A-111-OR
COMORBIDITY RESOLUTION IN MORBIDLY OBESE CHILDREN AND ADOLESCENTS UNDERGOING SLEEVE GASTRECTOMY
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Background: The use of bariatric surgery in treating morbidly obese children and adolescents is becoming a necessity to fight the accompanying comorbidities including the risk of early-onset cardiovascular disease. Previously, we reported on the safety of performing Laparoscopic Sleeve Gastrectomy (LSG) in children and adolescents. However, no significant existing evidence to date that evaluated the effect of LSG on comorbidity resolution in this age group. This study will assess the resolution of comorbidities in 204 morbidly obese children and adolescents who underwent LSG at our institution. Methods: We performed a retrospective review on prospectively collected data of all morbidly obese patients below the age of 21 who underwent LSG by a single surgeon between April 2008 and February 2013. We analyzed patient demographics, anthropometric measurements and comorbidities at baseline and at each follow-up point. Results: The review yielded 204 patients. Mean age was 14.13 ± 4.0 years. Median preoperative BMI was 46.8 kg/m2. Median %Excess BMI Loss (%EBL) at 1-year was 68.8% (n=98), at 2-years it was 67.6% (n=43), and at 3 years it was 74.6% (n=10). ANOVA test demonstrated no statistically significant difference between the %EBLs at 1-, 2-, and 3-years (p-value 0.903) (Figure 1). Comorbid data indicate that 87% of the hypertensive patients experienced complete resolution, 11% had improvement in severity, and all prehypertensive patients experienced complete resolution. With regard to patients with dyslipidemia, cure was observed in 35%, improvement in 55%, and no change was noticed in 11% of the study group. 96.1% of patients with prediabetes and diabetes were cured. Overall, LSG achieved cure or improvement of 96% of comorbidities. All children experienced normal growth velocity. There were no mortalities or significant morbidity. Conclusions: LSG performed on children and adolescents results in cure or improvement of 96% of comorbidities, including those associated with the development of early-onset cardiovascular disease. Additionally, it results in successful BMI loss that plateaus after one year of surgery. Moreover, growth velocity is unaffected, with safe outcomes.

A-112-OR

LAPAROSCOPIC GREATER CURVATURE Plication VS. LAPAROSCOPIC SLEEVE GASTRECTOMY FOR MANAGEMENT OF MORBIDLY OBESE PATIENTS.
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Background: Morbid obesity is one of the major health problems of the 21st century. Bariatric surgery has become the main line of treatment during the past few decades. Laparoscopic sleeve gastrectomy (LSG) has gained popularity for its effectiveness in achieving excessive weight loss and the relative easiness of the technique. Lately IGCP has emerged as a restrictive bariatric procedure that successfully reduces the gastric volume by plication of the gastric greater curvature. Methods: Between January 2010 and April 2012, sixty morbidly obese patients were randomly divided into two groups. Group A underwent LSG while group B underwent LGCP. Data was collected through routine follow-up. Demographics, complications, and percentage of excess weight loss (% EWL) were compared. Results: All procedures were completed laparoscopically. One patient in the LSG group was reoperated because of early postoperative bleeding. The mean hospital stay was 3.4 ± 2.0 days in the LGCP group and 3.2 ± 1.6 days in the LSG group (P = 0.595). One year after surgery, the mean %EWL was 48.6 ± 15.7 % (n = 30) in the LGCP group and 72.0 ± 26.8 % (n = 30) in the LSG group (P = 0.032). The comorbidities, including diabetes, sleep apnea and hypertension, were markedly improved in both groups 6 months after surgery. Conclusions: Compared with LSG, LGCP is inferior as a restrictive procedure for weight loss. Longer follow-up and more randomized controlled trials are needed before making final judgment.

A-113-OR
OUTCOME OF LAPAROSCOPIC SLEEVE GASTRECTOMY PERFORMED IN COMBINATION WITH HIATAL HERNIA REPAIR: SINGLE CENTER EXPERIENCE
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Background: Laparoscopic Sleeve gastrectomy (LSG) is becoming a very popular bariatric procedure in morbidly obese patients. The incidence of Hiatal Hernia (HH) in morbidly obese patients is higher than the general population. The repair of HH during LSG is indicated, however, the type of repair remains
controversial. Also, the outcome of patients with HH following LSG is unknown. The objective of this study is to evaluate the incidence and the type of HH repair during LSG and to investigate the effect of HH repair on Gastro-Esophageal Reflux Disease (GERD) and weight loss following LSG. Methods: After obtaining IRB approval we performed a retrospective review of prospectively collected data on all patients who underwent a primary LSG between September 2009 and December 2012. Patients who underwent a HH repair were identified. Patients with Type I HH underwent an anterior hernia repair (LSG+HH) whereas patients with Type II, III and IV HH (Paraesophageal Hernias) underwent a formal anterior repair with or without a synthetic absorbable mesh (LSG+PEH). Patient demographics included age, gender, race, BMI and preoperative %EWL. Primary outcomes included operative time, blood loss and postoperative excess weight loss at 3, 6 and 12 months. In addition, GERD Health Related Quality of Life (HRQL) questionnaire was given to all patients postoperatively. GERD (HRQL) includes 10 questions related to GERD which are scored on a scale of 0 to 5. To analyze the questions we conducted separate, mixed randomized-repeated measures of analyses of variance (ANOVA) with hernia repair as the randomized factor and time between pre and postoperative outcome as the repeated factor. Results: 338 patients underwent primary LSG and were included in our analysis. Among those patients 99 patients (29%) were found to have a HH. 56 patients (16%) had a Type I HH and underwent LSG in combination with anterior repair of HH (LSH+HH). However, 43 patients (13%) were found to have paraesophageal hernias and underwent LSG+PEH. Among the 43 patients who underwent LS+PEH, 22 patients underwent LS+PEH with absorbable mesh placement. Demographics and primary outcomes are shown in Tables 1 and 2. At 6 and 12 months, we found a higher %EWL in patients undergoing either LSG+HH or LSG+PEH compared to LSG performed alone. Our results also revealed a statistically significant improvement in GERD symptoms postoperatively for both hernia repair groups based on the GERD (HRQL). Also, patients who underwent LSG+HH and LSG+PEH reported a higher satisfaction rate with their postoperative condition compared to patients who underwent a LSG alone (93% vs... 87%). Conclusions: To our knowledge, this is the largest series of LSG performed in combination with HH repair. Patients who undergo LSG in combination with a hiatal hernia repair have improvement in GERD symptoms and report a high post-operative satisfaction rate. Also, the excess weight loss is comparable to patients undergoing LSG alone. Further studies are needed to clarify the long term outcome of patients undergoing LSG in combination with hiatal hernia repair.

A-114-OR

PREVALENCE, DIAGNOSIS, AND TREATMENT OPTIONS FOR GASTROESOPHAGEAL REFLUX DISEASE AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY FOR MORBID OBESITY
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CCF2

Background: Laparoscopic Sleeve Gastrectomy (LSG) has gained popularity as a primary procedure in Bariatric surgery. Gastroesophageal Reflux Disease (GERD) has been described as the most prevalent long-term complication. Limited long-term data is available in the literature on the prevalence of GERD after LSG. The aim of our study is to determine the rate of GERD after LSG, as well as the treatment modalities and outcomes in this selected group of patients. Methods: A retrospective review of all the patients who underwent LSG for Morbid Obesity at The Bariatric and Metabolic Institute of the Cleveland Clinic Florida between 2004 and 2012 was conducted. Symptomatic GERD identified was investigated using a standardized questionnaire.

Results: A total of 640 LSG were reviewed. GERD was identified in 76/640 (11.87%). Fifty-five (8.6%) patients reported history GERD before undergoing LSG and 21(3.3%) patients developed new onset of GERD, 6 months after the procedure. All patients with GERD were treated medically with different doses of PPI. Fifty-eight (76.3%) patients had symptoms resolution with medical treatment alone. Ten (1.5%) patients required conversion to RYGBP. Five (50%) of the conversion patients had GERD prior to the LSG. Ninety percent (9/10) of the conversions patients demonstrated complete resolution of GERD.

Conclusions: In our series the incidence of new onset of GERD after sleeve gastrectomy was low. The great majority of patients respond well to medical treatment. The need for conversion to RYGBP due to intractable GERD is 1.5%. Conversion to RYGBP is a safe procedure that offers complete resolution of symptoms in patients with intractable GERD.

A-115-OR
IS SLEEVE GASTRECTOMY WITH JEJUNAL BYPASS AS GOOD AS ROUX-Y GASTRIC BYPASS FOR THE TREATMENT OF MORBID OBESITY? A COMPARATIVE STUDY.
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Background: Sleeve Gastrectomy with Jejunal Bypass (SGJB) is performed in our institution since 2004 for the treatment of obese patients. This technique has shown acceptable results in terms of
weight loss and improvement of comorbidities, with acceptable morbidity as Roux-en-Y Gastric Bypass (RYGB). The main objective of this study is to compare SGJB with RYGB. Methods: Retrospective case series from a prospective database where two different surgical teams performed either RYGB or SGJB. All patients with a preoperative BMI > 30 kg/m² were included. Analysis of weight loss and comorbidities was made with descriptive statistics, t-test, and Fisher exact test depending on the variable. Results: 455 patients underwent SGJB and 135 RYGB. Patients were similar on age, and associated comorbidities, but differed in male/female ratio, and preoperative BMI (37.9 kg/m² in SGJB versus 40.2 kg/m² in RYGB, p = 0.0013). Surgical time was 124 min in SGJB and 132 in RYGB (p < 0.0001), hospital postoperative stay was 3.1 days in SGJB and 3.8 in RYGB (p = 0.1). The EWL at 5 years was 77.1% with SGJB and 63.2% with RYGB (p = 0.156). Improvement of hypertension was better in the SGJB group (91% vs... 70% p = 0.008), insulin resistance did not show significant difference, but type 2 diabetes showed 86% of improvement with SGJB and 71.4% in RYGB (p = 0.011), and dyslipidemia 97% vs... 84% respectively (p = 0.043). Morbidity didn’t showed significant difference. Conclusions: Despite the study limitations, we think that SGJB is at least comparable with RYGB, with a tendency of the SGJB to achieve better results in terms of excess weight loss and comorbidities resolution.

A-116-OR
LAPAROSCOPIC VERTICAL SLEEVE GASTRECTOMY VS. LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: SINGLE CENTER EXPERIENCE WITH 2 YEAR FOLLOW-UP
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Dartmouth-Hitchcock Medical Center

Background: Laparoscopic Sleeve Gastrectomy (LSG) is a new bariatric procedure that is gaining wide acceptance. However, Laparoscopic Roux-en-Y Gastric Bypass (RYGB) remains the gold standard and the most commonly performed procedure in the United States. There are few studies comparing LSG and LRYGB. The aim of this study is to compare the safety and outcome of LSG versus LRYGB in a center of excellence (COE). Methods: All patients who underwent primary non-revisional laparoscopic bariatric surgery from September 2009 to December 2012 were analyzed. Patients who underwent gastric banding were excluded. 885 patients underwent either a LSG or LRYGB and were included in our study. LSG were performed using a 36 French bougie. LRYGB were performed with a 25mm circular stapler. Demographics included age, gender, race and preoperative BMI. Primary outcomes were Length of Stay (LOS), 30-day mortality, serious complication, reoperation and readmission rates and also % Excess Weight loss (%EWL) at 3, 6, 12 and 24 months. Secondary outcomes were operative time and blood loss. Results: Among the 885 patients, 547 (62%) underwent LRYGB and 338 (38%) underwent LSG. Our results are shown in tables 1 and 2. We had no mortality in our series. LOS was 29.1 and 31 hrs. for LSG and LRYGB respectively (P=0.05). LSG patients had a lower 30-day complication and reoperation rates compared to LRYGB but the difference was not statistically significant. LRYGB had a significantly higher readmission rate compared to LSG (5.1% vs... 0.3% P < 0.05). LSG had a significantly lower %EWL during our follow-up period. In addition, LSG patients had a shorter operative time (80.2 min vs... 104.6 min, P < 0.05) but no difference in operative blood loss. Conclusions: LSG seems to have a better safety profile in the short term compared to LRYGB with a significantly lower readmission rate. However, LRYGB patients achieve a significantly higher EWL compared to LSG patients. Randomized clinical trials are needed to better elucidate our findings.

A-117-OR
SHORT-TERM OUTCOMES OF LAPAROSCOPIC VERTICAL SLEEVE GASTRECTOMY AND GASTRIC BYPASS IN THE ELDERLY; A NSQIP ANALYSIS
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Background: Outcomes of bariatric surgery in the general population are well established, especially for laparoscopic gastric bypass (GBP). Even though the US population is aging, and vertical sleeve gastrectomy (VS...G) is being performed more frequently, data on the safety of VS...G performed in elderly patients are sparse. This study aims to assess the short-term outcomes associated with laparoscopic VS...G in patients aged 65 years and over, in comparison to GBP. Methods: The NSQIP database was queried for all patients aged 65 and over, who underwent elective laparoscopic GBP and VS...G between 2005 and 2011. Chi-square, Fisher’s exact and two-tailed Student’s t-test were used to compare baseline characteristics and outcomes. Binary logistic regression was used to identify independent predictors of 30-day morbidity and mortality. Odds ratios (OR) with 95% confidence interval (CI) were reported when applicable. Results: We identified 1946 patients. Mean BMI was 44±8. VS...G was performed in 155 patients (8%). Classification of ASA 3 or 4 was given to 1702 patients (87.5%). There were no statistically significant differences in the
presence of cardiac, pulmonary, hepatic or renal comorbidities between patients who underwent VS.G and GBP; ASA classification of 3 or 4 was similar between the two groups (82.6% vs. 87.9%, p=0.056). Diabetes was more frequent in the GBP group (43.2% vs. 53.7%, p=0.013), and vascular comorbidities were more frequent in the VS.G group (21.8% vs. 8.1%, p<0.001). 30-day mortality (0.6% vs. 0.7%, OR 0.89, 95% CI 0.12-6.83), serious (5.2% vs. 4.7%, OR 1.09, 95% CI 0.52-2.3) and overall morbidity (9% vs. 8.2%, OR 1.12, 95% CI 0.63-1.99) were similar.

There was no significant difference in the rate of septic occurrences (2.6% vs. 1.3%, p=0.267), intra-abdominal abscess (0% vs. 0.9%, p=0.632), pulmonary embolism (1.3% vs. 0.6%, p=0.278) or re-operation (3.2% vs. 3.5%, p=0.849) between VS.G and GBP patients.

**Conclusions:** In elderly patients undergoing laparoscopic bariatric surgery, VS.G is not associated with significantly different 30-day outcomes compared to GBP. Both procedures are followed by acceptably low morbidity and mortality. For patients aged 65 years and over considering bariatric surgery, laparoscopic VS.G and GBP appear to be equally safe.

