 years. The difference in total costs and length of stay (LOS) were significantly greater for the control group for all CVD. Multivariate analysis showed that, the overall risk of having higher costs was increased for all comorbidities and procedures. Regarding LOS, a significant relationship was found except for atrial fibrillation and related procedures.

CONCLUSION

Our results demonstrate that beneficial effects of BaS decrease LOS of CVD-related hospitalizations and reduce the cost of hospitalizations. It's plausible that reduction of co-morbidities following BaS is responsible for the beneficial effects on CVD.

A239

Changes in Utilization of Robotic Bariatric Surgery From 2015-2020 and Effect on Patient Outcomes

Eva Koeller *Providence RI*[1], Andrew Luhrs *North Providence RI*[1], Marcoandrea Giorgi *Providence RI*[1]
Brown University[1]

Background

Robotic surgery is an increasingly popular alternative to laparoscopy for performing bariatric operations. Our aim is to describe changes in utilization and complication rates of this technique over the last six years.

Methods

An analysis of the 2015-2020 MBSAQIP PUF was performed. All patients who underwent laparoscopic or robotic bariatric surgery from 2015-2020 were analyzed and patient demographics and outcomes compared.

Results

1,341,814 robotic and laparoscopic bariatric operations were included. Both the number and proportion performed robotically increased steadily from 2015 (n=9,866, 5.87%) to 2019 (n=54,356, 13.16%). In 2020, although the number of cases decreased, the proportion performed robotically still increased (17.37%). Robotic cases were also increasingly performed on high-risk patients with 77.06% of patients undergoing robotic bariatric surgery being ASA class 3 or higher in 2015 versus 81.03% (p=0.001) in 2020. Yet, over the same time period, there has been no significant change in risk of death within 30 days (p=0.946) or infection (p=0.721). In fact, the risk of any complication has decreased from 8.21% in 2015 to 6.43% in 2020 (P=0.001). These rates are comparable to conventional laparoscopy (5.55% in 2020, p=0.001) and the difference that is seen may be partially accounted for by the fact that robotic cases were more likely to be revision/conversion operations (12.16% vs 11.4%, p=0.001).

Conclusions

From 2015-2020 robotic bariatric surgery became more prevalent and yet, it remains a safe option, even in high-risk patients, with improving complication rates, which are comparable to conventional laparoscopy.

A240

Recurrence of Hiatal Hernia After Sleeve Gastrectomy with Concomitant Hiatal Hernia Repair: A Case Report

Charmaine GENTLES *Manhasset NY*[1], Venkat Modukuru *Little Neck NY*[2], Larry Gellman *Great Neck NY*[2], Dominick Gadaleta *Great Neck NY*[2], Andrea Bedrosian *Great Neck NY*[2]
Northwell Health North Shore University Hospital[1] Northwell Health North Shore University[2]

Current literature reports the incidence of hiatal hernia in morbidly obese patients is as high as 40%. Hiatal Hernia (HH) is well documented as a high-risk factor for gastro-esophageal reflux

disease (GERD). It has been recommended that patients having bariatric surgery with observed hiatal hernia have a repair at time of procedure. However, evidence suggest that performing surgical repair of hiatal hernia including closure of the crura and fundoplication in patients with BMI > 35 is routinely avoided due to a high failure rate. We herein represent the case of a 32-year-old morbidly obese woman, BMI 40 and hiatal hernia who underwent a sleeve gastrectomy and hiatal hernia repair. On postoperative day one the patient had persistent nausea and retching and inability to tolerate oral liquids. An upper GI series was performed which was consistent with obstruction at the hiatus and evidence of recurrent hiatal hernia with kinking of the stomach above the hiatus. The patient underwent emergent Laparoscopic repair of recurrent hiatal hernia and gastropexy and was discharged two days later without any further episodes of PO intolerance. She remained asymptomatic at three- and six-month intervals except for some postprandial left shoulder pain. This case highlights a high-risk recurrence of HH after sleeve gastrectomy with concomitant hiatal hernia repair, requiring emergent return to the operating room for repair.

A241

Temporary Mechanical Circulatory Support for Bariatric Surgery

Radha Gopalan *Phoenix AZ*[1], Christine Lovato *Phoenix AZ*[2], Modesto Colon *Paradise Valley AZ*[2], Paul Patalinghug *Phoenix AZ*[2], Kyrah Berthiaume *Phoenix AZ*[2], Hayley Mitchel *Glendale AZ*[1], Francisco Arabia *Phoenix AZ*[2]
University of Arizona[1] Banner University Medical Center Phoenix[2]

Case Presentation

A 60-year-old male with end-stage heart failure was undergoing cardiac transplant workup at our facility. Conservative methods of weight loss had failed to lower his BMI from 41 and he was recommended for bariatric surgery. His severe LV dysfunction with reduced ejection fraction of 20-25% along with non-re-vascularizable CAD resulting in Canadian class IV angina placed him at high risk for peri-operative complications. Proactive placement of temporary MCS support was proposed as a bridge to bariatric surgery to minimize oxygen demand of the myocardium during general anesthesia and to support any potential hemodynamic and arrhythmic complications. The patient agreed with the plan after the risks and benefits were extensively discussed. His volume status was optimized as outpatient. He was admitted to the hospital for placement of Impella-CP and Swan-Ganz hemodynamic catheter and underwent sleeve gastrectomy the following day. As clinically suspected, the patient did develop hypotension during anesthesia induction and had multiple non-sustained ventricular arrhythmias requiring intravenous amiodarone and lidocaine administration. After successful completion of the procedure, the Impella was maintained for 36 hours post-operatively without anticoagulation before removal. There were no post-operative complications, and the patient was discharged 4 days later.

Discussion

Temporary mechanical circulatory support devices (MCS) are widely used for hemodynamic support during cardiac procedures such as high-risk coronary intervention or ablative therapy for tachyarrhythmias. Their use during non-cardiac procedures, however, has not been documented.

The case above describes the first successful use of an Impella device to support a patient undergoing sleeve gastrectomy.

A242

Impact of bariatric surgery on preventing the risk of pancreatic cancer

Raul Rosenthal *Weston FL*[1], Cristina Botero Fonnegra *Weston FL*[1], Emanuele Lo Menzo *Weston FL*[1], Samuel Szomstein *North Miami Beach FL*[1], Roberto Valera *Weston FL*[2], Camila Ortiz Gomez *Weston FL*[1], David Romero Funes [1]
Cleveland Clinic Florida[1] Cleveland Clinc Florida[2]

BACKGROUND

Obesity is a modifiable risk factor for pancreatic cancer. This study aims to demonstrate if weight loss via bariatric surgery (BaS) can decrease the risk of pancreatic cancer in patients with obesity.

METHODS

We examined the NIS database from 2010-2015 to assess differences in the number of first-time cancer-related hospitalization as a proxy for cancer incidence between patients with a history of BaS (cases) and those without (controls). Patients with previous diagnosis of cancer were excluded from the analysis. Matching controls had a BMI >35 kg/m2. ICD-9 codes were used to identify admissions. Univariate analysis and a multivariate logistic regression were performed. All percentages and means (with confidence intervals) were weighted.