**A-118-OR**

**REMISSION OF OBSTRUCTIVE SLEEP APNEA FOLLOWING BARIATRIC SURGERY**

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*Barix Clinics\(^9\)*

**Background:** Evidence on remission of obstructive sleep apnea (OSA) following bariatric surgery and its relation to weight loss is conflicting. We sought to identify factors associated with successful OSA remission in a large, population-based study of bariatric surgery patients. **Methods:** We analyzed data from the statewide, prospective clinical registry of the Michigan Bariatric Surgery Collaborative and identified 3,550 patients with OSA (using CPAP or BiPAP) who underwent a primary bariatric procedure between June 2006 and October 2011 and had at least 1 year of follow up data. We used multivariable logistic regression to identify pre-operative factors associated with successful OSA remission, which we defined as discontinuation of CPAP/BiPAP at 1 year. Our regression model also included weight loss at 1 year, divided into equal quintiles, and procedure type as covariates. **Results:** The overall OSA remission rate was 60.3%. On multivariable analysis, the odds ratio of OSA remission increased stepwise through quintiles of 1-year weight loss. Relative to the lowest quintile, the odds ratios of remission in the 2nd through 5th quintiles were 1.44 (CI 1.05-1.97), 2.03 (CI 1.44-2.85), 2.47 (1.65-3.68) and 3.53 (CI 2.56-4.88). Relative to gastric banding, the adjusted odds of OSA remission were greater with gastric bypass (OR 2.38, CI 1.83-3.10), sleeve gastrectomy (OR 2.01, CI 1.52-2.65) and duodenal switch (OR 2.57, CI 1.42-4.66). Additional negative independent predictors of remission included increasing age category (per 10 years) (OR 0.73, CI 0.68-0.78), increasing BMI category (per 10 units) (OR 0.57, CI 0.53-0.62), male gender (OR 0.58 CI 0.51-0.67), hypertension (OR 0.83, CI 0.72-0.95), depression (OR 0.78, CI 0.68-0.89), and pulmonary disease (OR 0.88, CI 0.79-0.98). An increasing (better) score on the baseline Health and Activities Limitations Index survey was a positive independent predictor (OR 1.70, CI 1.29-2.22). **Conclusions:** Weight loss is an important predictor of OSA remission following bariatric surgery. However, independent of weight loss, there remain significant differences in the likelihood of remission between gastric banding and other bariatric procedures. This suggests that there may be a metabolic, weight-independent effect of procedure type on OSA remission.
Thursday, November 14, 2013
1:00 pm – 2:30 pm EST

Paper Session IV: Co-Morbid Conditions

A-119-OR
CHANGES IN SEXUAL FUNCTIONING AND SEX HORMONES IN WOMEN WHO UNDERGO BARIATRIC SURGERY

David B Sarwer, PhD; Jacqueline C Spitzer, MS Ed; Thomas A Wadden, PhD; Raymond C Rosen, PhD; Kathy Lancaster, BA; Anita P Courcoulas, MD MPH; William F Gourash, MSN, CRNP; Nicholas J Christian, PhD

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This paper has been moved to the JAMA Session; Friday, 11/15, 5:15 pm – 6:15 pm

A-120-OR
COMPREHENSIVE EVALUATION OF THE EFFECT OF BARIATRIC SURGERY ON PELVIC FLOOR DISORDERS

Hector Romero Talamas, MD; Ali Aminian, MD; Esam S Batayyah, MD; Andrea Zelisko, MD; Cecile A Unger, MD; Beri Ridgeway, MD; Matthew Barber, MD; Philip R Schauer, MD; Stacy A Brethauer, MD

Cleveland Clinic Foundation1

Background: The association of pelvic floor disorders (PFD) with obesity is a well-documented phenomenon. The spectrum of PFD includes stress urinary incontinence (SUI), urge urinary incontinence (UUI), pelvic organ prolapse (POP), and anal incontinence (AI). Resolution or improvement of SUI after bariatric surgery has been previously reported. However, the data addressing the effect of surgically induced weight loss over UUI and other forms of PFD is sparse. Moreover, comprehensive clinical evaluation including gynecological examination and urodynamic testing has not been performed. The aim of our study was to evaluate the effect of bariatric surgery on PFD in morbidly obese women. Methods: From December 2008 to December 2012, morbidly obese women that were deemed as candidates for bariatric surgery at a Bariatric Center of Excellence were asked to complete a PFD-specific screening questionnaire. Patients who resulted positive were asked to participate in the study by completing 3 validated condition-specific questionnaires before surgery and at 6-12 months after the bariatric procedure. Participants who consented for diagnostic evaluation were additionally referred for gynecological clinical examination (Pelvic Organ Prolapse Quantification (POP-Q test) and urodynamic testing at similar time-points. In total, 72 patients completed their post-operative questionnaires, 19 physical examination, and 13 urodynamic test. Results: Seventy two patients, with mean age of 48.8±10.5 years, underwent laparoscopic gastric bypass (n=65), sleeve gastrectomy (n=5), and gastric banding (n=2).

Mean BMI dropped from 47.5±9.4 to 32.7±8.1 kg/m2 at 1-year after surgery (p<0.001). Based on subjective data, the most prevalent PFD was SUI, identified in 60 (83.3%) patients at baseline and subsequently in 32 (44.4%, P<0.001) at follow-up. Decrease in prevalence of SUI after surgery was also confirmed with urodynamic testing (from 76.9% to 30.8%, p=0.01). The prevalence of UUI and AI at baseline and follow-up were 75% vs... 37.5% (p<0.001) and 29.2% vs... 25% (p=0.58), respectively. There was no significant change in prevalence and bother of POP based on subjective data and POP-Q test. The preoperative score for presence and bother of PFD-related symptoms, as assessed by the Pelvic Floor Distress Inventory (PFDI-20) decreased from 76.7±47.2 to 52.2±50.9 at follow-up (P<0.001). Improvement in quality of life and sexual function was observed with a significant change in the scores of the Pelvic Floor Incontinence Questionnaire (PFUIQ-7) and the Pelvic Organ Prolapse/Urinary Incontinence Sexual Questionnaire (PISQ-12) from 30.3±39.2 to 16.8±36.9 (P=0.002) and from 34.2±36.9 to 36.0±6.0 (P=0.028), respectively. Conclusions: Surgically induced weight loss is associated with a decrease in prevalence and severity of diverse forms of urinary incontinence as well as improvement in quality of life and sexual function of morbidly obese women.

A-121-OR
PREVALENCE OF ENDOMETRIAL PATHOLOGY IN OBSESE WOMEN UNDERGOING BARIATRIC SURGERY AND CHANGES IN INFLAMMATORY MARKERS OCCURRING WITH WEIGHT LOSS

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Background: Introduction: Endometrial cancer morbidity and mortality are rising with increasing obesity rates in the US and around the world. We sought to determine the prevalence of occult endometrial hyperplasia in women undergoing bariatric surgery at two sites (University of Pittsburgh (UP) and University of Minnesota (UM)), and to assess in the impact of weight loss on the expression patterns of biomarkers associated with cancer and inflammation including: estrogen receptor (ER), CD3, CD20, and Ki-67 in the endometrium. Methods:
that underwent bariatric surgery. Abnormal endometrial findings (four simple, one complex hyperplasia without atypia, and one complex hyperplasia with atypia) were seen in 7.1% of patients presenting for bariatric surgery (6/84). In three cases hyperplasia resolved without treatment following weight loss and one hyperplasia resolved with hormonal treatment, paralleled with decreasing level of ER. Statistically significant differences were observed between matched pre- and post-surgery levels of CD20 positive inflammatory cells based on an exact McNemar test (p=0.0196). Tendency towards decrease expression level from baseline status were observed for Ki67 (p<0.0001), and CD3 positive inflammatory cells (p <0.0504).

Conclusions: Conclusions: Women who present for bariatric surgery are at relatively high risk of harboring unrecognized endometrial pathology and this risk appears to be at least partially mitigated by weight loss. Our data demonstrate that the reduction of risk is associated with reduced expression of multiple markers that have been implicated in malignant transformation and inflammation suggesting that these pathways may be relevant and targetable in the prevention or treatment of endometrial cancer.

A-122-OR
THE EFFECT OF BARIATRIC SURGERY ON GOUT: A CASE-CONTROL STUDY
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Background: Obesity is a well-recognized risk factor for the development of gout. An increased incidence of acute gouty attacks after a surgical procedure has been reported. However, the data addressing this issue after bariatric procedures is sparse. Moreover, the effect of weight loss surgery beyond the acute postoperative phase remains unclear. We conducted a retrospective case-control study to evaluate the pre and post-surgical frequency and features of gouty attacks in morbidly obese patients after bariatric surgery.

Methods: Between 01/04 and 02/13, a total of 99 morbidly obese patients (2.6% of all patients) that underwent bariatric surgery were identified to have gout. Demographical variables and gout-related parameters including number of pre- and post-surgical gouty attacks, type of medications and dosage, and uric acid levels were retrospectively identified and recorded. The control group consisted of 56 obese individuals with active gout that were submitted to non-bariatric upper abdominal procedures (laparoscopic cholecystectomy in 79%) at our institution.

Results: The bariatric group had a female to male ratio of 1.3, mean age of 52.1±10.3 years, and mean BMI of 49.5±11.9 kg/m^2. Bariatric procedures included Roux-en-Y gastric bypass (n=69), sleeve gastrectomy (n=22), and adjustable gastric banding (n=8). Baseline characteristics and prophylaxis use at the time of surgery were not statistically different between bariatric and control groups. However, bariatric patients were, on average, 6.2 years younger (p<0.001) and 7.2 kg/m^2 heavier (p<0.001).

Reduction of BMI at 1- and 12-months after bariatric surgery was 4.4±3.1 and 11.0±6.2 kg/m^2, respectively. The incidence of acute gouty attack in the first month following surgery was significantly higher in the bariatric group than control group (17.5% versus 1.8%, p=0.003). In the bariatric group, 23.8% of patients had at least one gouty attack during a 12-month period before surgery which decreased to 8.0% during postoperative months 1 to 13 (p=0.005).

In addition, there was a significant reduction in level of uric acid 12 months after bariatric surgery when compared to baseline values (9.1±2.0 versus 5.6±2.5 mg/dl, p=0.007. Conclusions: Acute gouty attacks occur frequently after bariatric surgery. The frequency of acute episodes in this bariatric surgery cohort is significantly higher compared to an obese cohort undergoing non-bariatric abdominal surgery. However, the incidence decreases significantly after the first postoperative month to 1 year. Intensive pre-surgical treatment and aggressive prophylaxis should be considered in patients with preoperative diagnosis of gout scheduled for a bariatric procedure.

A-123-OR
IMPROVEMENTS IN ALBUMINURIA AND GLOMERULAR FILTRATION RATE AFTER BARIATRIC SURGERY
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Columbia Univ Med Center/Harlem Hospital

Background: Albuminuria and impaired glomerular filtration rates (GFR) have both been independently associated with increased risk of all-cause mortality, so finding therapies which improve either condition is beneficial. We previously reported on a group of 38 non-diabetic bariatric patients who underwent Roux-en-Y gastric bypass (RYGB) and subsequent improvements in albuminuria occurring early in the
post-operative period, 3-12 months post-op. We sought to confirm those results in a larger cohort of patients undergoing RYGB or sleeve gastrectomy (SG), including patients with diabetes (DM) and hypertension (HTN), with pre-operative normal urinary albumin levels or microalbuminuria, (urinary albumin creatinine ratio (UACR) of 30-299 mg/g). Methods: Retrospective study of 159 patients who underwent bariatric surgery at a New York City public hospital from 2004-2012. Inclusion criteria: patients with pre-operative and 1 yr. post-operative values for UACR, serum creatinine and weight (kg). Exclusion criteria: patients with pre-op CKD Stage 3 or macroalbuminuria (UACR 300 mg/g). The primary outcome measures were changes in UACR and GFR at 1 year. Data were obtained from electronic medical records and expressed as mean ± SE. Differences were analyzed using paired Student’s t-tests and Pearson’s correlation coefficients and p <0.05 considered statistically significant. Results: 159 patients met inclusion criteria; 92% female; mean age 40.9 ± 0.89 yrs. (range 18-65); 83.6% white Hispanic, 15.1% African-American; 75.4% had RYGB, 24.6% SG. Pre-op, hypertension and DM were present in 28.3 and 42.8% of patients, respectively. Pre-op mean UACR was 21.4 ± 3.1 mg/g. Microalbuminuria was present in 13.8% pre-op (45% of these had hypertension, 27% had diabetes). Mean UACR decreased significantly comparing pre-op vs... post-op for the entire group, 21.4 ± 3.1 vs... 10.1 ± 1.2 mg/g (p<0.0001), diabetics, 18.8 ± 4.3 vs... 9.6 ± 1.6 mg/g (p=0.04) and hypertensives, 28.5 ± 6.7 vs... 12.3 ± 2.5mg/g (p=0.004). Of 22 patients with pre-op microalbuminuria, 18 (82%) had resolution at 1 year. At 1 year, there was a significant difference in UACR based on type of surgery, 11.6 ± 1.6 mg/g after RYGB vs... 6.03 ± 0.6 mg/g after SG. Changes in UACR did not correlate with changes in weight (p=0.15). Patients with and without diabetes showed GFR improvement: pre vs... 1 yr.: in diabetics 88.9 ± 3.8 vs... 79.1 ± 2.9ml/min (p=0.0005), non-diabetics 101.5 ± 2.7 vs... 90.9 ± 2.6ml/min (p<0.0001). Changes in GFR correlated with changes in weight in non-diabetics (p=0.017, r=0.23), but not in diabetics. Conclusions: UACR improved significantly at 1 year post-op and this change did not correlate with weight changes. The most significant improvements in UACR occurred in patients with HTN and SG patients. Most patients with pre-op microalbuminuria experienced resolution by 1 yr. post-op. GFR improved in both diabetics and non-diabetics, with the change in non-diabetics being independent of weight changes. This study is limited by its retrospective nature. Given the increased mortality associated with albuminuria and impaired GFR, particularly in diabetics, prospective studies should evaluate whether improvements post-bariatric surgery translate into improved all-cause mortality rates, independent of weight changes.

A-124-OR

RESOLUTION OF NON-ALCOHOLIC FATTY LIVER DISEASE AND METABOLIC SYNDROME IN ADOLESCENTS UNDERGOING LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING (LAGB)

John Loy, MD; Heekoung A Youn, RN; Bradley F Schwack, MD; Marina Kurian, MD; Christine J Ren-Fielding, MD; George A Fielding, MD
NYU Langone Medical Center

Background: The associations between obesity, non-alcoholic fatty liver disease (NAFLD) and metabolic syndrome (MS) are well recognized. NAFLD is the most common cause of chronic liver disease in adolescents and it is likely that NAFLD cirrhosis will become the most frequent indication for liver transplantation in the developed world. NAFLD is also increasingly accepted as the hepatic manifestation of MS. Obese adolescents are at greatly increased risk of developing NAFLD which may progress to cirrhosis if left unchecked. We sought to assess the effect of bariatric surgery on adolescents with evidence of NAFLD at presentation. Methods: Adolescents undergoing Laparoscopic Adjustable Gastric Banding (LAGB) with abnormal liver sonograms or deranged liver function tests at presentation were scored for NAFLD severity using a previously validated NAFLD scoring system. They were also assessed against the International Diabetes Federation (IDF) MS criteria. NAFLD fibrosis scores were calculated pre-operatively and at 1 and 2 years post-operatively. MS criteria were assessed at the same time intervals. Other data recorded included weight, body mass index (BMI), complications, percentage excess weight loss (%EWL), metabolic and lipid panels and body fat composition using body composition scanning. Results: 56 adolescents, 39 female and 17 male, mean age 16.1 years (14-17 yr.s) with evidence of fatty liver disease on presentation underwent LAGB for treatment of morbid obesity. Mean pre-operative weight was 304.3lbs (+/-60.8) and BMI was 48.8 kg/m2 (+/-7.0). There was no mortality and one patient was re-admitted with acute appendicitis within 30 days. Follow up rates were 54/56 (96%) at 1 year and 49/51 (96%) at 2 years. NAFLD fibrosis scores improved significantly by 0.68 (+/-1.03, p<0.0001) at 1 year and by 0.38 (+/-0.99, p=0.0096) at 2 years post-operatively on paired t-testing. Fifteen of 18 (83.3%) patients who met IDF metabolic syndrome criteria had complete resolution within 2 years of surgery. Mean %EWL was 48.96% (+/-22.1) at 2 years. There were 3 (5.4%) band slips and 2 (3.57%) port problems requiring re-operation giving a re-operation rate of 8.9% for band related complications at 2 years. There was no mortality or complications from these re-operations. Conclusions: LAGB is a safe and effective treatment for obese adolescents with evidence of metabolic syndrome and fatty liver. LAGB significantly improved NAFLD fibrosis scores within 1 year and resolved metabolic syndrome in 83% of adolescents within 2 years.
years of surgery. The improvement in NAFLD scores which occurred following LAGB demonstrates its value as a metabolic operation in the adolescent population.

Thursday, November 14, 2013
1:00 pm – 2:30 pm EST

Paper Session V: Perioperative Outcomes and Patient Safety

A-125-OR
A DECADE ANALYSIS OF TRENDS AND OUTCOMES OF BARIATRIC SURGERY IN MEDICARE BENEFICIARIES
Mehraneh D Jafari, MD1; Monica T Young, MD1; Brian Smith, MD1; Michael J Phalen, PhD1; Ninh T Nguyen, MD1
University of California, Irvine1

Background: In 2006, centers for Medicare and Medicaid services issued a national coverage determination (NCD) that restricted bariatric procedures to be performed at centers of excellence. We aimed to analyze the trends and outcomes of bariatric surgery in Medicare patients and to specifically analyze outcomes after implementation of the NCD. Methods: Using the Nationwide Inpatient Sample, a review of elective admission of morbidly obese patients who underwent bariatric surgery (gastric bypass, sleeve gastrectomy, gastric band) was conducted between 2001-2010 for Medicare patients. Patient demographics, comorbidities, serious postoperative morbidity, and in-hospital mortality were reviewed. Yearly trends for length of stay, serious morbidity, and in-hospital mortality were analyzed in Medicare compared to non-Medicare patients. Results: There were 775,516 cases sampled with Medicare beneficiaries consisting of 16% of cases (n=125,378). The mean age was 46 years old with 80% females. The most commonly performed operation was Roux-en-Y gastric bypass (79% of cases); gastric band was performed in 19% of cases, with a peak rate in 2008 at 33%; and sleeve gastrectomy was performed in <2% of cases. Since 2001, there was an overall trend towards improved outcomes with a decrease in mortality at a mean rate of 23% per year and a reduction in serious morbidity at a mean rate of 29% per year. In the Medicare patients, in-hospital mortality rate prior to the NCD was 0.44% which decreased to 0.23% post-NCD. For non-Medicare patients, the in-hospital mortality prior to the NCD was 0.18% which decreased to 0.07% post-NCD. However, this difference of in-hospital mortality in Medicare beneficiaries before vs... after NCD (0.21%) was higher than the difference observed in the non-Medicare patients (0.11%). Conclusions: The overall rate of complications and mortality in Medicare beneficiaries has decreased substantially over the past decade. There was a significant reduction in mortality for both Medicare and non-Medicare patients after implementation of the 2006 NCD. However, this improvement was more substantial in Medicare patients. Our findings may suggest the beneficial effects of the 2006 Medicare NCD.

A-126-OR
UTILIZING NATIONAL CLINICAL DATA TO DRIVE QUALITY IMPROVEMENT
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Stanford School of Medicine1
Stanford University2

Background: Bariatric surgery is the only effective and enduring intervention for severe obesity. Along with demonstrated effectiveness, there have been notable improvements in patient safety specifically with mortality. As future quality improvement will move beyond mortality, there is a need to prioritize quality improvement. Real-time, clinically objective data as is present in the Metabolic and Bariatric Surgery Quality Improvement Program (MBSAQIP) can provide a platform for quality improvement. Here we describe quality improvement projects which were instigated by review of clinically rich, quality reporting data. Methods: Complication data from one of the precursor programs to the MBSAQIP (American College of Surgeons Bariatric Surgery Network) were reviewed and compared to national benchmark rates from 2008-2012. Three opportunities for improvement were identified: 30-day readmissions and surgical-site infection (SSI). Targeted solutions were detailed for each intervention and disseminated to the care team at monthly meetings as well as one on one detailing of surgery residents and posting of information on the resident website. For hospital readmissions, patient education and discharge planning were emphasized on daily basis, direct phone numbers for concerns was provided, BMI Clinic RN called each patient at home on first day after discharge, same day appointments were made available for concerns, and utilization of the Clinical Decision Unit for 23 hour stays was employed. For surgical-site infection, several process improvements were implemented including: Chloraprep Scrubs for patient home use before pre-op, postponement of surgery if HgA1c is > 10 and Endocrine referral, administration of 2 g antibiotics, not 1, before OR start, re-dose antibiotic if OR case > 4 hours, use Endocatch bag when removing bowel contents in OR, and wound irrigation and interrupted sub-q closure. Results: From 2008 to 2012, there were significant improvements (p.<.05) in both readmissions and SSI. In 2008, the national benchmark for SSI was 1% with our institution having a 2.5% rate. By 2012, the SSI rate fell to 1%. In 2008, the national benchmark for 30-Day Readmissions was 5% with our institution having an 8% rate. By 2012, the 30-day readmission rate fell to 2%. Conclusions: Utilizing clinical, quality data can prioritize quality improvement efforts by
A-127-OR
COMPREHENSIVE SIMULATION-ENHANCED TRAINING CURRICULUM IN BARIATRIC SURGERY: A MORE EFFECTIVE APPROACH TO BARIATRIC SURGERY TRAINING.
Boris Zevin, MD1; Nicolas J Dedy, MD2; Esther M Bonrath, MD2; Teodor P Grantcharov, MD PhD2
University of Toronto1
St. Michael’s Hospital2

Background: Simulation-enhanced training has been shown to improve technical and non-technical skills in surgery. The effectiveness of this approach in comparison to conventional training in laparoscopic bariatric surgery is still unclear. The purpose of this prospective single-blinded randomized controlled trial was to compare the effectiveness of training in a comprehensive simulation-enhanced training (SET) curriculum in bariatric surgery to conventional surgical training (CT). Methods: Twenty intermediate-level surgical residents were allocated to SET and CT group. Final year (FY) residents were used as a comparison group. A cadaveric porcine jejunojejunostomy (JJ) model was used for baseline assessment of technical skill. The SET group completed cognitive, technical and non-technical components of the curriculum. The CT group continued conventional training. Post-intervention assessment included a knowledge test, a laparoscopic JJ on a live anesthetized porcine model, a JJ in the operating room (OR), and a simulated intraoperative crisis scenario. A minimum level of proficiency in a porcine model was required prior to progression to the OR. Results: Twenty out of 26 eligible participants were recruited. Baseline characteristics were equivalent between SET and CT groups. SET group demonstrated higher operative skill in a live porcine model (Bariatric Objective Structured Assessment of Technical Skill (BOSATS):56.4(11.5) versus 46.0(10.6), P=0.049) and higher non-technical skill in a simulated intraoperative crisis scenario (Non-Technical Skills for Surgeons (NOTSS):40.8(4.2) versus 31.6(8.7), P<0.001). SET group required fewer cases in a live porcine model (1.6(0.7) versus 2.2(1.1)) and had more participants achieving predefined proficiency by their 2nd case (9/10 versus 3/10, P=0.020). SET group showed significant within-group improvement in technical skill from baseline to assessment in a live porcine model (BOSATS:39.0(15.1) versus 56.4(11.5), P=0.002); CT group did not (BOSATS:43.5(13.4) versus 46.0(10.6), P=0.569). Operative skill in the OR was equivalent between the groups (BOSATS:61.1(8.8) versus 64.1(10.8), P=0.529), as were the proportion of operative steps completed without takeover (0.86(0.26) versus 0.67(0.16), P=0.096) and scores on the knowledge test (12.8(2.9) versus 13.9(1.8), P=0.324). In comparison to FY residents, SET group had equivalent operative skill in the OR (BOSATS:64.1(10.8) versus 67.3(9.6), P=0.526), higher non-technical skills (NOTSS:40.8(4.2) versus 31.3(6.2), P<0.001), lower knowledge scores (12.8(2.9) versus 15.8(2.1), P=0.020), and completed an equivalent proportion of operative steps in the OR (0.86(0.16) versus 0.86(0.14), P=0.983).

Conclusions: Participation in the SET curriculum resulted in superior training outcomes when compared to conventional surgical training. Implementation of this curriculum will offer standardization of bariatric surgical training and ensure that comprehensive proficiency milestones are attained prior to exposure to patient care. Trial Registration: clinicaltrials.gov Identifier: NCT01610466

A-128-OR
HIGH RISK ALCOHOL USE AFTER WEIGHT LOSS SURGERY: IS IT ALL BAD?
Christina Wee; Kenneth Mukamal; Karen Huskey; Roger B Davis; Mary Ellen Colten, PhD; Dragan Bolcic-Jankovic; Caroline Apovian; Daniel B Jones, MD; George L Blackburn, MD PhD

Background: Bariatric or weight loss surgery (WLS) may alter alcohol metabolism resulting in a higher prevalence of problem drinking post-operatively. However, most previous studies have focused on overall prevalence of problem drinking pre- and post-WLS, which could potentially mask any positive effects that bariatric surgery may have on alcohol use. Overall risk of high risk drinking may be underestimated if studies do not account for the possibility that a subset of patients actually have resolution of their high risk drinking post-WLS because of the greater attention being paid to caloric intake and substance abuse issues clinically post WLS. Methods: We recruited 654 patients contemplating WLS at 2 academic centers (70% response rate) as part of the Assessment of Bariatric Surgery (ABS) Study. We conducted telephone interviews at baseline and annually post-WLS on participants who proceeded with surgery. We elicited high risk alcohol use behavior via a modified version of the validated Alcohol Use Disorders Identification Test-Consumption (AUDIT-C). We used Pearson chi-square tests to compare patients who underwent gastric bypass procedure and those who underwent gastric banding in terms of the proportion of new high risk drinkers at 1- and 2-years post-WLS relative to baseline and the proportion of high risk drinkers at baseline who no longer reported high risk drinking at follow-up. Results: Of 541 participants who underwent WLS, 375 (69% retention) completed comparing local results to national benchmarks. By employing targeted process improvement initiatives, SSI rates can decline by 60% and 30-Day readmissions can drop by 75%.
the 1-year and 328 (63% retention) completed the 2-year interview. At 1 year, 13% reported high risk drinking compared to 17% at baseline, p=0.10; at Year 2, 13% reported high risk drinking compared to 15% at baseline, p=0.39 (figure 1). At both follow-up time points, more than half of those who reported high risk drinking at baseline no longer did so (10% at Year 1 and 8% at Year 2)(figures 1 and 2). In contrast, 7% and 6% of patients, respectively, reported new high risk drinking at 1- and 2-year follow-up. Findings were similar between gastric bypass and gastric banding at Year 1. At Year 2, gastric banding patients (11%) were twice as likely as gastric bypass patients (5%) to report amelioration of their high risk drinking behavior at baseline, p=0.047 (see table). **Conclusions:** Although 7% of patients report new high risk alcohol use 1 year after WLS, more than half who reported high risk alcohol use prior to surgery discontinued high risk drinking at 1 year. The potential beneficial effects appeared more durable in gastric banding than gastric bypass patients as twice as many gastric banding patients than gastric bypass patients who were former high risk drinker remained free from high risk drinking 2 years post-WLS.

**A-129-OR**

**RISK FACTORS FOR READMISSION WITHIN 30 DAYS OF BARIATRIC SURGERY**

Lawrence E Tabone, MD\(^1\); Dana D Portenier, MD\(^1\); Ranjan Sudan, MD\(^1\); Jin Yoo, MD\(^1\); Chan W Park, MD\(^1\); Alfonso Torquati, MD\(^1\)

Duke University\(^1\)

**Background:** Thirty-day readmission rates are being used as a quality measure for bariatric programs. Readmission after bariatric surgery increases expenses in the treatment of morbid obesity and contributes to patient morbidity. Knowing risk factors for readmission may help prevent such occurrences. We hypothesize that risk factors can be identified to predict which patients are likely to be readmitted 30 days after discharge from bariatric surgery.

**Methods:** We performed a retrospective review of all bariatric surgeries at our institution from January 2009 to April 2013. Subjects were categorized by operation: RYGB, sleeve gastrectomy, adjustable gastric banding (AGB), bilipancreatic diversion with duodenal switch (BPD/DS), or revisional surgery. Readmission within 30 days of discharge, patient’s age, sex, BMI, hospital length of stay (LOS), operative duration, and 31 different co-morbidities identified for the Bariatric Outcomes Longitudinal Database (BOLD) were collected. Readmitted patients were compared to patients not readmitted using multivariate analysis. Risk factors with a P value <0.05 were entered into logistic regression using the conditional stepwise method. **Results:** In 4.3 years we performed 3,146 bariatric procedures (61.8% RYGB, 9.7% sleeve gastrectomy, 15.6% AGB, 2.4% BPD/DS, and 5.6% revisional surgery) with a total of 152 (4.8%) documented readmissions within 30 days of discharge. The readmission rates across the different procedures were statistically significant (P=0.04) with the individual rates being 8.8% for revisional surgery, 7.3% BPD/DS, 4.8% RYGB, 4.3% AGB, and 3.2% sleeve gastrectomy. Age, LOS, and BMI were not significantly different for patients with readmissions. Length of surgery was significantly increased in patients who were readmitted (131 ± 77 minutes vs. 116 ± 60 minutes, P=0.002). Risk factors for increased admission rates included male gender (P=0.008), preoperative history of DVT (P<0.001), preoperative documentation of gallstones (P<0.001), a preoperative history of musculoskeletal disease (P<0.001), a diagnosis of fibromyalgia (P=0.001), diagnosis of gastroesophageal reflux disease (GERD) (P=0.017), and preoperative symptoms of back pain (P=0.022). Duration of surgery, sex, history of DVT, preoperative gallstones, musculoskeletal disease, and fibromyalgia remained statistically significant after multivariate logistical regression analysis (see table).

**Conclusions:** Readmission rates after bariatric surgery are relatively low in a patient population with significant comorbidities compared to other elective surgery populations. Most of the comorbidities collected in our prospective database did not increase the risk of readmission. Of those that we identified as being a risk factor for readmission, gallstones and a history of DVT may be the most clinically significant. A change in the perioperative care of patients with gallstones or a history of DVT may have the potential to further decrease readmission rates.

**A-130-OR**

**REDUCED SURVIVAL IN BARIATRIC SURGERY CANDIDATES DELAYED OR DENIED BY LACK OF INSURANCE APPROVAL**

Eleisha Flanagan, MD\(^1\); Iman Ghaderi, MD; Timothy M Farrell, MD\(^2\); D. Wayne Overby\(^2\)

The University of North Carolina\(^1\)

University of North Carolina\(^2\)

**Background:** Bariatric surgery reduces mortality for morbidly obese patients. Patients who seek surgery may have access limited by a variety of factors. Not all potential patients have insurance coverage or the means to pay. Those who do have existing benefits for bariatric surgery and who are deemed suitable candidates by bariatric physicians are sometimes denied by insurers based on stipulations for documenting co-morbid conditions and non-surgical treatment attempts. Therefore, the insurance approval process may limit access for some patients, delaying surgery for weeks, months, or indefinitely. The long-term impact of these care delays on survival is unknown. **Methods:** Using our intake database, we identified all patients who presented seeking bariatric surgery between August 2003 and December 2008, who were cleared as acceptable candidates by our
multidisciplinary medical team (surgery, psychology and nutrition providers) and for whom insurance approval had been requested. We then compared survival in those who were denied coverage by their insurance carriers to those who were approved. Mortality was determined using two identifiers through the Social Security Death Index, through January 1, 2013. Kaplan-Meier survival curves were plotted and the Log-Rank test for significance was applied using SPSS 21.0.

**Results:** During the study period, 463 patients (391 females, mean age 45 +/- 10 years, mean BMI 52.5 +/- 9.4 kg/m2) were medically cleared for a bariatric procedure. Of these, 363 were approved by insurance and had surgery without delay, whereas 100 were denied on initial request. At least nine patients were eventually able to overturn their denial and have a weight-loss procedure, however these were included with the subject cohort as the study’s intention was to aggregate delayed patients with denied patients to evaluate the impact of primary insurance denial. Follow-up ranged from 0-113 months, finding 6 (6%) of the initially-denied patients deceased compared with 7 (1.9%) in the control group. Kaplan-Meier survival analysis (figure) shows a statistically-significant survival benefit among patients who were initially approved for bariatric surgery versus those who were delayed or denied (p<0.001).

**Conclusions:** At our institution, access to bariatric surgical care was delayed or prevented by lack of insurance approval in 22% of patients with multidisciplinary medical clearance. The 6% mortality in these subjects is 3 times that of controls that were approved and had bariatric surgery without delay. Insurance approval processes that delay or restrict access for bariatric surgery candidates are associated with a survival disadvantage.

**Thursday, November 14, 2013**

3:00 pm – 5:00 pm EST

**Symposium V/Paper Session VI: Emerging Technologies**

**A-131-OR**

**THE DUODENAL-JEJUNAL BYPASS SLEEVE (ENDOBARRIER GASTROINTESTINAL LINER) FOR WEIGHT LOSS AND TREATMENT OF TYPE II DIABETES**

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**Imperial College London**

**Background:** The Duodenal-jejunal bypass sleeve (EndoBarrier Gastrointestinal Liner) is an endoscopically and fluoroscopically inserted implant designed to aid weight loss, treat type II diabetes mellitus and improve the cardiovascular risk profile of subjects. It is an impermeable fluoropolymer sleeve that is reversibly fixated to the duodenal bulb and extends 80cm into the small bowel, usually terminating in the proximal jejunum. It creates a barrier between chyme and the wall of the intestine thus delaying the mixing of digestive enzymes with food. It alters the activation of hormonal signals that originate in the intestine, thus mimicking the effects of a Roux-en-Y gastric bypass procedure without surgery. **Methods:** In order to assess efficacy and safety, we implanted the EndoBarrier bypass sleeve into 57 patients between January 2011 and December 2012. We performed subset analysis on 10 patients for whom detailed weight and HbA1c measurements were available at a follow-up time point of 12 months. **Results:** Results showed weight loss in all patients, as well as lowering of blood sugar levels. Only 1 early device removal (due to sleeve migration) occurred. There were no major postoperative side effects. At a 12 month time point, the weight loss in our cohort ranged from 5.71% to 28.44% (mean of 12.46%). HbA1c reduction ranged from 9.09% to 29.76% (mean of 19.15%).

**Conclusions:** Results confirm that the device reduces blood sugar levels and triggers weight loss. This non-permanent device implanted and removed endoscopically, controlled blood sugar and weight loss without the trauma of surgery. Clinical trials to date, involving more than 300 patients, have demonstrated significant weight loss and diabetes improvement with the Endobarrier. However, since this is a new procedure and due to the lack of data, it is not yet known if weight loss and diabetes benefits will persist.

**A-132-OR**

**DUODENAL ILEAL INTERPOSITION WITH SLEEVE GASTRECTOMY IS VERY EFFECTIVE FOR TREATMENT OF TYPE 2 DIABETES AND METABOLIC SYNDROME**

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**Kirloskar Hospital**

**Alman Hastanesi, Istanbul, Turkey**

**Background:** Combination of Laparoscopic Duodenal Ileal Interposition (DII) with sleeve gastrectomy (SG) is an upcoming procedure, which offers good metabolic improvement and weight reduction without causing significant malabsorption. The objective of this study was to evaluate the results of this novel procedure for control of type 2 diabetes, obesity, hypertension and related metabolic abnormalities.