RESULTS

A total of 2,300,845 (2,004,804 Controls, and 296,041 Cases) were included. On the univariate analysis, the pancreatic cancer rate was significantly higher in the cases (0.23% vs. 0.11% $p<0.001$). We controlled for unbalanced factors and divided the subjects into two groups; Group A: subjects without or unknown history of chronic pancreatitis where BaS caused protection for pancreatic cancer (OR= 0.37 95% IC: 0.34-0.41 $p<0.0001$) and Group B: subjects with a known history of chronic pancreatitis where cases had more likelihood of developing pancreatic cancer (OR= 2.26 95% IC 1.03-4.97 $p< 0.0001$).

CONCLUSIONS

Our findings raise the question of whether BaS might be a protective factor influencing the development of cancer, specifically in patients with history of chronic pancreatitis, as our results showed a 227% risk in this population. Further studies are needed to confirm these findings

A243

Novel Approach to COVID-19 Pandemic on Bariatric Surgical Case Numbers

Angela Lomas *Edingburg TX*[1], Ariana Vasquez *Edinburg TX*[2], R. Armour Forse *Edinburg TX*[2], Manish Singh *Edinburg TX*[2]
University of Texas at Rio Grande Valley[1] Doctors Hospital at Renaissance[2]

Background: During the Novel COVID-19 Pandemic, operating rooms across the country closed for elective cases. This hindered patients with obesity undergoing weight loss surgeries,

which would reduce their high risk of mortality to Coronavirus infections. Our institution developed a strategy to continue elective bariatric surgery without hindering the safety of patients and medical staff.

Methods: The hospital developed an approach to maintaining elective bariatric surgery during the pandemic. This included 1) admitting Covid-19 patients to a separate facility not at the main surgical facility, 2) maintaining adequate PPE supplies which included manufacturing PPEs to do so, and 3) implementing a COVID-19 PCR nasal swabs 5 days before scheduled operation. On the day of surgery patients were screened using the CDC screening protocols.

Results: The year before the COVID-19 Pandemic, bariatric surgery cases totaled 407. The year of the pandemic (2020) the bariatric cases totaled 304. One month, April 2020, there were only 2 cases while the three prong approach was implemented. Thereafter the bariatric case numbers increased through the year and the projected one year cases volume was 400 cases.

Conclusions: Our institution implemented an aggressive and proactive approach to continue elective bariatric surgery understanding the importance of the associated risk reduction to COVID-19 for the morbidly obese population. This approach resulted in our bariatric program only experiencing a minor decrease in bariatric surgical cases during the pandemic.

A244

Case Report: Tracheomalacia complicated by Obesity and its improvement with Laparoscopic Vertical Sleeve Gastrectomy:

Corrigan McBride *Omaha NE*[1], Joyce Joyce *Jamaica Plain MA*[1]
University of Nebraska Medical Center[1]

A rare but not unknown complication of tracheostomy is tracheal stenosis (TS) and tracheomalacia (TM). This can be managed by serial dilatation, T-tubes. If this fails then the standard is resection and anastomosis(R&A). This patient had a BMI of 55 and multiple co-morbidities. He was being dilated q 2 mo and was not a candidate for R&A secondary to his size. He was referred by Otolaryngology(ENT) for consideration for Bariatric Surgery(BS). While were no previous reports of using BS to improve the outcomes of TS/TM, ENT had anticdotally seen patients who had mild improvements with medical weight loss.

He is a 42-year old male who had had a trach for 6-years following a prolonged hospitalization for a mitral valve replacement (MVR), and myocardial infarction (MI). His other co-morbidities included congestive heart failure(CHF), Type-I diabetes mellitus(T1DM), obstructive sleep apnea(OSA) requiring 4LNC and BiPAP, renal insufficiency and cardiovascular accident(CVA). As his weight increased, he was requiring more frequent dilatations, and more frequent CHF hospitalizations. After 1-year working with the multi-disciplinary team, he underwent a sucessfulc Laparoscopic Vertical Sleeve Gastrectomy(LVSG). His co-morbidites did require a longer than normal hospital stay (LOS=11 days). He had no peri-operative complications. In the 31 mo. since surgery, he has lost to a BMI=47, TBWL=22%, he has had no admissions for CHF and the tracheal dilatations have gone from q 2 mo to q 6-8 mo.

This is an excellent example of using BS to improve co-morbities to decrease health care expense utilization.

A245

USE OF INTRAOPERATIVE ENDOSCOPY TO DETECT AND TREAT COMPLICATIONS IN BARIATRIC SURGERY

Alexandra Valencia *tlalpan* [1], Sujey Romero L. *Ciudad de México* [2], Karina Flores Marín *CIUDAD DE MÉXICO* [2], Fernando Marmolejo Saavedra *México* [2]
General Hospital Manuel Gea Gonzalez[1] Hospital General Manuel Gea González[2]

Anastomotic leak, staple-line bleeding and strictures are among the main complications associated with bariatric surgery. With the use of intraoperative endoscopy, it has been reported that after the detection of an anastomotic leak in up to 96% of the patients the leak could be eliminated after laparoscopic reinforcement of the anastomosis. Intraoperative endoscopy can detect these strictures for later correction by laparoscopic remove of the reinforcement. The use of intraoperative endoscopy is a reliable technique that aids in the detection of anastomotic leaks and staple-line bleeding in bariatric surgery. In our series, we identified that up to 14% of all surgeries presented at least one of these complications which were corrected during the same surgery.

A246

Metabolic and Bariatric Surgery in Patients with Left Ventricular Assist Devices as a Bridge to Cardiac Transplantation

Colston Edgerton *Charleston SC*[1], Graham Mercier *Charleston SC*[2], Rana Pullatt *Charleston SC*[2], Thomas Byrne *Charleston SC*[2], Gregory Rives *Charleston SC*[1]
Medical University of South Carolina[1] MUSC[2]

Introduction

Strict weight criteria exist for cardiac transplantation given the risk of allograft failure in patients with a BMI >35 kg/m^2. Morbidly obese patients with advanced heart failure may undergo implantation of a left ventricular assist device (LVAD) as a bridge to transplant. These patients may benefit from metabolic and bariatric surgery (MBS) to achieve necessary weight loss to be listed for transplantation.

Methods

This is a retrospective observational study that examines the safety and efficacy of MBS for patients with morbid obesity and advanced heart failure. Inclusion criteria were patients who had undergone implantation of a left ventricular assist device and also underwent MBS. Primary outcome was listing for cardiac transplantation and secondary outcomes were 30-day surgical outcomes.

Results
Nine patients were identified who met criteria for inclusion, 3 underwent gastric bypass and 6 sleeve gastrectomy. Five patients were listed for and underwent cardiac transplantation at an average of 16 months from the time of MBS. Two other candidates have not yet achieved a BMI <35 kg/m^2 and are not yet candidates for surgery. The final patient has achieved a BMI <35 but has not been listed for transplantation due to physical deconditioning. There was 1 mortality within 30 days of surgery. Five patients were readmitted and 5 received blood transfusions within 30 days.