**Methods:** The DII & SG was performed in 200 patients from March 2010 to April 2012 in 2 centers as a multicentric study. Participants had mean age of 47.2±8.2 years (range 29-66 years), mean duration of diabetes 10.1±9.2 years (range 1 to 32 years) and mean preoperative BMI 33.2±7.8 kg/m2. All patients had poorly controlled type 2 diabetes mellitus (mean HbA1C- 9.6 ± 2.1%) despite use of oral hypoglycemic agents (OHA) and/or Insulin. 70% patients had hypertension, 46% had dyslipidemia and 42% had significant microalbuminuria. The primary
outcome was remission of diabetes (HbA1C < 6.5% without OHAs/Insulin) and secondary outcomes were changes in drug requirement and components of metabolic syndrome. **Results:** Follow up was for 12-36 months. Postoperatively glycemic parameters (FBS, PLBS, HbA1C) improved in all patients (p<0.05) at all intervals. 77% had remission in diabetes and the remaining patients showed significantly decreased OHA requirement. All patients had weight loss between 15%-30% (p<0.05). 90% had remission in hypertension; **Resolution of Dyslipidemia in 95%, Microalbuminuria in 80%**. At 2 years mean fall in HbA1C (34%) was more than reduction in BMI (25%). **Conclusions:** This multicentric study indicates that laparoscopic Duodenal Ileal Interposition with sleeve gastrectomy seems to be a promising procedure for control of Type 2 DM, hypertension, weight reduction and associated metabolic abnormalities.

**A-133-OR**

**WEIGHT LOSS AND IMPROVED QUALITY OF LIFE WITH A NOVEL, NON-SURGICAL ENDOSCOPIC TREATMENT FOR OBESITY: CLINICAL RESULTS FROM A 3 AND 6-MONTH STUDY.**

George Marinos, MB BS, FRACP, MD; Christopher G Eliades, MB BS; Frank L. Greenway, MD; V. Raman Muthusamy, MD, FACP, FASGE

**Gastric Balloon Australia**

**Pennington Biomedical Research Center**

**David Geffen School of Medicine at UCLA**

**Background:** The TransPyloric Shuttle® (TPS®) is a non-surgical device that is delivered endoscopically to the stomach to treat chronic obesity. The TPS is deployed into the stomach to mechanically form a large spherical bulb connected to a smaller cylindrical bulb by a flexible tether. The larger bulb prevents migration from the stomach, while the smaller bulb passes freely into the duodenum during peristalsis to enable self-positioning of the TPS across the pylorus. Once transpyloric, the larger bulb engages the pylorus directly to form an intermittent seal designed to delay gastric emptying, enhance satiety, and enable a reduction in caloric intake. **Methods:** Patients enrolled in a prospective, open-label, non-randomized single-center study in Sydney, Australia. Subjects were serially assigned to three-month and six-month treatment cohorts. Change in excess weight and weight specific quality of life were evaluated as part of this study. The Impact of Weight on Quality of Life-Lite (IWQoL-Lite) Questionnaire was administered at baseline and end of treatment to assess the effect of obesity on an individual in five domains: Physical Function (PF), Self-Esteem (SE), Sexual Life (SL), Public Distress (PD), Work (W), and Overall (O). Higher scores are positive, indicating that obesity has less impact on emotional and physical well-being. **Results:** TPS delivery and removal procedures were successfully performed in outpatient endoscopic settings using a standard gastric overtube for access and esophageal protection. Deployment and retrieval times for the device were typically less than 15 minutes (10.3 +/- 3.9 and 12.9 +/- 6.4, respectively). Devices were removed 1-2 weeks prior to completion of the planned treatment period in two subjects due to the development of symptomatic gastric ulcerations. Baseline mean body mass index (BMI) across the twenty subjects was 36.0kg/m2±5.4kg/m2. At device removal, mean BMI reductions were 3.1 kg/m2 A± 1.7 kg/m2 and 5.6 kg/m2 A±2.1 kg/m2 in the three and six-month cohorts respectively. This equated to a percent EWL of 31.3±15.7% at three months and 50.0±26.4% at six months. Crosby, et al (2004) determined that a 7.7 to 12-point increase in the IWQoL-Lite scores represented a meaningful improvement in weight-related quality of life. After treatment, three-month patients IWQoL-Lite mean scores improved by 17.4±15.7, 32.9±23.7, 21.8±24.4, 11.3±21.0, 16.3±18.4, and 20.4±14.2 for PF, SE, SL, PD, W, and O scores, respectively. Six-month patients IWQoL-Lite mean scores improved by 26.3±26.0, 34.8±25.5, 29.1±26.6, 8.9±19.8, 6.8±15.3, and 23.2±20.5 for PF, SE, SL, PD, W, and O scores, respectively. **Conclusions:** Obesity represents a major health concern facing our population today. In addition to increased health risk, obesity often carries with it a significant and negative impact on an individual’s quality of life (QoL). The present study demonstrated substantial weight loss in 20 subjects using an experimental, non-surgical device therapy. Treatment with the TPS was safe, well-tolerated and resulted in meaningful improvements in weight-related QoL measures that reached statistical significance (p<0.05) in four of the five domains of the IWQoL-Lite (PF, SE, SL, and O) after three and six-month periods.

**A-134-OR**

**GREATER CURVATURE PLICATION WITH LAPAROSCOPIC ADJUSTABLE GASTRIC BAND**

Colin J Powers, MD; Alan C Geiss, MD; Heather F McMullen, MD; Miriam Meyerson Borsch, PA-C; June B Warman, RN CNOR CBN; Donna M. McPartland, RN-CBN; Baiju C. Gohil, MD

**North Shore- LIJ Health System**

**North Shore-LIJ Health System**

**Background:** Greater curvature plication of the stomach has emerged as an evolving bariatric procedure which provides restriction and food volume reduction while seeking to avoid the issues inherent to gastric stapling. In similar fashion, proponents of laparoscopic adjustable gastric banding have long advocated for the safety benefits of attempting to maximize the preservation of normal anatomy. Most recently, reports and publication have appeared which indicate that these two procedures may be synergistic.
A-135-OR
CARDIAC SEPTAL OCCLUDER DEVICE FOR TREATMENT OF GASTRIC FISTULA AFTER BARIATRIC SURGERY
Alberto Baptista, MD 1; Alberto Salinas, MD 1; Maria A Guzman, MD 1; Raul Doval, MD 2; Victor Zambrano, MD 2; Jose Di Giorgio, MD 3
Hospital de Clinicas Caracas, Caracas, Venezuela 1
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Background: Gastric leak and subsequent fistula is one of the most severe complications in bariatric surgery. Its management is challenging. In recent years, endoscopic stenting has become our treatment of choice. However, stents need to be removed and this leads to potential complications. Furthermore, there is a small group of patients in which the fistula fails to close after stent removal. Self-expandable nitinol devices designed for cardiac septal defect closure (Amplatzer®) have been previously used to treat digestive tract fistulae (not related to bariatric surgery). We present our early experience with this approach for bariatric surgery leaks and fistula.

Methods: Eleven patients underwent endoscopic Amplatzer® placement; eight had mature gastric fistulas and three had leaks within 7 days of surgery. The eight patients with fistula were 7 months postsurgery on average (range 1 to 16 months). In this group, six had sleeve gastrectomy (SG) and two gastric bypass (GBP). Six had gastrocutaneous fistula and two gastropleural fistula. Six had undergone self-expandable metal stent (SEMS) placement and failed to close the fistula. Two received long-term enteral nutrition via gastrostomy or jejunostomy as primary treatment, which also failed. The three patients with post-surgical leaks were two SG and one GBP.

Results: All eight patients with mature fistula had complete resolution of abdominal skin drainage or thoracic tube drainage within ten days after placement. The occluder device was assembled inside an adapted 10 or 7 Fr. biliary catheter in order to provide enough length to be discharged through a 2.8 or 3.2 mm working channel gastroscope. Fluoroscopy was not used in any case. A post-procedure contrast swallow study was negative for all patients. Contrast swallow and upper endoscopy were repeated after 3 weeks and confirmed fistula closure. These patients have been followed up for an average of 56.5 days and remain without recurrence. The 3 patients with acute leaks showed good initial response but skin drainage appeared after 5 to 6 days. In this group the occluder device was endoscopically removed and SEMS were placed with complete resolution of the leak. There were no complications related to the occluder device or its placement.

Conclusions: Septal cardiac occluder device seems to be an effective and safe alternative to treat gastric fistulae secondary to bariatric surgery. We observed complete resolution of two gastropleural fistula and six gastrocutaneous fistulae. The occluder device does not seem to be effective in the treatment of early post-operative bariatric gastric leaks. In our opinion, these are best treated with SEMS placement.

Thursday, November 14, 2013
3:00 pm – 5:00 pm EST

Paper Session VII: Revisional Surgery
A-136-OR
UPDATE ON SALVAGE LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING FOR FAILED ROUX-EN-Y GASTRIC BYPASS
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Background: After Roux-en-Y gastric bypass (RYGB) up to 15% patients fail to achieve 50% excess weight loss (%EWL) at 2 years. Various endoscopic therapies have been reported, most with limited success. Salve laparoscopic adjustable gastric banding (LAGB) over the primary gastric bypass is well described, although there are few studies sufficiently powered to assess its efficacy. The largest published series of salvage band over bypass to date is 43 patients from our own institution. We aim to update these data with a further 3 years follow-up and report our experience with an additional 82 patients. Methods: Retrospective review of our prospectively maintained database was undertaken. Data collected and analyzed included weight, height, body mass index (BMI), gender, race, age, operative time, band type, hiatal hernia repair, length of stay and post-operative complications. Results: A total of 125 patients (102 female, 23 male) underwent salvage LAGB for weight loss failure after primary RYGB, the majority 102 (83%) having undergone initial surgery elsewhere. An average of 12.7 years (range 15-1324 months) had elapsed from primary RYGB. Mean age at revision was 47.0 years (±10.7). Mean BMI before RYGB was 51.2kg/m2 (±8.76), before salvage LAGB 43.0kg/m2 (±6.57) and fell to 35.5kg/m2 (±6.75) at 1 year, 33.8kg/m2 (±7.19) at 2 years and 33.9kg/m2 (±6.37) at 3 years. There was improvement in excess BMI loss from 30.4% (±19.6) on referral to 50.1% (±38.7) on average 28 (±21) months from revision band over bypass. Nineteen (15.2%) patients required re-operation for complications related to the LAGB including 6 (4.8%) band erosions, 10 (8%) port/tubing revisions for leakage or migration, 2 (1.6%) band slips and 1 (0.8%) port infection. The significant factor in predicting band erosion was length of interval from initial bypass surgery (301 months versus 152 months p<0.05) There was no mortality. Conclusions: Patients with weight loss failure after LRYGB have limited options. Surgical options such as lengthening the bypass or performing a duodenal switch have been associated with complications such as malnutrition. Salve LAGB provides good further weight loss, although the higher rate of re-operation for band-related complication merits appropriate patient counseling and close follow-up.

A-137-OR

COMPARISON BETWEEN ROUX-EN-Y GASTRIC BYPASS AND GASTRIC SLEEVE AS REVISIONAL SURGERY AFTER FAILED LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING.
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Background: Despite its worldwide popularity, laparoscopic adjustable gastric banding (LAGB) requires revisional surgery for failures or complications in nearly 20-50% of cases. Conversion to gastric bypass is considered the treatment of choice after failed LAGB. Nevertheless laparoscopic sleeve gastrectomy has been recently used to revise failed restrictive procedure. The purpose of this study was to compare the outcomes for LAGB conversion to laparoscopic Roux-en-Y Gastric Bypass (LRYGB) and Gastric Sleeve (LGS). Methods: A retrospective review of a prospectively maintained database and medical records of consecutive morbidly obese patients who had undergone primary LAGB and revisional surgery after failed primary LAGB during the period from January 2008 to September 2012 was performed. The indication for revision, revisional procedures performed, and surgical approach were evaluated. Results: One hundred and eight patients were included. Of these, 74 (68.5%) underwent conversion to LRYGB and 34 to LGS. Indications for re-do surgery were inadequate weight loss or weight regain in 75 patients and band-related complications in 33 (band erosion: 5, band slippage: 10, megaesophagus: 7, band infection: 3, gastroesophageal reflux: 8). All the procedures were performed in two-stage. Revisional surgery was completed laparoscopically in 105 patients (97%) amenable to a minimally invasive approach. All the procedures converted were in the group of LRYGB. The mean follow-up after LRYGB was 29.15 ± 17.92 months while after LGS was 24.29 ± 14.31 months. The mean BMI prior LRYGB and LGS was 45.61 ± 5.69 and 47.58 ± 7.82, respectively. Major early complications (life-threatening complications and/or those that led to early reoperations) occurred in 8.1% of patients in LRYGB group and in 5.8% of LGS group, without significant differences. The average %EWL at 24 months and 36 months after conversion was, in the LRYGB group, 70.29% and 68.39% respectively while in LGS group was 65.54% and 59.93%. Conclusions: LAGB has a considerable failure and complications rate. Revision of failed LAGB to LRYGB has already been accepted as safe and effective salvage therapy. Our experience has shown that also conversion to LGS is safe and allows patients substantial additional weight loss.

A-138-OR
REVISIONAL SURGERY FOLLOWING LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING
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Background: Laparoscopic adjustable gastric banding (LAGB) has a relatively high re-operation rate as compared to alternative bariatric procedures. The best surgical conversion option for these patients is currently unknown. We report our experience with revisions performed following LAGB at a high-volume bariatric practice. Methods: This was a retrospective review of our prospective bariatric database. All patients who underwent a LAGB procedure at our practice between December 2005 and December 2012, and at least one subsequent revisonal procedure were included in the study. Band revisions were excluded. Peri and post-operative data on both surgeries and weight loss data were collected.

Results: 126/1465 LAGB patients (9%) underwent 148 revisional procedures. 20 (16%) underwent two reoperations and 1 underwent three. Average time between LAGB and first revision was 28 months (range: 0.5-75). 32 patients (25%) underwent band removal. 17 (53%) were due to band intolerance and chronic reflux, 11 (34%) band prolapse, 2 (6%) infection, and 1 each (3%) continued morbid obesity and unrelated emergency surgery. Of these, 14 (44%) underwent a second revision at a later time and 18 (56%) did not pursue further bariatric surgery. 44 patients (35%) underwent band replacement. 40 (91%) due to prolapse, 3 (7%) intolerance, and 1 (2%) band malfunction. Of these, 4 (9%) underwent a second revision, and 1 underwent a third. 14 patients (11%) underwent SG conversion. 6 (43%) due to prolapse, 5 (36%) continued morbid obesity, 2 (14%) intolerance, and 1 (7%) chronic infection. Of these, 1 underwent a second revision. 36 patients (29%) underwent RYGB conversion. 17 (47%) were due to intolerance and chronic reflux, 16 (44%) prolapse, and 3 (8%) continued morbid obesity. One patient with concomitant repair of a massive incisional hernia died of respiratory failure after prolonged hospitalization. Figure 1 details revisions. Ultimately, 47 (37%) ended up with RYG, 42 (33%) LAGB, and 19 (15%) SG. 1-year %EWL was 60%, 55%, and 52%, respectively. Conclusions: In this sample, data indicate that patients who require a revisional procedures following LAGB achieve weight loss comparable to the individual bariatric procedures (RYGB, SG). LAGB is considered the safest bariatric surgery, however it is associated with a relatively high reoperation rate. These revisional surgeries can be performed laparoscopically with acceptable weight loss results.

A-139-OR

CRITICAL APPRAISAL OF SALVAGE BANDING FOR WEIGHT LOSS FAILURE AFTER GASTRIC BYPASS
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Background: The estimated weight loss failure rate of Roux-en-Y gastric bypass (RYGB), as the most common bariatric procedure in US, is around 10-20%. One potential causative factor is enlargement of proximal gastric pouch. Various revisional procedures have been described to amend loss of restriction. The placement of an adjustable gastric band over the gastric pouch as a salvage procedure after RYGB failure has been associated with different results in about 100 reported patients in literature. The aim of this study was to evaluate feasibility, safety, and outcomes of adjustable gastric banding after RYGB failure. Methods: Between June 2008 and August 2011, 28 morbidly obese patients (male-to-female ratio of 5:23, mean age of 47.6±10.3 years) who underwent laparoscopic placement of adjustable gastric band around gastric pouch as a revisional bariatric procedure for inadequate weight loss or significant weight regain after RYGB were identified in a single institution database. Baseline characteristics, perioperative data, and medium-term outcomes were assessed. Results: Seventy-nine percent of patients had history of open RYGB with a mean interval of 8.9±4.8 years between procedures. The mean BMI at the time of RYG and band placement was 55.7±9.7 and 45.7±8.1 kg/m², which corresponded to median percent excess weight loss (EWL) of 36.1% prior to band placement. There were 3 (11%) intraoperative complications during take down of dense adhesions including capsular tear of spleen, bile leak from left lobe of liver, and colon perforation. The later patient was converted to laparotomy and band placement was abandoned due to contamination. The mean estimated blood loss, adhesiolysis time, and operative time were 125.4±188.6 ml, 82.9±50.6 minutes, and 137.9±52.3 minutes (>2 hours in 71% of cases), respectively. In the 30-day postoperative period, two (7%) patients underwent re-laparoscopy and temporary removal of subcutaneous port due to infection. After 1-year, the BMI and median EWL of cohort were 41.1±9.4 kg/m² and 18.5% (68% had EWL<25%), respectively. In the mean follow-up of 31.7±13.1 (range, 12-54) months, 5 (18%) bands removed due to ineffectiveness (n=2), dysphagia (n=1), erosion (1), and perforation of gastrojejunal anastomosis which led to peritonitis 10-days after band adjustment. At long-term, the median EWL was 12.3% (82% had EWL<25%). Conclusions: Results of this study, which is one of the largest reported series, indicate that laparoscopic placement of
adjustable band around the gastric pouch after RYGB failure is technically challenging (particularly after open RYGB) due to dense adhesions, carries significant morbidity, and is associated with only 12% additional EWL. Larger series with longer follow-up time for more accurate assessment of risk-benefit ratio of this procedure is needed.

**A-140-OR**

**LESS IS MORE: BARIATRIC SURGERY RELATED WEIGHT LOSS IN PUBLICLY INSURED PATIENTS AND DURATION OF MANDATED PREOPERATIVE DIET**

**PROGRAM**

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Alpert Medical School at Brown University

**Background:** Most insurers require a mandatory medically supervised diet program (MSWL) as part of preoperative requirements for weight loss surgery patients. Effectiveness of these programs and the length of these programs are often not based on successful clinical outcome. We compared the effectiveness of the MSLW for publicly funded insurers(GF)to privately funded (PF) insurers.

**Methods:** In a three year retrospective study of 300 consecutive preoperative medically managed weight loss patients, data was collected on weight loss/gain and BMI changes during the preoperative phase and post-operatively at the 6 month follow up visit. The patients were divided in to 2 groups based their insurance carrier. MSLW was provided by the same registered dietitians based on monthly 30 to 45 minute educational and counseling sessions.

**Results:** In GF group, all patients (n=77) required to go through >3 mo. of MSLW, while in PF, 171 patients did 3 months(PF3) and 51 patients 6 month s (PF6) MSLW. Prior to starting MSLW program, weight and BMI for GF and PF were similar (299# and 48.2 vs. 284# and 46.5). The average weight change from MSLW was 1.03 (0.003%), PF3 lost 0.13 (approx. 0) PF6 lost 3.9 (1.3%) pounds during the preoperative MSLW period. After surgery at the 6 month post-operative mark, GF lost 36.8, PF3 lost 77.6 and PF6 lost 66.8 pounds. As a group GF group had significantly less weight loss compared to the PF group as a whole (P<0.05). In GF group ratio of Gastric Bypass: Band: Sleeve gastrectomy was 64%:11%: 25% compared to 59%: 26%: 15% in PF group. Dietician’s charges for one MSLW session was $110, so PF3 spent an average of $330/patient for pre-op nutritional counseling, while GF spent an average of $660/patient for pre-op nutritional counseling. **Conclusions:** Our study does not support preoperative MSLW for longer durations than 3 months, based on preop and post-operative weight loss data regardless of insurers. In general GF patients had nearly half the weight loss compared to PF pts. in spite of a longer preoperative MSLW. This was in spite of having more % patients undergoing Gastric bypass in GF group compared to the PF group. Our data suggest longer MSLW (>3m) in GF doesn’t help with weight loss and leads to more costs to the patient and healthcare system. Further analysis is needed to evaluate the suboptimal weight loss in GF patients such as the barriers to weight loss and access to food and/or exercise and nutritional awareness education.

**A-141-OR**

**SHORT-TERM MORBIDITY ASSOCIATED WITH REMOVAL AND REVISION OF THE LAPAROSCOPIC ADJUSTABLE GASTRIC BAND**

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**Background:** Laparoscopic adjustable gastric band (LAGB) placement is among the most commonly performed bariatric procedures, principally due to its low-risk profile in the short term. However, the overall morbidity is underestimated if long-term safety and efficacy are not considered, since a significant number of patients will go on to require removal or revision. The objective of this study was to define the 30-day morbidity associated with LAGB removal and revision procedures.

**Methods:** Patients undergoing revision or removal of LAGB were identified within the ACS-NSQIP participant use file from 2006-2011. CPT codes were used to group patients into those undergoing removal, revision or port site procedures. Patients undergoing concurrent procedures (e.g. conversion to other bariatric procedures or gastric resection) or ICD-9 coding consistent with an alternative diagnosis were excluded. We measured 30-day mortality and post-operative occurrences captured within the database. We also compared the rate of complications in removal/revision patients to primary LAGB insertion, and analyzed trends over time.

**Results:** A total of 3,236 patients underwent LAGB removal (n = 1,580), revision (n=1,111) or port site revision (n=545) from 2006-2011. The overall 30-day complication rate was 5.6% (95% CI: 4.8%, 6.4%). Considering the 1,580 patients who only underwent band removal there was one death (0.06%) and a 6.8% (95% CI: 5.6%, 8.1%) complication rate (2.5% infectious, 2.3% wound, 2.4% reoperation). In 1,111 with LAGB revision, there was one death (0.06%) and a 4.3% (95% CI: 3.2%, 5.7%) overall complication rate (1.2% infectious, 1.0% wound, 2.3% reoperation). In 545 port site revisions, 4.6% (95% CI: 3.0%, 6.7%) of patients experienced complications (2.0% wound, 2.4% reoperation) with
no mortalities. From 2006-2011, 24,438 patients underwent primary LAGB insertion within the dataset with a 30-day complication rate of 2.6%. The rate of complications in patients undergoing LABG removal (8.8%) was significantly higher than the rate of complications in patients undergoing initial insertion of LAGB with OR 2.72 (95% CI: 2.18, 3.37).

Furthermore, the proportion of patients undergoing removal or revision of the LAGB compared to primary placement increased annually over the study period (P for trend <0.001). Conclusions: The 30-day morbidity associated with LAGB revision and removal procedures is significantly higher than the short-term morbidity associated with primary LAGB insertions. There was a steady increase in the number of LAGB revision procedures compared to insertions annually in our study population. The potential need for future procedures and the associated additional morbidity should be considered when evaluating the safety and efficacy of the LAGB as a treatment modality for morbid obesity.

A-142-OR
SUMMARY CHARACTERISTICS OF PATIENTS UNDERGOING BARIATRIC SURGERY IN THE UNITED STATES FROM JUNE 2007 TO MARCH 2012: A REPORT FROM BOLD
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ASMSBS

Background: This report summarizes the characteristics of patients entered in the Bariatric Outcomes Longitudinal Database (BOLD) from June 2007 until March 2012 by surgeons who participated in the American Society for Metabolic and Bariatric Surgery (ASMBS) Bariatric Surgery Centers of Excellence (BSCOE) program. After March 2012, ASMBS transitioned its quality and data program from the Surgical Review Corporation to the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) in collaboration with the American College of Surgeons. This summary is being presented on behalf of the Executive Council and Research Committee of ASMBS. Methods: BOLD, a prospective multi-institutional registry was used primarily for quality assurance but, also for research. It was queried from June 2007 to March 2012 after obtaining IRB approval and a data use agreement. Variables included the numbers of surgeons and hospitals participating in the ASMSBS-BSCOE program, total number of patients undergoing bariatric operations, number of research-consented subjects, and distribution of patients by age, gender, body mass index, ethnicity, and bariatric procedure types. Outcomes included mortality and selected serious adverse event including pulmonary embolism, leaks, and bleeding. Results: 1026 surgeons from 709 institutions entered data on 394,757 patients. Of these patients, 450 (0.11%) were less than 18 yrs. old and 27056 (6.85%) were > 60 yrs. Majority were female (78.47%). Major ethnicities were Caucasian (69.22%), African American (11.94%) and Hispanic (7.5%). Mean BMI was 46.32 kg/m² and 3.97% had a BMI ≥ 60 kg/m². The gastric bypass was the most common bariatric operation (49.36%), followed by adjustable band (35.77%), the sleeve (10.26%) and the duodenal switch (0.93%). Procedure-specific but non-risk adjusted mortality and selected serious adverse events (pulmonary embolism, leaks and bleeds) from the day of operation to 1 year, are presented in table 1. The majority of these complications were reported within the first 30 days after surgery. Presence of comorbidity at baseline and outcomes by ethnicity were studied in a subset. African Americans had a higher prevalence of hypertension than Caucasians. However Caucasians had more gastroesophageal reflux disease (GERD), obstructive sleep apnea (OSA) and diabetes. Significant ethnic variations were noted in weight loss and resolution of comorbidities but, all showed significant improvement over baseline. Of the total patients, 275007 (70%) were consented for research. Conclusions: This is a summary report of data from BOLD from June 2007 to March 2012 and describes the important characteristics of patients undergoing bariatric surgery across the United States. Most bariatric surgery patients are female. Gastric bypass is still the most commonly performed procedure followed by the adjustable band. Most mortality and serious adverse events occur within the first thirty days.
A-104-V
STAGED CONVERSION OF A DISTAL ROUX-EN-Y GASTRIC BYPASS TO A DUODENAL SWITCH FOR WEIGHT LOSS FAILURE AND DIARRHEA
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**Background:** Bariatric surgery is an effective modality for the treatment of obesity and related comorbidities; however, a number of bariatric patients suffer from weight recidivism or adverse symptoms. Some of these patients may benefit from surgical revision of the anatomy. **Methods:** This video shows the conversion of distal Roux-en-Y gastric bypass to duodenal switch for diarrhea and inadequate weight loss. **Results:** Patient is a 32 year-old male who previously underwent Roux-en-Y gastric bypass, followed by distalization of his bypass for weight loss failure. His weight loss was significant but not optimal (BMI 60kg/m\(^2\) preoperatively to 40kg/m\(^2\) postoperatively). He also developed frequent diarrhea after the distalization. Therefore, he underwent a staged conversion to sleeve gastrectomy followed by conversion to duodenal switch with no perioperative complications. Diarrhea has resolved and his current weight loss is promising. **Conclusions:** Staged conversion of Roux-en-Y gastric bypass to duodenal switch is feasible and may optimize weight loss and alleviate side effects.

A-105-V
MANAGEMENT OF COMMON BILE DUCT STONES AFTER GASTRIC BYPASS USING TRANSGASTRIC ERCP
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**Background:** The most effective management of common bile duct stones is ERCP. Management of common bile duct stones after gastric bypass can be challenging because the duodenum is excluded from the upper GI tract. Techniques have been described using retrograde balloon endoscopy to access the excluded duodenum. Laparoscopic common bile duct exploration has also been described. These are challenging and time consuming procedures. **Methods:** This video demonstrates the technique of using laparoscopic transgastric ERCP to perform papillotomy and extraction of common bile duct stones. The technique involves using standard laparoscopic and ERCP equipment. **Results:** A gastrotomy is made in the excluded gastric remnant and a 12 mm port is directed towards the pylorus to facilitate the side viewing endoscope to enter into the excluded duodenum. **Conclusions:** A standard ERCP and papillotomy can be performed and the common bile duct stones can be safely removed.

A-106-V
SPECTRUM OF INTRAOPERATIVE AND EARLY POSTOPERATIVE GASTROINTESTINAL HEMORRHAGE DURING GASTRIC BYPASS
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**Background:** Gastrointestinal hemorrhage is a potential perioperative complication associated with Roux-en-Y gastric bypass. Surgeons performing this procedure should understand the need for early recognition and management of this complication, as it can be life threatening. This video reviews the spectrum of both presentation and management of gastrointestinal bleeding associated with gastric bypass occurring intraoperatively or in the early postoperative period (<12hrs). **Methods:** Six cases of perioperative gastrointestinal bleeding associated with gastric bypass presenting at our institution were compiled to provide an overview of this clinical problem and highlight management. **Results:** Six cases of perioperative gastrointestinal bleeding were compiled to demonstrate potential etiologies of GI bleeding associated with gastric bypass. Bleeding from the gastrojejunostomy, gastric pouch staple line, jejunojejunostomy and gastric remnant are shown. Management strategies including diagnostic laparoscopy, esophagogastroduodenoscopy, laparoscopic packing and laparoscopic suturing are demonstrated. **Conclusions:** GI hemorrhage is a potential complication associated with Roux-en-Y gastric bypass. Prompt recognition and management are important to minimize morbidity from this potentially life threatening complication. Clinically significant early bleeding (<6hrs) following gastric bypass is best managed in the operating room where laparoscopy and endoscopy can be performed concomitantly.
A-107-V
LAPAROSCOPIC CONVERSION OF SLEEVE GASTRECTOMY TO GASTRIC BYPASS
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Background: A 45 year old female with history of sleeve gastrectomy presented with chronic GERD, nausea, emesis, and food intolerance. She has lost a significant amount of weight after sleeve gastrectomy with BMI dropping from 47 to 30. Upper gastrointestinal tract series (upper GI) demonstrated significantly delayed passage of contrast at the incisura. Upper endoscopy showed a sharp angulation at the incisura. She was diagnosed with a functional sleeve stricture. Methods: We performed laparoscopic conversion of sleeve gastrectomy to Roux-en-Y gastric bypass. Upon entry into the abdominal cavity, the sharp angulation at the incisura was easily seen and confirmed by intraoperative endoscopy. After a stomach pouch was created, the stricture part was removed. A functional end-to-side jejunojejunostomy was made with a 50 cm bilipancreatic limb and a 150 cm Roux limb. A linear stapled gastrojejunostomy was created in an antecolic fashion. A remnant gastrostomy tube was placed for postoperative enteral access. Results: Postoperative upper GI showed no leak. She recovered well and was discharged home without any complications. Conclusions: Laparoscopic reversal of Roux-en-Y gastric bypass may safely be performed for chronic perforation of marginal ulcer without complications.

A-108-V
REVERSAL OF ROUX-EN-Y GASTRIC BYPASS FOR CHRONICALLY PERFORATED MARGINAL ULCER
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Advanced Laparoscopic Surgery Associates

Background: We present a case of reversal of Roux-en-Y gastric bypass for chronically perforated marginal ulcer. Methods: The patient presents 11 years following open non-divided gastric bypass with a 6 year history of chronic non-healing perforated ulcer status post two surgical interventions, abdominal pain, and nausea. Results: She is taken to the operating room for reversal, where a large inflammatory cavity is found and removed. The remainder of the reversal procedure proceeds without incident. She remained in house until postoperative day 6 for control of her chronic pain but was discharged after an uneventful hospital course. Conclusions: Laparoscopic reversal of Roux-en-Y gastric bypass may safely be performed for chronic perforation of marginal ulcer without complications.

A-109-V
LAPAROSCOPIC REMNANT GASTRECTOMY AND RESECTION OF POUCH WITH ESOPHAGOJEJUNOSTOMY FOR COMPLICATED GASTRO-GASTRIC FISTULA
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Cleveland Clinic of FL

Background: Gastro-gastric fistulas are common complications of RYGB. This video illustrates a complex revisional procedure with esophagojejunostomy in a patient with gastro-gastric fistula and weight regain. Methods: A 67-year-old man underwent open RYGB and a revision of it approximately 20 years ago, He now presented with weight regain and gastro-gastric fistula. Both an UGI and EGD confirmed the presence of a gastro-gastric fistula. The patient underwent a laparoscopic revision. After exposure of the diaphragmatic crura, a hiatal hernia was noted and reduced. Area of the gastrogastric fistula is identified, and the gastric remnant, pouch and gastrojejunostomy were resected en bloc. The staple line of the gastric stump was oversewn. A side-to-side linear staple esophagojejunostomy was then performed. Results: The recovery of the patient was uneventful, with a normal UGI on POD3. Conclusions: Revision of RYGB can involve resection of the gastric pouch as well as resection of the gastric remnant, and esophagojejunostomy may be necessary in some cases.
Background: There is an established increase in the incidence of paraesophageal hernia in the morbidly obese population. Standard fundoplication has shown increased failure rates. Laparoscopic Roux-en-Y gastric bypass at the time of paraesophageal hernia repair offers the advantage of addressing severe obesity and decreasing recurrence rate. Methods: We present the case of a 59-year-old female with a long-standing history of GERD and a BMI of 37. Imaging demonstrated a giant paraesophageal hernia. After initial evaluation she was referred to our multidisciplinary bariatric center for weight loss surgery at the time of the repair. Surgical Technique: The abdomen was entered using a 5-mm optical trocar. Other trocars were placed under direct vision in the left lower, right upper and right lower quadrant. The Nathanson retractor was placed the epigastic area. The peritoneum overlying the right pillar of the diaphragm was opened and dissected. The short gastric vessels were sequentially divided. The retroesophageal space was developed. The hiatus reconstruction consisted of three figure-of-eight #0 silk sutures and reinforcement with porcine dermis mesh. The gastric bypass started by constructing a gastric pouch with a linear stapler. A 150-cm Roux limb was then measured and a side-to-side jejunojunostomy fashioned between the biliopancreatic limb and the common channel. The gastrojejunalostomy was created with a 21-mm circular stapler. Results: The patient did well after surgery. Length of stay was 3 days. She has experienced satisfactory weight loss as well as improvement in her symptoms. Conclusions: Our approach offers: paraesophageal hernia reduction with mesh placement, parietal cell separation which prevents acid production, roux limb (100 cm) which prevents bile reflux and gastric bypass which provides a weight loss and reduces the risk of recurrence and comorbidites. This technique proves as a safe alternate for longer lasting prevention of gastroesophageal reflux.