Conclusion
While patients with advanced heart failure are high risk for MBS, this represents an effective way to achieve weight loss for morbidly obese patients to be listed for and undergo cardiac transplantation.

A247
Central mesenteric hematoma after sleeve gastrectomy in a patient with super-super obesity: a case presentation
Elizabeth Haberl *Temple TX*[1], Monique Hassan *Georgetown TX*[1]
Baylor Scott and White Health[1]

According to the Centers for Disease Control and Prevention (CDC), 42.4% of the United States population was classified as obese in 2017-2018. The prevalence of severe obesity (BMI>40) continues to increase at a significant rate. Patients with severe obesity, super, or super-super obesity (defined as BMI>60) have been shown to be at greater risk for all-cause mortality. Due to a higher incidence of venous thromboembolism, extended chemoprophylaxis is often recommended post-operatively in this patient cohort. We present a case of a patient with super-super obesity (BMI 77.2) who underwent an uncomplicated sleeve gastrectomy and subsequently developed a bleeding complication while on low-molecular-weight heparin (LMWH). Imaging revealed a large hyperattenuating collection in the central mesentery without active extravasation. In the intensive care unit, the patient was managed non-operatively with fluid resuscitation and transfusion of red blood cells. Although staple line bleed remains on the differential, the location and presentation of the hematoma suggests that being in the supra-therapeutic range of LMWH may have been the etiology of the hemorrhage. Several major bleeding events have been reported with LMWH. Ideal monitoring of chemoprophylaxis in those with a BMI above 60 can prove difficult and a standard dosage remains undefined. We aim to review the risks of LMWH dosing in the population of individuals with super-super obesity.

A248
A Short Gut to a Speedy Recovery
Anika Suri *Great River FL*[1], David Phillibert *Miami FL*[2]
St. George's University School of Medicine[1] North Shore Medical Center[2]

Whether in the setting of trauma, metabolic surgery or emergency surgery to the gastrointestinal tract, short bowel syndrome in the setting of extensive small bowel resection is a dreaded

complication that can cause a multitude of adverse effects which vary depending on the length and type of tissue removed. The loss of absorptive capacity often results in electrolyte abnormalities, nutrient deficiencies, chronic diarrhea, and extra-intestinal sequelae. We report the unique and interesting case of a 47-year-old female patient who presented to the emergency department complaining of abdominal pain. Her physical exam was concerning for generalized peritonitis and her lab studies revealed an elevated leukocyte count and normal lactic acid levels. Upon CT evaluation of the abdomen, the patient was found to have multiple thrombi along the course of the SMA causing proximal partial occlusion and distal complete occlusion. Subsequently, 230cm of the small bowel was resected starting 5 cm from the ligament of Treitz as well as an extended right hemicolectomy. The remaining healthy jejunal tissue was used to create a jejunocolic anastomosis. Despite the high morbidity and mortality associated with acute mesenteric ischemia, the patient recovered well in the postoperative period, requiring minimal electrolyte supplementation despite her marked tissue loss. Furthermore, she was producing only four bowel movements per day, a highly unexpected finding considering the significant small bowel and large bowel resection.

A249

Conversion to Roux-en-Y Gastric Bypass is a safe and reliable treatment for intractable reflux and regurgitation after Vertical Sleeve Gastrectomy

Aviv Ben-Meir *WILLOUGHBY OH*[1], Courtney Holbrook *Shaker Heights OH*[2]
University Hospitals Lake West Medical Center[1] University Hospitals Lake West Med Ctr[2]

We queried our MSAQIP database for patients that had conversion of Vertical Sleeve Gastrectomy (VSG) to Roux-en-Y gastric bypass (RYGB) between January 1, 2020 and December 31, 2020 to allow for one year follow up. We found 8 patients. Of the 8 charts reviewed, one patient had conversion for poor weight loss and was excluded from analysis. 7 patients met our inclusion criteria. They underwent conversion an average of 72 months after VSG for symptoms of severe reflux symptoms, dysphagia, nocturnal reflux and intermittent vomiting. Average LOS was 2 days. At an average of 12 months, 6 patients were off all medications and had no preoperative symptoms. One patient had complaints of subxiphoid burning requiring once daily proton pump inhibitor. She remains non-compliant with any of her education, consuming sugary foods and liquids and gaining weight despite weight loss surgery. She had a history of laparoscopic adjustable gastric banding (AGB) in 2008, conversion to VSG in 2013, and conversion to RYGB in 2020 for non-resolution of her reflux and regurgitation symptoms as well as poor weight loss. She no longer complains of regurgitation.
In our sample size, RYGB appears to be an effective surgical treatment for regurgitation and reflux refractory to medical treatment in patients with VSG. Perhaps earlier intervention in the patient that has persistent reflux symptoms or conversion from AGB directly to RYGB would have resulted in resolution of all of her symptoms.

A250

Gastric Perforation and Necrosis as a Rare Complication of SMA Syndrome: A Case Report

Kelsey Staudinger *Englewood CO*[1], Samantha Greenseid *Englewood CO*[1], Jocelyn Burke *Las Vegas NV*[1], Allan Nguyen [1]
Swedish Medical Center[1]

This is a case of a seventeen year old newly quadriplegic male with history of significant weight loss, who presented with epigastric pain. Imaging was significant for a severely dilated stomach and duodenum, with an abrupt transition point in the third portion of the duodenum where the superior mesenteric artery crosses, suspicious for superior mesenteric artery syndrome. Gastric decompression by nasogastric tube was recommended, but the patient refused. He subsequently became hemodynamically unstable and was taken for exploratory laparotomy, where an anterior proximal gastric perforation was noted and closed with a wedge resection. Patient returned to the operating room multiple times during his hospital stay in which he was diagnosed with patchy gastric ischemia from the gastroesophageal junction to the distal gastric body. Though attempts were made to preserve his stomach, he eventually required a proximal subtotal gastrectomy with Roux-en-Y esophagojejunostomy with a gastrostomy tube in the antral remnant. SMA syndrome is an exceedingly rare cause of severe gastric dilation leading to necrosis and ultimately gastric perforation. Risk factors include weight loss, hypermetabolic activity, congenital abnormalities; although up to 40% of cases are idiopathic. Gastric dilation caused by duodenal compression from SMA syndrome can lead to high intragastric pressure which exceeds the gastric venous pressure resulting in mucosal ischemia. We suspect that this patient's disease process was able to progress to the level of causing gastric ischemia in large part due to his lack of pain sensation caused by the severe distention.