A-111-V
AN EXTREME CASE OF INTERNAL HERNIA THROUGH PETERSEN’S SPACE FOLLOWING LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS
Scott Cassie; Timothy D Jackson, MD; Todd Penner; Allan Okrainec, MD
University of Toronto

Background: A 47-year-old woman presented to the Emergency Department one year following laparoscopic Roux-en-Y gastric bypass. Following the procedure she had successfully lost 100 pounds. She presented with one week of intermittent, severe epigastric pain which was exacerbated by eating. A CT scan demonstrated subtle signs of a potential internal hernia. As her discomfort began to diminish, the patient attempted to leave hospital against medical advice, however was persuaded to undergo diagnostic laparoscopy. Methods: A diagnostic laparoscopy was performed in order to assess for potential internal hernia. Results: Upon entering the peritoneal cavity, a dilated segment of ischemic colon was immediately visible in the midportion of the abdomen, and the vast majority of small bowel appeared ischemic. Initial attempts to locate the terminal ileum were fraught with difficulty as the cecum could not be visualized in its usual position in the right lower quadrant. By locating the distal transverse colon and running the bowel in retrograde fashion, the proximal ascending colon and cecum were seen deviating sharply towards the midline. It became apparent that hey had herniated through Petersen’s space. Initial attempts at reduction revealed a profoundly incarcerated cecum. With careful traction we reduced the cecum and the majority of the small bowel. The majority of the bowel was ischemic with multiple areas of punctate hemorrhage. The defect left at Petersen’s space was closed with a silk stitch. The reduced bowel promptly displayed signs of improved perfusion, and no resection was required. The patient was given a clear fluids diet immediately postoperatively, and was advanced to a full diet on postoperative day one. She was subsequently discharged home on the first postoperative day, and was doing well at her four-week follow-up appointment. Conclusions: Internal hernias following Roux-en-Y gastric bypass are relatively common and may present with subtle radiologic findings. Failure to promptly identify and reduce the hernia may result in widespread bowel ischemia, which could have devastating consequences. Surgeons must maintain a high index of suspicion, and have a low threshold to perform diagnostic laparoscopy when an internal hernia is suspected.

A-112-V
MISSED STAY SUTURE: A RARE CAUSE OF INTERNAL HERNIA AFTER LAPAROSCOPIC GASTRIC BYPASS
Vishnu K Bhartia, MBBS; Abhishek A Bhartia, MBBS,MRCS(UK); Saumen Chakraborty, MS

Background: Internal Hernia is not an uncommon occurrence after laparoscopic Roux-en-Y gastric bypass (LRYGBP). Several causes of internal hernia
A-113-V
LAPAROSCOPIC CONTROL OF POST-GASTRIC BYPASS HEMORRHAGE FROM AN UNUSUAL SOURCE
Ajay K Chopra, MD1; Aida Taye, MD1; Victoria Lai, MD1
Jacobi Medical Center1

Background: The incidence of bleeding after laparoscopic Roux-en-Y gastric bypass (LRYGB) is between 1% and 4%. The bleeding can be intra-abdominal or intraluminal. The sites are staple lines on gastric pouch and excluded stomach; at gastrojejunal anastomosis and jejuno-jejunalostomy . We present an unusual case of a post-operative LRYGB bleeding from left inferior phrenic artery. Methods: Our patient is a 44-year-old female with a BMI of 41.6 who presented for an elective LRYGB. She had a past medical history notable for diabetes, obstructive sleep apnea and hypothyroidism. She had an uneventful LRYGB and was discharged on the third post-operative day tolerating liquid diet. However, two days after her discharge, she had sudden left-sided abdominal pain and became unresponsive at home. On arrival to the emergency room, she was hypotensive (70 mm Hg systolic) and diaphoretic. She had localized tenderness in the left upper quadrant. After adequate resuscitation, a CT scan was performed which showed presence of high density fluid on the left side of the abdomen. She was emergently brought to the operating room for an exploratory laparoscopy. Results: The patient was placed in a split leg position and previous port sites were reopened. Upon entry, we encountered large amount of blood and blood clots in the left upper quadrant. After suctioning, we are able to see an arterial bleed from the left inferior phrenic artery. We clamped the bleeding area with a locking grasper. A hemoclip was placed proximal to the bleeding site so as to stop the source of bleeding from the aorta. An attempt to place a hemoclip distal to the bleeding site proved inadequate. Thus an under-running suture of 3’0 vicryl was placed distally. We are then able to place a hemoclip distally. The patient did well post operatively and she was discharged on postoperative day three. Conclusions: This is the first reported case of phrenic artery bleed after a gastric bypass. The possible explanation for this event could be thermal injury caused by harmonic scalpel during the mobilization at the angle of His. The control of bleeding can be difficult as the vessel courses distally closely applied to the undersurface of the diaphragm. Using a back handed suturing technique, bleeding can be controlled from the distal side of the vessel.

A-114-V
LAPAROSCOPIC PLICATION OF A GASTRIC POUCH AND HIATAL HERNIA REAPIR
Carlos A Galvani, MD1; Julia Samame, MD2; Timothy Rankin, MD2
University of Arizona Medical Center1
University of Arizona2

Background: Dilation of the gastric pouch and the gastrojejunal anastomosis may result in weight regain, following Roux-en-Y gastric bypass for morbid obesity. Significant weight gain has been reported in up to 25% of patients following gastric bypass and up to 12% of patients will required some type of revisional procedure following gastric bypass surgery due to weight gain or postoperative symptoms related
to stomal dilation. **Methods:** This is a 65-year-old female with weight regain, after a Gastric Bypass performed 6 years ago. At that time, her BMI was 38.3. Once she achieved a maximum weight loss of 100 pounds, she started to regain weight noticing that she could tolerate 8-12oz per portion in comparison to 3-4oz that she tolerated at the beginning. Her actual BMI was 30.8. An Upper GI demonstrated the presence of a sliding hiatal hernia as well as dilatation of the gastric pouch and the gastrojejunal anastomosis. A laparoscopic revision of her gastric bypass and a hiatal hernia repair was offered. **Results:** The operative time was 175 minutes. The estimated blood loss was 10mL. No intra or perioperative complications were observed. The patient was discharged on postoperative day 1. After 3 months of follow-up the patient has lost 20 pounds. **Conclusions:** Although gastric bypass is highly successful in the majority of patients, significant weight regain can occur over time due to stretching of the gastric pouch and stoma. Gastric plication as a revisional surgery of the gastric pouch is a safe and technically simple procedure.
Thursday, November 14, 2013
3:00 pm – 5:00 pm EST

Video Session C

A-115-V
TRANSGASTRIC EXTRACATION OF GASTRIC REMNANT FOLLOWING SLEEVE GASTRECTOMY
Peter Nau; Ozanan Meireles, MD

**Background:** Medical attempts at durable weight loss are fraught with failures secondary to durability and insignificant outcomes. Bariatric surgery promotes long-term weight loss and improvement of obesity-related comorbidities. The laparoscopic sleeve gastrectomy (LSG) is currently the fastest growing metabolic procedure in the world. Transabdominal extraction of the gastric remnant often necessitates dilation of a trocar site increasing post-operative pain and risk for hernia formation.

**Methods:** Following induction of general anesthesia, the patient is placed in the supine, split-legged position. A five-port technique is utilized for creation of the gastric sleeve. A 1.2 cm, 36 French gastroscope is passed along the lesser curvature to aid in the sleeve creation. The initial staple line is oriented parallel to the incisura, leaving enough stomach behind for an additional staple line after stomach extraction. Having completed the gastric sleeve, the distal staple line is opened for specimen extraction. An assistant then passes a snare through the endoscope and into the peritoneal cavity. The specimen is then grasped, passed into the snare and removed through the gastrotomy. The abdomen is then desufflated and the incisions closed in a standard fashion.

**Results:** This video documents a standard approach to the extraction of the remnant stomach in patients with robust fascia in whom transabdominal extraction would be impossible outside of enlarging the defect in the abdominal wall. **Conclusions:** Obesity has become a problem of epidemic proportions in westernized societies. The LSG is rapidly becoming one of the most common bariatric surgical procedures performed. The transgastric extraction of the gastric remnant provides for a safe method for specimen extraction in those patients who would be exposed to increased post-operative pain and hernia formation secondary to port site enlargement.

A-116-V

A-117-V

LAPAROSCOPIC TAKE DOWN OF NISSEN FUNDOPPLICATION AND CONVERSION TO SLEEVE GASTRECTOMY
Ajay K Chopra, MD1; Jayne A Lieb, MD1
Jacobi Medical Center1

**Background:** Bariatric surgery after a previous Nissen fundoplication is technically difficult and carries a higher complication rate. Few case series have published technical feasibility and outcomes of conversion to gastric bypass 1, 2. We describe technical steps in the performance of fundoplication takedown and conversion to a sleeve gastrectomy for weight loss. **Methods:** Our patient is 48 years old female who underwent a Laparoscopic Nissen fundoplication and hiatal hernia repair for reflux symptoms. She was 230 lbs. with a height of 5’1”. She refused bariatric surgery at this time. Two years subsequently patient had gained weight and was 274 lbs. (BMI 52 Kg/M2). She requested bariatric surgery and opted for sleeve gastrectomy. She was explained about recurrence of reflux symptoms and further need for a gastric bypass in future. **Results:** Laparoscopic exploration revealed limited abdominal space with a large liver and extensive adhesions of the wrap to the undersurface of the liver. She had a narrow costal margin only allowing placement of a smaller sized Nathanson liver retractor. The wrap was mobilized off the liver and the diaphragm and the right side of the wrap was mobilized underneath the esophagus and brought to its normal anatomical location. Gastric sleeve was then constructed around a 34 F stomach tube. Green cartridge with absorbable staple line reinforcement was utilized. Patient did well postoperatively and was discharged on postoperative day 2. At 6 months follow up she has lost 54 lbs. She has mild reflux symptoms which are managed well with medications. **Conclusions:** This video demonstrates the technique of fundoplication take down and sleeve procedure in the face of limited intra-abdominal space and dense adhesions. With attention to detail and identification of anatomical landmarks this operation can be performed successfully.

LAPAROSCOPIC IMBRICATION OF SLEEVE GASTRECTOMY FOR WEIGHT REGAIN AND REPAIR OF HIATAL HERNIA
Rena Moon1; Andre Teixeira, MD; Muhammad A Jawad, MD
Orlando Regional Medical Center1

**Background:** Bariatric surgery after a previous Nissen fundoplication is technically difficult and carries a higher complication rate. Few case series have published technical feasibility and outcomes of conversion to gastric bypass 1, 2. We describe technical steps in the performance of fundoplication takedown and conversion to a sleeve gastrectomy for weight loss. **Methods:** Our patient is 48 years old female who underwent a Laparoscopic Nissen fundoplication and hiatal hernia repair for reflux symptoms. She was 230 lbs. with a height of 5’1”. She refused bariatric surgery at this time. Two years subsequently patient had gained weight and was 274 lbs. (BMI 52 Kg/M2). She requested bariatric surgery and opted for sleeve gastrectomy. She was explained about recurrence of reflux symptoms and further need for a gastric bypass in future. **Results:** Laparoscopic exploration revealed limited abdominal space with a large liver and extensive adhesions of the wrap to the undersurface of the liver. She had a narrow costal margin only allowing placement of a smaller sized Nathanson liver retractor. The wrap was mobilized off the liver and the diaphragm and the right side of the wrap was mobilized underneath the esophagus and brought to its normal anatomical location. Gastric sleeve was then constructed around a 34 F stomach tube. Green cartridge with absorbable staple line reinforcement was utilized. Patient did well postoperatively and was discharged on postoperative day 2. At 6 months follow up she has lost 54 lbs. She has mild reflux symptoms which are managed well with medications. **Conclusions:** This video demonstrates the technique of fundoplication take down and sleeve procedure in the face of limited intra-abdominal space and dense adhesions. With attention to detail and identification of anatomical landmarks this operation can be performed successfully.
**Background:** 53 year old female status post sleeve gastrectomy had issues with gastroesophageal reflux and weight regain. Patient had an upper GI study that revealed an approximately 4 cm hiatal hernia with reflux and a dilated sleeve. **Methods:** Veress needle was inserted in the left upper quadrant, the abdomen was insufflated, and six trocars were inserted. Visualization of the abdominal cavity revealed extensive adhesions in right upper quadrant and pelvic area. Left lobe of the liver was retracted anteriorly. Adhesions to the stomach were taken down. All the adhesions around the crura were released and the peritoneum over the right crura was incised and dissected, the hiatal hernia was reduced. The esophagus was freed from all the adhesions. The hiatus behind the esophagus was repaired with 2 interrupted stitch with 2-0 Ethibond. The stomach was imbricated on top of the Edlich tube with interrupted stitch of 2-0 Ethibond and also a running stitch of 2-0 Ethibond. **Results:** Postoperatively the patient did well, UGI and methylene blue test were negative on POD # 1, and she went home on POD # 2 on full liquid diet. Patient showed a drop of 10.4 kg at a 6 month follow up. **Conclusions:** Sleeve gastrectomy creates a high pressure system that can make GERD unbearable for patients with hiatal hernia and incompetent lower esophageal sphincters. Plication of the sleeve can be an option for weight regain due to dilated sleeve.

**A-118-V**

**LAPAROSCOPIC ENucleation of LEIOMYOMA of the ESOPHAGEAL JUNCTION DURING SLEEVE GASTRECTOMY**

Raul J Rosenthal, MD; Abraham Betancourt, MD; Fernando FD Dip, MD; Jessica Ardila-Gatas, MD; Emanuele Lo Menzo, MD PhD

Cleveland Clinic of FL

Cleveland Clinic Florida

**Background:** The incidence of incidental pathology found during laparoscopic bariatric surgery has been estimated to be around 2%. We discuss one case of a gastric mesenchymal tumor incidentally discovered during the preoperative work up for a laparoscopic sleeve gastrectomy and resected at the time of the bariatric operation. **Methods:** A 41-year-old male with a BMI 40.5, hypertension, diabetes, and sleep apnea, who was found to have a submucosal lesion on EGD during preoperative evaluation for sleeve gastrectomy. Upper GI series showed a small, non-circumferential mass at the gastroesophageal (GE) junction. Trans-esophageal ultrasound demonstrated an irregular, lobulated, hypoechoic, 1cm x 2cm mass that extended into the serosa. The abdominal cavity was approached by a seven trocar laparoscopic technique. A window behind the esophagus was dissected. After the identification of a prominent area, where the tumor was previously described, a mass was enucleated using ultrasonic energy without violation of esophageal mucosa. The seromyotomy was closed with a double layer of running vicryl suture. Intra-operative endoscopy verified the patency of GE junction and an intact mucosa. With the endoscope advanced to the pylorus, a sleeve gastrectomy was performed. **Results:** Patient was discharged home on postoperative day two, tolerating clear liquid diet. No complications were observed. Pathology results reported gastric leiomyoma. **Conclusions:** Preoperative Upper GI and EGD might reveal incidental tumors before bariatric surgery. Concurrent tumor enucleation and sleeve gastrectomy is technically doable and safe.

**A-119-V**

**GASTRIC TORSION AFTER SLEEVE GASTRECTOMY: A RARE COMPLICATION TREATED WITH ROBOTIC GASTROPLASTY.**

Jonathan K Arad, MD; Rey J Romero, MD; Anthony M Gonzalez, MD, FASC, FAMBS

Baptist Health South Florida

**Background:** The popularity of Sleeve Gastrectomy (SG), as a treatment for morbid obesity, has increased recently, due to its safety and relatively technical simplicity when compared with gastric bypass. However, due to the increased number of cases performed it would be expected to experience new postoperative complications. The purpose of this video is to report a patient who presented with a partial gastric obstruction after SG and the treatment employed. **Methods:** This is a 39-year-old African-American female (BMI 45) with no remarkable medical history, who underwent laparoscopic-robotic assisted SG 3 months prior. Postoperatively she presented with intermittent nausea, bloating and vomiting. UGI revealed a partial obstruction of the sleeve. The patient was taken to the OR for diagnostic laparoscopy, where it was noticed that the sleeve was torsed. A gastroplasty in the manner of Heineke-Mikulicz pyloroplasty was performed. A 7 cm longitudinal incision was created at the level of the torsion. The incision was closed transversely with interrupted absorbable sutures in two layers. EGD
demonstrated the area to be patent. **Results:** Surgical time was 170 minutes. The patient had an UGI 36 hours after surgery which revealed no obstruction or leaks. She subsequently progressed to clear liquids and then a full liquid diet. **Conclusions:** The sleeve gastrectomy has been adopted by many due to its excellent weight loss results and simplicity of procedure. Though simple, it has been noticed that when complications occur, their management may be complex and require endoluminal and surgical interventions. We present here a video showing the use of robotic technology to correct a torsion of the sleeve without conversion to gastric bypass.

A-120-V
**ROBOTIC ESOPHAGO-GASTRECTOMY DUE TO CHRONIC GASTRO-PLEURAL FISTULA SECONDARY TO SLEEVE Gastrectomy LEAK: BENEFITS OF THE ROBOTIC PLATFORM.**
Rey J Romero, MD¹; Radomir Kosanovic, MD¹; Anthony M Gonzalez, MD, FASC, FAMBS¹
Baptist Health South Florida¹

**Background:** Leaks and fistulas after sleeve gastrectomy (SG) are considered complications difficult to treat caused by local tissue ischemia combined with increased intraluminal pressure of the sleeve. Conversely, gastro-pleural fistulas are related to traumatic and post-surgical events and require a complex management strategy. Therefore, this combination of a sleeve fistula into the pleural cavity and lung create an undesirable combination and difficult surgical management. We present a case of a gastro-pleural fistula after SG managed surgically with the use of the robotic platform. **Methods:** This is a 24-year-old female patient with no known past medical history, who underwent a sleeve gastrectomy 11 months prior. Her postoperative course was complicated by a leak managed with multiple stents. However she presented at our facility with persistent leak. CT scan and upper endoscopy showed a partial dehiscence of the staple line at the esophago-gastric junction, with gastro-pleural fistula. Initially she was treated with bowel rest and parenteral nutrition. When medical therapy failed again, the decision was made to perform a robotic esophago-gastrectomy, resection of the gastropleural fistula, Roux-en-Y esophago-jejunostomy, hiatal hernia repair and G-tube placement. **Results:** At the time of this submission, the patient’s recovery was uneventful. An UGI on postoperative day 4 demonstrated no leak or obstruction. She was tolerating both oral and enteral nutrition via G-tube. **Conclusions:** The true benefit of robotic surgery is believed to become evident when being used for complex cases (i.e. revisional bariatric cases). Numerous advantages have been demonstrated with addition of robotic surgery. These benefits have allowed the implementation of robotic surgery into new areas. We present here a video report of a robotic esophago-gastrectomy with resection of a gastropleural fistula and robotic Roux-en-Y esophagojejunostomy.

A-121-V
**T TUBE GASTROSTOMY AS TREATMENT MODALITY FOR MUCOSAL DISRUPTION AFTER SEROMYOTOMY FOR STRICTURED SLEEVE GASTRECTOMY**
Raul J Rosenthal, MD¹; Yaniv Cozacov, MD²; Adam H Beall, MD²; Carolina Ampudia, MD²; Emanuele Lo Menzo, MD PhD²; Samuel Szomstein, MD²
Cleveland Clinic of FL¹
CCF²

**Background:** Seromyotomy is an acceptable treatment modality for patients presenting with gastric stricture after laparoscopic sleeve gastrectomy. **Methods:** A 53 years old patient status-post sleeve gastrectomy at an outside institution 18 months prior presents with signs and symptoms of nausea and vomiting, GERD and aspiration pneumonia, having him maintain a constant upright posture. An EGD shows a patent gastric sleeve, but an UGI describes a strictured segment of the mid portion of the stomach. Patient verbalizes that under no circumstances does he want a RYGB, even though it may be the only available appropriate course of action. Using Harmonic Scalpel, and staying 2-3 cm medial to the staple line a seromyotomy reaching out distal to the incisura angularis up to the GE junction. Intraoperative EGD is performed showing intact mucosa and patent sleeve lumen. Omentum is mobilized to cover the area. Seven days postoperatively the patient presents to the ER with 48 hrs. history of abdominal pain, nausea, vomiting, fever, leukocytosis and anorexia. The abdomen is distended and tender in the epigastric and periumbilical areas. Guarding is also present. A CT Scan of the abdomen with gastrografin performed on admission, showed extravasation of contrast material, stranding around the stomach and free air in the peritoneal cavity. The patient was taken for an exploratory laparoscopy, and after debridement, a gastrostomy T-tube and feeding jejunostomy were left in place. **Results:** The recovery course for seromyotomy performed due to strictured sleeve gastrectomy was complicated 4 days after the patient was discharged by an acute leak at the mid-portion of the stomach. Debridement and gastrostomy T-tube were under pursuit for controlling the leak, and a feeding jejunostomy was placed for nutritional
Conclusions: Mucosal disruption should be a feared complication in patients undergoing seromyotomy for persistent strictures. T Tube gastrostomy should be considered as a potential treatment modality.

**A-122-V**

**LAPAROSCOPIC SLEEVE GASTRECTOMY AFTER AN ABORTED GASTRIC BAND PLACEMENT: AN UNEXPECTED ENCOUNTER**

Ajay K Chopra, MD; Jayne A Lieb, MD

Jacobi Medical Center

**Background:** Reoperative bariatric surgery has been shown to be feasible but associated with higher morbidity. Laparoscopic sleeve gastrectomy and Roux En Y gastric bypass have been carried out after a failed gastric band and vertical banded gastroplasty. These procedures are technically challenging but can be safely performed with due diligence to detail. We present this video which highlights the operative steps in a patient with extreme central obesity that had a frozen upper abdomen resulting from a failed attempt at placement of an adjustable gastric band.

**Methods:** The patient was a 63 years old, male with BMI of 42.7 Kg/M2 (271 lbs., 5’7”) and medical history significant for Type 2 diabetes, hypertension, dyslipidemia and asthma. An attempt at an adjustable gastric band placement was unsuccessful secondary to limited intra-abdominal space due to extensive visceral fat and a large liver. After about two months, he was scheduled for a laparoscopic sleeve gastrectomy. **Results:** On entering the abdomen we saw dense adhesions between the liver and proximal stomach. There was a large omental phlegmon adherent to the lateral abdominal wall limiting the space further. A combination of blunt and sharp dissection was used to achieve mobilization of the stomach from the liver undersurface. The greater curvature of the stomach adhesions to the medial surface of spleen were divided with scissors. We used green load cartridge with use of absorbable staple line reinforcement for the construction of sleeve around a 34 F stomach tube. Patient did well postoperatively and was discharged on postoperative day 2 tolerating liquid diet. **Conclusions:** This video illustrates the technical details of a difficult sleeve gastrectomy in the face of dense adhesions. Despite limited space and scarring the sleeve procedure is still feasible with attention to identifying anatomical landmarks and using appropriate technique.
A-123-V
LAPAROSCOPIC REVERSAL OF VERTICAL BANDED GASTROPLASTY
Nathan Lytle¹; Juan P Toro, MD¹; Ankit Patel, MD¹; Jahnvi Srinivasan, MD¹; John F Sweeney, MD¹; Scott Davis¹; Edward Lin, DO¹
Emory University¹

Background: Revisional surgery for prior bariatric procedures can be a challenging operation. Though vertical banded gastroplasty is not currently a common option for weight loss surgery, patients with this procedure may need surgical consultation for complications. This video presents a laparoscopic approach for reversal of a vertical banded gastroplasty that is causing dysphagia. The patient had the VBG 23 years prior and has needed multiple EGD’s to disimpact food. She was unable to take enough by mouth, therefore was receiving TPN at home. This procedure uses the aid of an endoscope and transgastric stapling to reconnect the gastric pouch to the rest of the stomach. Methods: This procedure was performed for a patient with the main complaint of dysphagia. The pt received pre-operative EGD and upper GI series to define the anatomy. Once the diagnosis of stenosis from the band was made, the patient was taken to the OR. Endoscopic evaluation was first performed, followed by endoscopically guided gastrostomy. Laparoscopic staplers there then used to divide the band transgastrically. This reconnected the gastric pouch to the rest of the stomach, and resolved the patient’s dysphagia. Results: Post-operative upper GI series shows resolution of the stenosis and much improved emptying of the stomach. The patient’s symptoms resolved and she was able to maintain her nutrition without the need for home TPN on follow-up. Conclusions: The procedure shown in the video is a safe and reliable option for reversal of a vertical banded gastroplasty.

A-124-V
TOTAL ENDOSCOPIC REMOVAL OF AN ERODED LAPAROSCOPIC GASTRIC BAND WITH A LITHOTRIPSY OVERTUBE
Andrew S Wu, MD¹; Brian P Jacob, MD²

Icahn Mount Sinai School of Medicine¹
Mount Sinai School of Medicine²

Background: Adjustable gastric banding is an effective surgical treatment for morbid obesity with the benefits of being a relatively simple, reversible, and anatomically preserving procedure. Despite these advantages, gastric banding has come into question due to various complications associated with the procedure of which the most feared is erosion of the gastric band through the stomach wall with a frequency of 1-3% of cases. We present a case of a totally endoscopic removal of a partially eroded laparoscopic adjustable gastric band with a lithotripsy overtube. Methods: Our case involves a 23 year old female with morbid obesity and a BMI of 42 who underwent placement of an adjustable gastric band placed laparoscopically who 8 months later had a diagnostic upper endoscopy for persistent abdominal pain revealing a partial erosion with intragastric migration of her gastric band. The patient was subsequently scheduled in the operating room for endoscopic removal of her gastric band. Results: The case was performed with a double channel therapeutic endoscope, and the band was successfully removed with the aid of a mechanical lithotripsy overtube performed completely via endoscopy. Conclusions: This case demonstrates the effective and safe endoscopic removal of a partially eroded gastric lapband thus avoiding the need for surgery. Published case series using various endoscopic techniques have shown a removal success rate of 87-92% in carefully selected patients. Further consideration should be given to this technique as it is safe, effective, and minimally invasive with the caveat that early experiences with these cases should be performed in the operating room and with the presence of a bariatric surgeon in case joint laparoscopic removal needs to be performed and to ensure complete removal of the device and help manage any potential complications.

A-125-V
LAPAROSCOPIC CONVERSION OF A VERTICAL BANDED GASTROPLASTY TO SLEEVE GASTRECTOMY WITH HAND SEWN GASTRO-GASTROSTOMY
Gurdeep S Matharoo, MD¹; Frank J Borao, MD, FACS; Anthony Squillaro; Steven J Binenbaum, MD, FACS
Monmouth Medical Center²
Background: The Mason vertical banded gastroplasty (VBG) was first performed by Mason in 1980 and quickly became the gold-standard operation for morbid obesity. The complications and failures of VBG coupled with emergence of newer surgical techniques pushed vertical banded gastroplasty out of favor among patients and bariatric surgeons. Contemporary surgeons with VBG patients presenting for revision or reversal have a myriad of surgical techniques to offer. We present technique for revisional surgery in a 56 year old woman with a stricture after an open Mason VBG performed in 1991. Methods: The video demonstrates laparoscopic conversion of VBG to sleeve gastrectomy (SG). The stomach is divided transversely at the incisura, distal to the mesh band. We then divide the stomach transversely from the lesser curvature proximal to the band. This proximal staple line is then turned toward the angle of His to create a sleeve over a 36-french bougie dilator. A two-layer hand-sewn gastric anastomosis is created over the 36-french bougie dilator. The anastomosis is sealed with fibrin glue. A Jackson-Pratt drain is left in the subphrenic space. An upper GI study is performed on post-operative day two. Results: The case was completed laparoscopically with four 5-mm trocars and one 12-mm trocar. The operative time was six hours and twenty-three minutes. Estimated blood loss was 400 mL and 4000 mL of crystalloid was administered during the procedure. There were no intraoperative complications. The post-operative course has been unremarkable. On post-operative day two an upper GI study showed free antegrade flow of contrast without obstruction or leak. The patient tolerated a bariatric diet and was discharged home on post-operative day four. Preoperative complaints of abdominal pain and dysphagia had resolved prior to discharge. All five ports sites healed well. Conclusions: Vertical banded gastroplasty is no longer a preferred procedure for weight loss. Many of today’s surgeons have not performed a VBG however are requested to care for patients with complications from VBG. We demonstrated a laparoscopic conversion of a Mason type VBG to a SG. Previous authors have described conversion of VBG to roux-en-y gastric bypass. Our technique does not involve a change in intestinal anatomy as required by gastric bypass. In previously described conversions to SG the mesh band was divided but not removed. Our technique offers the benefits of removing a foreign body.

A-126-V

LAPAROSCOPIC REVISION OF ADJUSTABLE GASTRIC BAND TO A SLEEVE GASTRECTOMY
John A Primomo, MD; Garth P Davis, MD; Robert Davis, MD

Background: Revisional surgery of prior placed laparoscopic adjustable gastric bands is increasing. Operative techniques in approaching revision of the laparoscopic band have not been well defined. This video submission demonstrates an operative approach in revising a prior lap band to a sleeve gastrectomy. Methods: A 43 year old female with a Body Mass Index of 42 and prior history of laparoscopic adjustable gastric band placement in 2010 presented with a history of weight regain along with a prior history of a slipped band that had resolved with decompression of the band. Decision was made to revise her prior band to a sleeve gastrectomy. Results: The band port was removed in an open fashion. Patient was approached laparoscopically with identification of the band and tubing. Medial takedown of the gastrohepatic and band adhesions was performed until clear identification of the caudate lobe. The overlying and underlying scar tissue of the buckle was divided. The gastro-gastric plication was taken down with clear identification. The band was unbuckled and removed with dissection continued for full mobilization of the stomach off of the left crus of the diaphragm. The underlying scar tissue was divided to assure relief of the prior gastric outlet obstruction. A sleeve gastrectomy was performed over a 38 French bougie. Conclusions: A stepwise approach to removal of a prior placed lap band is essential to revisional surgery to a sleeve gastrectomy. Full takedown of adhesions and the prior gastro-gastric plication is helpful. Division of the underlying scar tissue relieves the gastric outlet obstruction. Full mobilization of the stomach off the left crus assures that the proximal staple line is across healthy tissue.

A-127-V

LAPAROSCOPIC REVERSAL OF ROUX-EN-Y GASTRIC BYPASS INTO SLEEVE GASTRECTOMY: EVOLUTION OF THE TECHNIQUE
Jacques M Himpens, MD, PhD; Ramon Vilallonga, MD PhD
AZ St Blasius, Dendermonde

Background: Some long term complications after laparoscopic Roux-en-Y gastric bypass (LRYGB),
such as hypoglycemic syndrome, weight regain, severe dumping and cachexia may be treated by reversal to normal anatomy (NA). A sleeve gastrectomy (SG) may be performed during the same procedure to avoid weight regain. We herein describe the evolution of the technique of SG after NA, based on 10 consecutive cases. **Methods:** In all patients, a 5 trocar technique was used. Complete reversal to normal anatomy was achieved. At conclusion of the procedure, SG was performed. A 34 French bougie was used in all cases. In the first 5 patients, a typical SG was performed, including complete devascularization of the greater curvature and subsequent stapled resection. In the last 5 patients, devascularization and resection was limited to the proximal part of the fundus, ending distally at the level of the former horizontal staple line. The more distal part was not devascularized nor resected, but rather plicated, using two rows of resorbable sutures. **Results:** From January 2005 to October 2012, 10 female patients who had undergone RYGB underwent laparoscopic reversal to NA and simultaneous SG. The video highlights the technique change used in the last 5 patients. Three of the first 5 patients (60%), who underwent “typical” SG at the time of reversal, developed a leak. Conversely, none of the last 5 patients suffered a complication. **Conclusions:** Adapting the technique of SG by including a distal plication rather than a typical resection might help avoiding the complications encountered with typical SG during NA. Ischemic issues might be avoided by the new technique.