A251

Glycemic Control in Type II Diabetes Patients Post-Bariatric Surgery

Victoria Sands *Tampa FL*
University of South Florida

This study aims to determine the likelihood of T2DM improvement, through resolution or reduction in medicine usage, one year after either laparoscopic Roux-en-Y gastric bypass (RYGB) or sleeve gastrectomy (SG). Ninety bariatric patients were evaluated, 47 RYGB and 43 patients SG, in a retrospective observational study. Diabetic medication prescription, BMI, HbA1c levels, plasma fasting glucose, and medical history from each patient were collected before bariatric surgery at 3, 6, and 12 months post-bariatric surgery. Of the 90 patients, 38 completed all postoperative (post-op) follow-ups at three months, six months, and 12 months. Post-op, there was a statistically significant drop in the number of patients with diabetes regardless of surgical procedure, from 38 patients to 21, 15, and 14 (pre-op, post-op 3 mo, 6 mo, and 12 mo respectively; $p < 0.001$). Comparing the RYGB ($N = 21$) and sleeve gastrectomy ($N = 20$) over 12 mo, there was no significant difference in BMI change ($p = 0.61$), HbA1c ($N = 9$, $p = 0.92$), bedside glucose ($N = 9$, $p = 0.46$), or insulin units ($p = 0.41$). These data suggest that RYGB and SG procedures appear to significantly reduce bariatric patients' BMI, oral diabetic

medication use, insulin use, insulin units, HbA1c, and bedside glucose at 12 months post-op. Importantly, there was no significant difference between the two procedures in these outcomes at 12 months. As RYBG is currently the recommended procedure for bariatric patients with T2DM, our results suggest that SG may also be appropriate.

A252

METACHRONOUS MALIGNANCY (RENAL CELL CARCINOMA and PANCREATIC ENDOCRINE NEOPLASM)

TOBE MOMAH *Madison MS*
ummc

Pancreatic neuroendocrine tumors (PNET) are rare neoplasms that comprise 1-2% of all pancreatic tumors. However, they are the second most common solid pancreatic neoplasms. They have a wide range of imaging appearances, but most of the time they are solitary well-marginated enhancing solid masses. We present a 61year old male with multiple comorbidities (including BMI > 67, Hypertension, Non Insulin Dependent Diabetes Mellitus, venous stases, osteoarthritis), who was evaluated in the Emergency Room for suspected pulmonary embolism ; with incidental findings of right renal mass on CT angiogram of the chest. Further studies were done; including CT abdomen and pelvis with contrast. CT guided biopsy and FNAB of the pancreas and thyroid revealed a well- differentiated pancreatic endocrine neoplasm (PEN) and benign follicular neoplasm respectively. Pathology specimen showed right kidney renal cell carcinoma (RCC). Subsequent evaluation for Von Hippel-Lindau (VHL) disease was negative.

Despite significant increase in the incidence of PNETs in the United States, this disease remains an understudied and underfunded area of research. Our review intends to discuss the major challenges associated with the management of PNETs (2). The patient discussed in this case report may be one of the first cases reported of concomitant PEN and RCC in the same patient.

A253

Clinical Nursing pearls developed while caring for patients with an implanted left ventricular assist device (L-LVAD) post gastric sleeve surgery.

Shyam Sharma *Fresno CA*[1], Neelima Bhargava *Fresno CA*[1]
Fresno Heart and Surgical Hospital[1]

Background: There is limited evidence in the literature for nursing management of bariatric surgery in severely obese patients with left ventricular assist device (LVAD) implantations.

Methods: The Plan-Do-Study-Act (PDSA) method was used to guide nursing care, along with multidisciplinary team collaboration for patient care and nursing management.

Process Review: The Cardiologist and Bariatric Surgeon collaborated on the medical care for these patients, but missed including the nursing care for the patients. Due to the LVAD status of

the patients, the patients had to be recovered in the Cardiovascular Unit and not on the Medical Surgical floor, which was extremely challenging due to lack of knowledge for Bariatric post-op care by the Cardiovascular Unit Registered Nurses (CVU RNs). Literature available for nursing management at that time was not sufficient to support care for this combined patient population. The LVAD Coordinator & Bariatric Clinical Supervisor collaborated to formulate an appropriate plan of care, based on the Bariatric Surgeon's orders, while balancing the bariatric surgery postoperative orders with the Cardiologist's recommendations, to manage the patient's immediate needs. Multidisciplinary meetings were held to present, discuss, and approve the Clinical Nursing Pearls tool that was utilized after several PDSA cycles between patients. The tool provided streamlined guidance and support (e.g. pain management, postoperative activity, fluid management, cardiovascular stability, which team/service to call for issues, etc.) for the CVU RNs, as additional patients underwent bariatric surgery post LVAD implantation.

A254

Mesenteric ischemia from Superior Mesenteric Artery Embolus in Patient with Remote Duodenal Switch: A challenge in reconstructive options

Christopher Pearcy *Arlington TX*[1], Sachin Kukreja *Dallas TX*[2], Frank Johnston *Dallas TX*[1]
Methodist Dallas Medical Center[1] DFW Bariatrics and General Surgery[2]

A 60-year-old male presented in delayed fashion to our ER with superior mesenteric artery embolus from atrial fibrillation. He was peritoneal on exam with CT findings consistent with dead bowel. The patient had laparoscopic duodenal switch 8 years prior with excellent weight loss results.

The patient was taken emergently for exploratory laparotomy and required extensive resection. Vascular surgery was consulted. No embolectomy was performed given the degree of necrosis. After initial resection and takebacks, the BP limb was necrotic to around the D3/D4 junction, the roux limb was around 20 cm, and the terminal ileum around 25 cm. Anastomosis was performed between the alimentary limb and the terminal ileum. Biliopancreatic diversion was performed via foley catheter externalization. On final takeback, a portion of the cecum had become necrotic. We debrided and primarily repaired the cecum to preserve the ICV. To maximize length and preserve biliary drainage a side-to-side duodenoileostomy was performed in antecolic fashion. A side-to-side anastomosis was created between the duodenum of the BP limb and the ileal roux limb. This left our patient with 40 cm of continuous small bowel and intact ICV. The patient did well postoperatively and was discharged from the hospital around post op day 7 after his final operation. He is TPN dependent and is under evaluation now to start Teduglutide.

Extensive small bowel loss post-bariatric surgery can pose a challenge during reconstruction. Treatment should maximize intestinal length with preservation of the ileocecal valve. Delay in diagnosis of intestinal ischemia is a catastrophic event.

A255

Improvement of Diabetes Mellitus with Laparoscopic Sleeve Gastrectomy

Tiffany Son *Gilbert AZ*[1], Eshaan Daas *Palm Springs CA*[1], Joseph Heller *Gilbert AZ*[2], Albert Chen *Gilbert AZ*[1], Emil Graf *Gilbert AZ*[1], Flavia Soto *Syracuse NY*[1], David Podkameni *Gilbert AZ*[1]Banner Gateway[1] Banner Gatway[2]

Background: Laparoscopic sleeve gastrectomy (LSG) is a proven intervention to induce weight loss. Its applications as a surgical procedure may extend beyond body weight control to the realm of metabolic therapy in chronic conditions such as diabetes mellitus (DM), which results from the dysregulation of blood glucose levels.

Objective: The aim of this study is to evaluate the improvement of diabetes following sleeve gastrectomy at our facilities.

Setting: Two affiliated non-profit surgery centers, United States

Methods: Eighty-two adult diabetic patients were treated with sleeve gastrectomy. We conducted a single point analysis of our existing longitudinal data for that calendar year through a retrospective chart review. Statistical outcomes were determined for anthropometric data unique to patients with DM including prescribed medications, Hemoglobin A1C, excessive weight loss (EWL), and body mass index (BMI).

Results: Time was a significant predictor of diabetic resolution after six months post-op in patients who originally presented with insulin-dependent DM and change in hemoglobin A1C values held a significant association to improvement of insulin-dependent diabetes. BMI and EWL displayed a positive correlation to resolution at all time points of interest.

Conclusions: There are differences between the post-operative improvements in diabetic status following sleeve gastrectomy depending on the initial diagnosis of insulin-dependent or insulin-independent DM. Pathophysiological mechanism of a patient's diabetic condition, specifically the regulation of pancreatic beta cells, may contribute to the variable metabolic response following sleeve gastrectomy.

A257

Evaluation of Telehealth Services to Improve Post Bariatric Surgery Follow-up Rates and Patient Experience

Nicole Martinez De Andino *Aiken SC*[1], Kristen Benjamin *North Augusta SC*[1]
Augusta University[1]

Problem Statement: Despite clear evidence demonstrating routine follow-up after bariatric surgery positively affects outcomes, adherence to recommended follow-up is poor. Non-adherence to follow-up increases a patient's risk of morbidity due to untreated vitamin deficiencies, poor mental health, and reduced weight loss.

Purpose: The purpose of this program evaluation was to assess the impact of telehealth services on post-surgical bariatric follow-up rates and patient experiences with telehealth.

Setting and Participants: The project was conducted at a bariatric surgery outpatient clinic, which is part of a large, academic tertiary care health care system in a southeastern metropolitan city. Adults that completed a 6-month post bariatric surgery follow-up during study periods were eligible to participate.

Methodology: To compare 6-month follow-up rates and visit type of post-surgical bariatric patients between two study periods, we conducted a retrospective chart review. To evaluate patient telehealth experience, a survey was developed using questions from multiple evidence-based studies. Descriptive statistics were used to summarize the survey responses.

Results: Follow-up rates were higher during the study period when telehealth was offered compared to the period when only in-person visits were offered; these rates were 77% and 72.72% (p = .46) respectively. Survey response rate was 40.32%. Ninety-five percent of patients strongly or somewhat agreed they would use telehealth again, and 90% responded the same to being satisfied with telehealth.
Implications for Practice: After completing the program evaluation, we recommend continuing telehealth as an option for follow-up on post bariatric surgery patients.

A258
Time Trends of Nutritional Deficiencies after Bariatric Surgery in the United States; Analysis of Real-World Data
Djibril Ba *Hershey PA*[1], Antoinette Hu *Hershey PA*[2], Chan Shen *Hershey PA*[3], Douglas Leslie *Hershey PA*[3], Ann Rogers *Hershey PA*[2], Laila Al-Shaar *Hummelstown PA*[1]
Penn State College of Medicine[1] Penn State Health[2] Penn State College Medicine[3]

Background: There is a paucity of studies examining nutritional deficiencies in patients with bariatric surgery over time and by surgery type.

Methods: Adult patients undergoing bariatric surgery in the US IBM® MarketScan® commercial claims database (2005 - 2016) with continuous enrollment from 1 year before to 3 years after the index surgery date were included. Bariatric surgery included Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy (SG), laparoscopic adjustable gastric band (LAGB), and biliopancreatic diversion-duodenal switch (BDDS). Nutritional deficiencies included: anemia, protein malnutrition, and deficiencies in vitamins D, A/E/K, B12, B1/Niacin, folic acid, and minerals. Descriptive analyses were conducted to examine nutritional deficiency trends over time.

Results: A total of 83,635 patients (mean (SD) age of 44.5 (9.5) years) were identified, 78% of whom were females. RYGB was the most common type of surgery (38.7%), followed by SG (32.9%) and LAGB (28.0%). Age-adjusted prevalence of any nutritional deficiency within 1, 2, and 3 years after bariatric surgery ranged from 24%, 34%, and 43% respectively (in 2006) to 45%, 55%, and 62% respectively (in 2016). The most common 3-year nutritional deficiencies

were anemia (28%), vitamin D deficiency (25%), protein malnutrition (9%), and vitamin B12 deficiency (9%). Anemia was more common after RYGB (36%) compared to SG (28%) and LAGB (17%). Vitamin D deficiency was more prevalent after SG (33%).

Conclusions: Our findings suggest increasing trend of nutritional deficiencies after bariatric surgery since 2006. Personalized post-operative nutritional counseling of patients is needed to prevent nutritional deficiencies after their bariatric surgery.

A259

Nutritional Management for Patients with Obesity and ESRD Undergoing Bariatric Surgery Prior to Kidney Transplantation

Valeria Noguera *New Orleans LA*[1], Abby Duplechain *New Orleans LA*[2], Magnus Chun *New Orleans LA*[2], Megan Schexnaydre Casey *New Orleans LA*[2], Anil Paramesh *New Orleans LA*[2], Carlos Galvani *New Orleans LA*[2], Shauna Levy *New Orleans LA*[2]
Tulane University School Medicine[1] Tulane University School of Medicine[2]

Bariatric surgery has proven to be effective for patients with obesity and ESRD hoping to undergo kidney transplantation (KT). However, there is a lack of specific guidelines to address the nutritional management for pre-bariatric and post-bariatric surgery. Here, we conduct a literature search to present these dietetic plans.

The authors reviewed all English language articles published in PubMed, Ovid, Embase, and Web of Science between 2000-2021 reporting outcomes on bariatric diet pre-and post-bariatric surgery for patients with obesity and ESRD. 28 studies (excluding literature reviews) were included.

A total of 7870 patients on dietetic plans consisting of 22 pre-bariatric studies and 6 post-bariatric studies were included. Prior to bariatric surgery, very-low-calorie diets between 450-800 kcal/day show better patient compliance, higher postoperative weight loss, and fewer post-operative complications. Patients should limit their sodium and potassium intake to less than 250 mg and 450 mg, respectively per serving. Many studies recommended having patients take vitamin supplements and achieving a maximum of 8% weight loss before surgery. After bariatric surgery, a progression from liquids to solids for 6-8 weeks is recommended with a minimum protein intake of 60 g/day. Studies showed better quality of life when patients consumed enough protein and fluids daily.

We present the current nutritional guidelines for patients with obesity and ESRD before and after bariatric surgery prior to kidney transplantation. We did not find any studies that presented plans for balancing electrolytes. Present guidelines are scarce and further research focusing on electrolyte levels may be advantageous.

A260

Compliance to Postoperative Multivitamin/Mineral (MVM) Supplement Use and Laboratory Analyses: A Survey Report

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

Background. Micronutrient deficiencies frequently occur following bariatric surgeries and, if left unattended, can have adverse health consequences. For this reason, daily use of micronutrient supplements, preferably bariatric-specific brands, and routine laboratory vitamin/mineral analyses are highly recommended. This study presents recent survey findings of the rates of patient compliance to these recommendations.

Methods. The online anonymous survey included questions pertaining to type and regularity of supplement use, frequency of laboratory analyses, and rates of nutrient deficiencies. Among the 162 patients who completed the survey, 55% had a RYGB, 36% LSG, 8% BPD/DS and 1% revision. 30% of patients were >3 y out from surgery, 15% 2-3 y, 28% 1-2 y and 27% <1y.

Results. According to survey findings, 83% of patients were taking bariatric-specific MVM, 13% across-the-counter brands, and 4% none. Among supplement users, 85% were compliant in daily use and 87% in use of recommended amounts. Nearly 80% of patients had micronutrient labs performed at regularly scheduled periods (3, 6, 9, 12 mo, yearly), 16% less frequently and 4% never. Altogether, 38% of patients had at least one micronutrient deficiency, with the most commonly reported deficiencies Vitamin D (25%), iron (21%), B12 (11%), zinc (9%), and calcium (5%).
Conclusions. Survey data show relatively high compliance to supplement use and laboratory analyses. Despite these high rates, MVM deficiencies occur.

A261

Bariatric Surgery for Postpartum Comorbidities of Cardiomyopathy and Obesity

Mackenzie Landin *Phoenix AZ*[1], Christine Lovato *Phoenix AZ*[1], Anantharam Kalya *Phoenix AZ*[2], Kyrah Berthiaume *Phoenix AZ*[1], Paul Patalinghug *Phoenix AZ*[3], Hayley Mitchel *Glendale AZ*[2], Radha Gopalan *Phoenix AZ*[2]
Banner University Medical Center Phoenix[1] University of Arizona[2] Banner University Medical Center[3]

Case Presentation

A 36-year-old female with past medical history of dilated congestive cardiomyopathy during her 5th pregnancy, was admitted in September 2019 at 24 weeks into her 6th pregnancy with symptoms of heart failure, ejection fraction (EF) of 30-35%, and BMI of 37. Guideline directed medical therapy (GDMT) was restarted with improvement in symptoms. Patient was discharged with close follow up as outpatient. In November 2019, patient was readmitted to the hospital at 35 weeks pregnant with exacerbation in heart failure symptoms. An echocardiogram demonstrated EF of 30-35% at this time. Labor was induced and patient delivered without

complication. Patient continued to be followed outpatient with continued GDMT and a repeat echocardiogram in October 2020 demonstrated EF of 35-40%. Postpartum, patient's BMI was persistently greater than 35 and patient was referred to bariatric surgery. Patient underwent laparoscopic sleeve gastrectomy in March 2021 and her BMI dropped to 24.5 by November 2021. Repeat echo in October 2021 demonstrated EF of 55-60%. Refer to Figure 1 below for mean EF and weight over time.

Discussion

Here we present a case of peripartum cardiomyopathy where bariatric surgery and associated weight loss with continued GDMT resulted in rapid EF improvement. As improvement in ejection fraction postpartum usually occurs within 6 months, the persistence in reduced EF at one-year postpartum highlights the potential contribution of obesity in inadequate response to GDMT in cases of peripartum cardiomyopathy. This study is limited by the report of a single case and further study is necessary.

A262

Better than expected: Associations of positive discrepancy between expected and actual weight loss with early weight outcomes after metabolic and bariatric surgery.

Viviane Fornasaro-Donahue *Providence MA*[1], Dale Bond *Providence RI*[2], Marcoandrea Giorgi *Providence RI*[3], Beth Ryder *Providence RI*[3], Siva Vithiananthan *Cambridge MA*[4]
Lifespan[1] Hartford Hospital/Hartford HealthCare[2] Brown Surgical Associates[3] Cambridge Health Alliance[4]

Background—Some metabolic and bariatric surgery (MBS) patients have unrealistic weight loss expectations that can undermine MBS satisfaction and outcomes. Few studies have focused on relative frequency and implications of positive discrepancy between expected and actual weight loss (WL). This study compared early WL of MBS patients who had a positive (better than expected) versus negative (i.e., worse than expected) WL discrepancy.

Methods—Adult MBS patients (n=83; RYGB/n=41, SG/n=42) reported 3-month postoperative weight expectations preoperatively. Discrepancy between expected and actual weight loss (kg) was calculated for each participant. Analysis of Covariance (ANCOVA) examined association of positive/negative weight loss discrepancy with percent weight loss (%WL).

Results—Overall discrepancy between expected (14.98 kg) and actual (16.54 kg) WL was non-significant (M=1.56±12.02 kg, p=.24). RYGB and SG participants had similar discrepancies (2.49±13.59 kg vs. 0.65±10.34 kg, p=.21). Among all participants, 48(58%) had a positive discrepancy (M=9.42±6.72 kg) whereas 35(42%) had a negative discrepancy (M=-9.22±8.91 kg). %WL was greater in participants with positive versus negative discrepancy (17.91±5.76% vs. 7.27±5.29%, p<.001) controlling for demographics and surgery type.

Conclusion—MBS patients on average had realistic early WL expectations, although there was variability in direction and amount of WL discrepancy. Participants with a positive discrepancy

experienced ~10% greater WL relative to those with a negative discrepancy. Future research should involve both longer-term patient follow-up to determine durability of this association and whether teaching patients to develop more modest WL expectations can improve WL and other outcomes (e.g., treatment satisfaction, health-related quality of life).

A264

Patient Perceptions Regarding Alcohol Use after Bariatric Surgery

Lisa Miller-Matero *Detroit MI*[1], Leah Hecht *Detroit MI*[1], Kellie Martens *Beverly Hills MI*[1], Aaron Hamann *Detroit MI*[1], Arthur Carlin *Clinton Township MI*[1], Jordan Braciszewski *Detroit MI*[1]
Henry Ford Health System[1]

Background: The risk of alcohol use disorder increases following bariatric surgery. Although patients understand this risk, more than half consume alcohol after surgery. To reduce alcohol use and prevent the development of a post-surgical alcohol use disorder, we need to better understand the reasons patients use alcohol following surgery. The purpose of this study was to identify factors associated with post-surgical alcohol use through patient interviews.

Methods: Patients (N= 20) who were 1-3 years post-bariatric surgery and were consuming alcohol at least 2-3 times monthly participated in a 60-minute interview. Participants responded about their knowledge of risk of post-surgical alcohol use and reasons why patients may start drinking. Deductive and inductive coding were completed by two independent raters.

Results: For deductive coding, participant statements were coded into four categories: knowledge about alcohol use after surgery, reaction to recommending abstinence from alcohol after surgery, reasons why patients may initiate alcohol use after surgery, and reasons why patients may continue using alcohol after initiation. Inductive coding identified three themes: how participants changed their drinking behaviors from pre- to post-surgery, experiences regarding the changes in perceived effects of alcohol from pre- to post-surgery, and reasons why patients may develop problematic alcohol use.

Discussion: Participants were aware of the risks of alcohol use after surgery and offered significant insights into the reasons patients may drink, how drinking patterns may change over time, and why some may develop problems with alcohol. Understanding these perceptions can inform interventions to decrease alcohol use after bariatric surgery.

A267

Changes in physical function and physical activity in patients up to 5 years after bariatric surgery.

Marielle Collins *Cleveland OH*[1], David Creel *Cleveland OH*[1], Leslie Schuh *Carmel IN*[2], Christopher Crawford *Carmel IN*[2], David Diaz *Carmel IN*[2], Christopher Evanson *Carmel IN*[2], Margaret Inman *Carmel IN*[2]
Cleveland Clinic Foundation[1] Ascension St Vincent Carmel Hospital[2]

Introduction: Bariatric surgery is an effective treatment for severe obesity; however, relatively little is known about long-term functional outcomes. This study describes physical fitness and activity changes among bariatric surgery patients up to 5 years postoperatively.

Methods: Preoperatively, and 6 months and 5 years after surgery, 41 bariatric surgery patients wore an accelerometer to track physical activity and completed a submaximal graded treadmill test.

Results: Preoperatively, 32.4% of patients reported exertion as "somewhat hard" at <3 estimated metabolic equivalents (METs; walking 2.5 mph). This decreased to 10.8% 6 months post-surgery and 11.8% at 5 years. Before surgery, only 7.5% of patients achieved 6 METs by the end of the treadmill test. This increased to 36.6% 6 months post-surgery and 42.1% at 5 years. Age and BMI predicted functional ability of patients over time; however, other predictors, such as overall activity level were not significant. Steps per day increased significantly from pre-surgery to 6 months (p=.045); however, this significant difference was not maintained at 5-years (p=.151). Moderate-to-vigorous minutes per day increased significantly from pre-surgery to 6 months (p=.026), and this difference was maintained at 5-years (p=<.001); however, 5-year results did not differ significantly from 6-months (p=.066).

Conclusions: Functional abilities of bariatric surgery patients increased post-surgery and were maintained over 5 years. Most patients remained unable to achieve METs equivalent to vigorous activity (hiking uphill or jogging) at intensities perceived as hard-to-very-hard. More research is needed to explore functional abilities of bariatric surgery patients over time and interventions that may optimize outcomes.

A268

More Profound Alteration in the Composition of the Gut Microbiota is Associated with Greater Weight Change following Roux-en-Y Gastric Bypass (RYGB) and Sleeve Gastrectomy (SG).

Kristine Steffen *Moorhead MN*[1], Anthony Fodor *28224 NC*[2], Ian Carroll *Chapel hill NC*[3], Dale Bond *Providence RI*[4], Alicia Sorgen *Charlotte NC*[2], Leslie Heinberg *Cleveland OH*[5]
North Dakota State University[1] UNCC[2] UNC[3] Hartford Hospital[4] Cleveland Clinic[5]

Background: The gut microbiota has been shown to change dramatically after bariatric surgery. The goal of this study was to examine the relationship between early changes in the composition of the gut microbiota and the magnitude of subsequent weight loss following RYGB or SG.

Methods: Patients were enrolled across 2 sites in this longitudinal study prior to undergoing a RYGB or SG. Height, weight, and metagenomic shotgun sequencing for microbiome characterization occurred at pre-surgery and at 1, 6, 12 months following surgery. A simple linear model was used to compare the log-normalized abundance of each taxa with time. To determine the relationship between changes in the microbiome and weight, participants were divided into 5 quintiles, with the top and bottom quintiles representing the 20% of patients who lost the most and least weight, respectively, between baseline and 12 months.

Results: At the genus level, 147 taxa were significantly correlated with time post-surgery at a 5% False Discovery Rate (FDR) corrected p-value. Among participants in the top weight loss quintile, 82 taxa were significantly associated with time at a 5% FDR value whereas 22 taxa were significantly associated with the weight loss amount in the bottom 4 quintiles.

Conclusions: The microbial community changes are much more pronounced in patients who have the most dramatic weight loss in the first post-operative year. Future research will examine the relationships between changes in microbiome composition and weight regain.

A269

Preoperative psychological factors associated with successful weight loss up to 4 years following bariatric surgery

Lisa Miller-Matero *Detroit MI*[1], Leah Hecht *Detroit MI*[1], Lyubov Gavrilova *Detroit MI*[1], Kaitlin Ross *Detroit MI*[2], Kellie Martens *Beverly Hills MI*[1], Aaron Hamann *Detroit MI*[1], Arthur Carlin *Clinton Township MI*[1]
Henry Ford Health System[1] Wayne State University[2]

Background: To optimize candidate selection for bariatric surgery, predictors of successful weight loss require better understanding. The purpose of this study was to examine whether psychiatric symptoms, cognitive functioning, and maladaptive eating were related to successful weight loss outcomes up to 4 years following bariatric surgery.

Methods: Patients who underwent bariatric surgery during a 4-year period at a single institution were invited to complete a brief online survey, which included their current weight. Information was extracted from their preoperative psychosocial evaluation. Successful weight loss was defined as $\geq$50% excess weight loss.

Results: Participants (N= 527) were primarily women (83.3%), White (62.3%), and had a mean age of 45.5 years (SD= 10.4). The majority of participants had successful weight loss (76.7%, n= 404). Those with successful weight loss were more likely to have higher health numeracy scores ($p = .02$), were more likely to have significant levels of anxiety (24.9% vs. 12.3%, $p= .04$), and also reported greater levels of eating in response to anxiety ($p= .04$). Depression, global cognitive functioning, health literacy, and binge eating were not significantly related to having a successful weight loss outcome ($p> .05$).

Conclusion: Higher preoperative levels of health numeracy, anxiety, and eating in response to anxiety were associated with successful weight loss outcomes. Health numeracy abilities may allow for greater understanding of the impact of dietary choices, leading to successful weight loss. Those with anxiety might be more vigilant about following treatment recommendations. Future research could examine mechanisms of these relationships.

A270

Introducing the Minnesota Multiphasic Personality Inventory – 3 (MMPI-3) for the Evaluation of Patients Seeking Bariatric Surgery

Ryan Marek *Conroe TX*[1], Ashleigh Pona *Columbus OH*[2]
Sam Houston State University College of[1] OSU Wexner Medical Center[2]

It has been recommended that standardized instruments be included as part of a presurgical psychological evaluation of patients seeking bariatric surgery. Minnesota Multiphasic Personality Inventories (MMPIs) are among the most widely used for this purpose within bariatric surgery and in the field of clinical psychology generally speaking. A new version of the test, the MMPI-3, was released in 2020 with updated norms and new scales; however, the test manual does not have any data to support its use for the evaluation of patients seeking bariatric surgery.

We intend to present for 1-hour as a small panel. The first segment of this panel will spend approximately 20 minutes introducing the MMPI-3. This segment will include information on what has been changed and updated on the test, with a focus on the new Eating Concerns (EAT) scale and updated normative data. This segment will also compare and contrast the MMPI-3 from the MMPI-2-RF. The second segment (15 minutes) will then share psychometric data on a large sample (> 700) patients who were patients seeking bariatric surgery and were also administered the MMPI-3 that will demonstrate how the test is reliable and valid to use as a standardized measure for the evaluation of patients seeking bariatric surgery. The last segment (15 minutes) will share one or two case examples to demonstrate the clinical utility and integration of test data within the context of a presurgical psychological evaluation of patients seeking bariatric surgery. We will reserve 5 minutes for questions and answers.

A271

Improper, Illegal, or Negligent? Navigating Patient Complaints and Ethical Considerations in Bariatric Behavioral Health

Afton Koball *La Crosse WI*[1], Ninoska Peterson *Cleveland OH*[2]
Gundersen Health System[1] Cleveland Clinic[2]

Bariatric surgery is an important and underutilized treatment for patients with obesity, and the pre-operative consultation process can be stressful. Patients can, understandably, experience a myriad of emotions ranging from excitement and frustration, or sadness and anger especially when things go awry. For some, bariatric surgery is not appropriate from a psychological, nutritional, or medical perspective. Patients may disagree with or not fully understand the recommendation against surgery from their team. The following panel includes three case presentations of patients who made complaints to the clinician's hospital system and/or state licensing board. We will review impressions from the team evaluation and recommendations for these patients, discuss ethical considerations, and share strategies to navigate these complex and stressful situations while practicing self-care.

1. If at first you don't succeed… (Afton Koball, PhD; Gundersen Health System)
2. The $85 cheesecake incident… (Nini Peterson, PhD; Cleveland Clinic)
3. The case of the raging psychologist… (Afton Koball, PhD; Gundersen Health System)

A272

Decreasing Emergency and Hospital Encounters for Constipation: A Multi-Disciplinary Initiative

Evans Simmons *New Haven CT*[1], Stephanie Dupree *New Haven CT*[1], Alexis Loss *New Haven CT*[1], Michael Limosani *New Haven CT*[1], Lina Starovoitova *New haven CT*[1], Michael Gould *New Haven CT*[1], Jessica Valle *New Haven CT*[1], Bethany Mulone *Guilford CT*[1], John Morton *MADISON CT*[2]
Yale[1] Yale University[2]

Background: Dietary changes and opiate usage following bariatric surgery may lead to constipation and patient discomfort. While seemingly self-limited, constipation is a common source of patient complaint and can back up over-burdened emergency department (ED) and hospitals. Here we describe a novel initiative to decrease healthcare admission with a dedicated quality improvement project.

Methods: All ED and hospital admissions are reviewed monthly by an Advanced Practice Provider (APP) Council from the ambulatory and in-patient settings. Dedicated review found constipation to be leading source of utilization. Utilizing IHI methodology (PDCA), the following quality improvement processes were employed (monthly review of all admissions, Pre-op laxative algorithm & Post-op laxative algorithm initiated, AVS summary standardize /SMART DOT phrase created, Pre-op & Post-op questionnaire updated to include question in regards to constipation, question added in discharge script phone calls- 24-48 hours, Hydration & ambulation reinforced, Teach Back reinforced with patient, and full ERAS utilization to minimize narcotic use.

Results: In the period prior to the QI project (January 1,2020-April 30,2021), there were 12 events – 2.52% from a total 477 cases. Following the implementation of the QI project from May 1, 2021-Current, only 3 events were recorded for a 1.82% rate from a current total of 165 cases resulting in a significant difference from baseline.

Conclusions: Utilizing IHI methodology and a process driven methodology, ED and hospital admissions fell significantly for constipation through this multi-disciplinary initiated project.

A273

Step into Health: Monitoring and Addressing Weight Management Utilizing a Stepped Care Treatment Program

Jenna Palladino *Commack NY*[1], Stephanie Infante *Centereach NY*[1], Teresa Presti *Mastic NY*[1], GHAZAL SINHA *East Setauket NY*[1], Sritha Rajupet *Stony Brook NY*[1], Silvana Obici *Stony*

Brook NY[1], Amy Rosenbluth *Stony Brook NY*[1], Adam Gonzalez *Stony Brook NY*[1], Genna Hymowitz *Centereach NY*[1]
Stony Brook Medicine[1]

Background
Obesity is a complex, multifactorial disease leading to increased morbidity and mortality. Evidence-based interventions for obesity are often costly and unresponsive to individual needs. We provide rationale and proof-of-concept for a stepped care shared decision-making approach, which tailors treatment to each patient's specific needs.

Method
Family medicine patients complete an 11-item measure assessing diet, physical activity, and motivations for and barriers to health behavior change. Eligible patients (Age ≥18; BMI ≥25) are screened for interest and meet with a patient navigator via telehealth to develop a comprehensive treatment plan using shared decision-making tools. Levels of care include: educational resources; enrollment in an *mHealth* platform, Noom; behavior coaching; prescription medications; and, when indicated, bariatric surgery. Weight and waist circumference are assessed weekly. Non-responders are offered additional care from above listed treatment options.

Results
Of 177 patients screened, 85 were eligible (*M* BMI=31.89±6.05). To date, 8/85 are enrolled, while 76 are being scheduled for their navigation visit. All enrolled participants completed baseline measures of psychosocial functioning, and 67% completed ≥1 weekly report of weight and waist circumference. Average length of participation has been 6.88±0.06 weeks, with an average weight loss of 3.35±2.46 lbs. Participants engaged with Noom completed logs of weekly activities (*M*=53.12±24.50), food (*M*=25.68±8.33), and exercises (*M*=3.44±3.03).

Conclusion
Pilot data suggest that our stepped care program is feasible and acceptable, justifying additional data collection. The stepped care program may serve as an effective pathway for weight loss and increase access to evidence-based interventions, including medically assisted care and bariatric surgery.

A274
Disordered Eating within the First Year Following Bariatric Surgery
Emily Fink *Cleveland OH*[1], Kristine Steffen *Moorhead MN*[2], Ross Crosby *Fargo ND*[3], James Mitchell *Chaska MN*[3], Leslie Heinberg *Cleveland OH*[1]
Cleveland Clinic[1] North Dakota State University[2] Sanford Ctr for Biobehavioral Research[3]

Background: Disordered eating patterns may occur following surgery and are associated with poorer weight loss outcomes. To better identify individuals at risk, this prospective study examines disordered eating prior to and following bariatric surgery with the aim of clarifying when problematic eating may emerge post-op.

Methods: A prospective cohort of patients (N=96, 83.3% female, 71.9% Caucasian, Mean pre-operative BMI= 45.89 kg/m^2) who underwent bariatric surgery at two Centers of Excellence completed the Eating Disorder Examination-Bariatric Surgery Version (EDE-BSV) at three time points (pre-op, 6-months post-op and 12-months post-op).
Results: Significant differences were found in EDE-BSV Global ($p < .001$) Restraint ($p < .001$), Shape Concern ($p < .001$) and Weight Concern ($p < .001$) scores over time, with patients reporting fewer disordered eating behaviors and attitudes after surgery. By contrast, there was no difference in the proportion of patients reporting Objective Overeating Episodes, Loss of Control Eating, Graze Eating or Nocturnal Eating at baseline as compared to post-op time points. Neither Objective Bulimic Episodes (OBE) nor Subjective Bulimic Episodes (SBE) were reported at baseline or six months post-op; only one participant reported clinically significant SBE's at one year follow-up.

Conclusions: This study suggests that problematic eating-related behaviors and attitudes improve within the first year after surgery, even though changes in clinically significant disordered eating behaviors were not identified in this sample of well-optimized patients. Given evidence for reduction in eating pathology within the first year post-op, patients may most benefit from monitoring for re-emergence of disordered eating behaviors after this time.