**A-128-V**

**GASTRIC PLICATION TO GASTRIC BYPASS: REVERSAL AND REVISIONAL TECHNIQUE**

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**Background:** Gastric plication is an investigational restrictive procedure designed to achieve weight loss by reducing gastric volume without the use of stapling or banding. Revisional options after plication have not yet been well explored. In this video, we demonstrate the technical feasibility of laparoscopic reversal of gastric plications followed by conversion to Roux-en-Y gastric bypass. **Methods:** In gastric plication, the stomach is infolded to establish serosa-to-serosa apposition and gastric restriction. Our initial plication trial included greater curvature plication and an anterior plication. In the greater curvature plication, a lateral intraluminal gastric fold is created; the anterior plication involves folding the anterior gastric wall inward from the fundus to the antrum. The laparoscopic technique of reversing both these plications to normal stomach anatomy prior to conversion to gastric bypass in two patients is demonstrated. **Results:** Both the greater curvature plication and the anterior gastric plication were successfully reversed laparoscopically and converted to Roux-en-Y gastric bypass. A stapled gastrojejunostomy was completed with a final 150cm antecolic, antegastric Roux limb, a 50cm biliopancreatic limb and a 30mL gastric pouch in both cases. Both patients had an uneventful postoperative course. **Conclusions:** Laparoscopic reversal of gastric plication is technically feasible and is an essential step prior to creation of the gastric pouch for revision to gastric bypass. Conversion to Roux-en-Y gastric bypass is an optimal choice for patients who have suboptimal weight loss or long-term weight gain after a plication procedure.

**A-129-V**

**LAPAROSCOPIC REVISION OF A HORIZONTAL GASTROPLASTY TO A ROUX-EN-Y GASTRIC BYPASS WITH A SUBTOTAL GASTRECTOMY**

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**Background:** The Horizontal Gastroplasty was developed in the 1970’s as a restrictive bariatric surgical option, however, was found to have poor long-term weight loss results. Patients in addition to weight regain would occasionally develop dysphagia from a gastric outlet obstruction secondary to the horizontal staple line. Revision to a Roux-en-Y Gastric Bypass poses challenges in regards to, takedown of the prior adhesions, proper identification of the anatomy and performing a gastro-jejunostomy remote from the adhesive tissue. This video presents the intra-operative techniques for gastrohepatic adhesiolysis, identification of the prior staple line anatomy, and conversion to a Roux-en-Y Gastric Bypass. **Methods:** A 46 year old male with a Body Mass Index (BMI) of 65 presented with complaints of dysphagia and weight regain following an open Horizontal Gastroplasty performed in 1984 Upper Endoscopy and Upper GI confirmed horizontal gastroplasty anatomy. Upper endoscopy demonstrated esophagitis with biopsies negative for Barrett’s esophagus. Decision was made to pursue a laparoscopic conversion to a Roux-en-Y gastric bypass with a subtotal gastrectomy. Subtotal gastrectomy was performed to establish a stable line across viable gastric tissue remote from the prior...
stable lines and adhesive tissue. **Results:** Patient was approached laparoscopically. Dense adhesions were taken down. Medial dissection of the gastrohepatic adhesions was performed until clear identification of the caudate lobe at which time a medial to anterior to lateral approach was performed to takedown the remainder of the gastrohepatic adhesions. Following takedown of the adhesions the staple line was clearly identified and formation of the new gastric pouch was performed over a 34 French bougie. A subtotal gastrectomy was performed to assure the gastric remnant staple line was a across viable tissue. The Roux limb was measured to 120cm and both the jejunjejunostomy and gastrojejunosomy were formed in a linear handsewn fashion. An intra-operative endoscopy was negative for leak. Patients post-operative course was uneventful with an Upper GI being negative on post-operative day 1 and discharge on post-operative day 2 on a full liquid diet. Two month follow up demonstrated that the patient was tolerating a regular diet and had a decreased BMI to 60. **Conclusions:** In performing revisional bariatric surgery it is beneficial to approach the gastrohepatic adhesions in a medial to lateral fashion. This affords clearer identification of the adhesive plane. In addition proper identification of the anatomy and prior staple lines is required before forming the gastric pouch. The addition of a subtotal gastrectomy allows for a staple line across viable tissue remote from the prior surgical staple lines and adhesive process.
A-101-IH
PREDICTIVE VALUE OF PULSE RATE TO DETERMINE THE RISK OF LEAK IN THE EARLY POST OPERATIVE PERIOD AFTER A LAPAROSCOPIC ROUX EN Y GASTRIC BYPASS.
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Background: Postoperative peritonitis is the main cause of mortality after Laparoscopic Roux en Y Gastric Bypass (LRYGBP). Early diagnosis is of upmost importance for appropriate management. In this study we identified in a retrospective cohort parameters that best predicted peritonitis at day one post LRYGBP and secondarily validated these parameters in a prospective study. Methods: First, we analyzed in a case control study the early postoperative outcome of 402 LRYGBP operated between January 2004 and May 2009 and identified the best predictors of postoperative peritonitis. Second, the best predictors were prospectively used in a validation cohort of 351 patients submitted to LRYGBP from June 2009 to Sept 2012 to indicate early reoperation. Results: Overall 31 patients (4%) developed an early peritonitis after LRYGBP. No death was observed. In the retrospective cohort, the 24 patients (6%) experienced peritonitis; they had higher pulse rate (p<0.001), lower urine output (p=0.003), higher oxygen consumption (p<0.001), and more frequent abnormal upper GI series (p<0.001) at postoperative day 1 (POD1). In multivariate analysis upper GI series and pulse rate were the only independent predictors of peritonitis (p<0.001). The ROC curve analysis of pulse rate (AUC = 0.90) identified two distinct values: a pulse rate above 100 beats per mn (bpm) had a negative predictive value of 0.99 and a sensitivity of 0.86, vs. 0.96 and 0.37, respectively, for abnormal upper GI series. A pulse rate over 120 bpm had a specificity of 0.99 and a predictive value of 0.70. During the prospective study, indication for reoperation was based on these two parameters. Seven patients (2.5%) had peritonitis. All had a pulse rate at POD1 above 100 bpm (sensitivity 100%). Among three patients with a pulse rate over 120 bpm, two had peritonitis at reoperation. Conclusions: The early diagnosis of peritonitis is essential after LRYGBP. In this context, tachycardia at POD1 is the best diagnostic criterion to suspect peritonitis and decide laparoscopic reexploration for early diagnosis and treatment.

A-102-IH
PREDICTORS OF HOSPITAL LENGTH-OF-STAY AFTER LAPAROSCOPIC GASTRIC BYPASS: AN ANALYSIS OF 9,593 PATIENTS FROM NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM
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Background: Bariatric centers face increased pressure to reduce hospitalization as a means to contain costs, and some centers have sought to develop “fast-track” protocols. There is limited data to identify patients who require a longer hospital stay after gastric bypass, and therefore would be inappropriate for fast-tracking. Methods: We reviewed all laparoscopic gastric bypass (LGB) procedures reported to NSQIP over one calendar year. Revision and open procedures were excluded. Patient and procedural characteristics, length of stay, readmissions, and 30-day morbidity and mortality were reviewed. Predictors of longer hospitalization (defined as > 3 days) were identified by multivariate analysis. Results: Of 9,593 LGBs, median length of stay (LOS) was 2 days (range 0-544) and 27% of patients required 3 or more days of hospitalization. In multivariate analysis, longer hospital length-of-stay was predicted by race, diabetes, COPD, bleeding diathesis, renal insufficiency, hypoalbuminemia, prolonged OR time, and trainee involvement with the procedure (see Table). Patient BMI, age, sex, and other comorbidities did not predict the need for a longer hospitalization. Conclusions: Patient characteristics and operative details predict length of hospitalization after laparoscopic gastric bypass. Such data can be used to identify patients inappropriate for fast-track protocols.

A-103-IH
REDUCTION OF 30-DAY READMISSION RATES THROUGH THE USE OF A DISCHARGE PROTOCOL
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Background: Hospital readmissions following bariatric surgeries are costly. Many readmissions are avoidable, particularly those associated with general malaise. We have recently developed a discharge protocol in an effort to reduce complications and associated readmissions. The purpose of the study was to compare readmission rates and underlying causes before and after initiation of the protocol.

Methods: The discharge protocol includes: 1) a required discharge check list of specific criteria involving pain, nausea, liquid consumption, respiratory status, and 2) a telephone interview by the nurse coordinator following discharge for discussion of physical and mental issues, medications, and the postoperative regimen. Readmission rates (30-day) were examined the year prior to (2011) and following (2012) initiation of the protocol along with causes for readmissions categorized as “technical” (leaks, bleeding, organ injury), “medical” issues (infection, stenosis, ulcer, deep vein thrombosis, pulmonary emboli, strangulated hernia, more), or general “malaise” (nausea, vomiting, dehydration, weakness, benign abdominal pain). Results: The year prior to employment of the discharge protocol, our 30-day readmission rates for all bariatric procedures (n=449) averaged 9.8%. The 30-day readmission rate was 0% for “technical” complications, 3.3% for conditions categorized as “medical”, and 6.5% for issues involving general malaise. For the year following initiation of the protocol and with 470 procedures, the 30-day readmission rate declined significantly to 5.2%. The readmission rate for “technical” complications was 0.2%, for “medical” was 2.1%, and for “malaise” was 2.9%. The greatest change in the readmission rates with the discharge protocol were those categorized as general malaise. Readmission rates for general malaise for all surgeries declined by 55% and by a respective 54%, 40%, and 100% for the Roux-en-Y gastric bypass, the sleeve gastrectomy, and the adjustable gastric band.

Conclusions: Hospital readmission rates following bariatric surgeries, particularly readmissions involving general malaise, can be significantly improved through the routine use of a discharge protocol.

A-104-IH

INCIDENCE OF SYMPTOMATIC HYPOGLYCAEMIA AT 5 YEARS AFTER ROUX-EN-Y GASTRIC BYPASS (RYGB) ASSESSED BY A QUESTIONARY SCORING SYSTEM.
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Background: Vertigo, attack of sweating, daze, tachycardia and loss of concentration are some of the various unspecific symptoms of hypoglycemia after RYGB. In this study we screened gastric bypass patients for symptomatic hypoglycemia using a questionary scoring system. Methods: 51 patients (46 female, 5 male, mean age 40±3.4 years, mean BMI 31.8±1.7 kg/m2) at median 93 months (60-96) after gastric bypass performed between 2005 and 2007 were included in this study. The patients had to fill out a questionary addressing hypoglycemia symptoms as vertigo, attack of sweating, daze, weakness, loss of concentration, shivering, tachycardia, fatigue, hunger, headache and loss of concentration by a numeric scoring system. A minimum score of 9 (no symptoms) up to a maximum score of 84 (strong symptoms) could be reached. A score above the level of 42 was considered as symptomatic. A 5 days continuous glucose monitoring (CGM) was used for validation. Results: By this scoring system, 25.5% of the patients (n=13) were assessed to suffer from symptomatic hypoglycemia while 60.5% of the patients (n=31) were defined to be asymptomatic. 14% (n=7) of the patients were excluded due to insufficient completion of the questionary. All of the patients scored for symptomatic hypoglycemia also showed hypoglycemic episodes at the CGM. Nevertheless, in 70% of the asymptomatic patients, CGM also revealed hypoglycemic episodes. Conclusions: This questionary scoring system focusing on symptoms of hypoglycemia had a 100% specificity to diagnose hypoglycemia in RYGB patients but a sensitivity of only 30%.

A-105-IH

DOES BARIATRIC SURGERY IN ADOLESCENTS HAVE SIMILAR OUTCOMES AS IN ADULT PATIENTS? A CASE CONTROL STUDY
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Background: A high rate of morbid obesity in the youth population has led to an expanded usage of bariatric surgery in adolescents. Results of bariatric surgery in juvenile patients may be different than in the adult population, since both, physical and psychological characteristics related with their age may impact the outcomes. The aim of our study is to comparatively analyze results of bariatric surgery, during the 1st postoperative year, in adolescents and adults, using a case-control design. Methods: From a prospectively constructed database adolescent patients who underwent bariatric surgery between 2005 and 2012 and completed at least 1-year follow-up were selected. Two adult controls for each case were matched according to gender, BMI, and year of surgery. Demographics, surgical details, weight loss, and changes in body composition were comparatively analyzed. Results: There were 29 adolescents, 12 males and 17 females with a mean age of 19.3±1.5 years, and a mean BMI of 43.4±6.7 Kg/m2. Fifty-eight adults, 24 males and 34 females with a mean age of 40.7±9.2 years and a BMI of 43.3±6.6 Kg/m2 constituted the control group. Laparoscopic Roux-en-Y and Sleeve gastrectomy were performed in 28 and 1 adolescents and in 56 and 2 adult patients. Comparative results 1-year after surgeries are shown in the table. Conclusions: Despite potential differences in physical and psychological characteristics between adolescents and adult patients, weight loss and changes in body composition during the 1st postoperative year after bariatric surgery were highly comparable. Fat free mass was more stable in adolescent patients.

A-107-IH
OUTCOMES OF BARIATRIC SURGERY IN MORBIDLY OBESE PATIENTS INFECTED WITH THE HUMAN IMMUNODEFICIENCY VIRUS
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Background: Highly active antiretroviral treatment (HAART) reduces the viral load and prolongs survival in human immunodeficiency virus (HIV) patients. A serious side effect of HAART is the new onset of
obesity and metabolic syndrome. We present our experience with bariatric surgery (BS) in this subgroup of patients. **Methods:** We retrospectively reviewed all patients with HIV that underwent BS between 2002 and 2012. We found 11 HIV positive patients. Data collected were demographics, operation performed and outcome metrics. **Results:** All patients were receiving HAART. Eighty-two percent had a laparoscopic Roux-en-Y gastric bypass (LRYGB) and 18% a laparoscopic sleeve gastrectomy (LSG). Two-year mean estimated weight loss was 50%. Forty-five percent were followed during two years. No perioperative complications were seen. During follow-up one patient had a marginal ulcer at the gastrojejunostomy and one developed malnutrition. The preoperative median total CD4 was 847.5 cell/μL (range 281–1,300) and median viral load was 133 IU (range 87–3,000). Postoperatively, the median total CD4 was 502 cell/μL (range 214–783) and median viral load was 131 IU (range 10–10,300). Preoperatively, the weight was 137.6±18.36 kg and BMI was 51.45±8.98 kg/m². Postoperatively, weight was 99.41±30.81 kg and BMI was 36.44±12.57 kg/m² (mean). **Conclusions:** Bariatric surgery appears to be a safe and effective treatment modality in HIV patients affected by obesity and metabolic syndrome. Rapid weight loss results in remission or improvement of HAART related comorbidities without adversely affecting neither the treatment nor the outcome of the disease.

A-108-IH
MEASURING ENTRY-LEVEL NURSING KNOWLEDGE RELATED TO THE CARE OF BARIATRIC PATIENTS
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**Background:** Preparing student nurses with the knowledge, skills, and attitudes necessary to become leaders in delivering high quality care and modeling safety in the workplace is of utmost importance, particularly in the realm of bariatric medicine. Nurses are at risk for musculoskeletal injuries, especially during transfers and repositioning of bariatric-sized patients. Nurses also face the challenge of being sensitive and responsive to the needs of this vulnerable group who are often treated with disrespect and insensitivity. Despite these safety and sensitivity concerns, our nursing students have continued to learn using traditional "normal-weight" human and mannequin simulators and without formal sensitivity training. **Methods:** The purpose of this pilot project is to radically transform how obesity education is taught in entry-level nursing curricula. General bariatric knowledge and self-efficacy related to bariatric patient care, safety and sensitivity will be measured for three time periods: pre-intervention, immediately post didactic or multi-media intervention, and immediately post-practical simulation intervention using 1) an investigator-developed 35-item multiple-choice test designed to evaluate obesity-related knowledge; 2) an adapted form of the General Self-Efficacy Scale (4-point Likert scale) to evaluate students level of self-efficacy in the care of obese patients; and 3) a practical patient-handling competency skill test targeted for bariatric patients. **Results:** Interdisciplinary collaboration with physical therapy, occupational therapy, and ergonomic teams to create an online multi-media tutorial that features discussion and video clips of safe patient handling skills using bariatric-sized equipment and simulators and a practical experience that measures bariatric-focused safe patient-handling competency will be key features of this pilot project. Students will be randomly assigned to 4 groups; the times of data collection are at baseline (Time 1), after completion of the online tutorial intervention (Time 2), and after completion of the practical patient-handling experiences (Time 3). This design allows us to measure the effect of the online tutorial alone, the effect of the bariatric practical simulation alone, and the combined effect of the online tutorial plus bariatric practical simulation. Pre/Post test multiple-choice questions will pertain to general and clinical bariatric care, safe patient handling practice (e.g., positioning and transfers), and cultural awareness and sensitivity. The practical skill test will evaluate competency in lateral transfers (bed to stretcher), vertical transfers (bed to chair), and lifts, using specialized bariatric equipment as appropriate. A 2x2 factorial design with repeated measurement will be used; a mixed-effects model for longitudinal data will be used to analyze fixed and random effects. **Conclusions:** The current lack of attention to obesity education and related communication training in the curriculum only complicates the expectation that entry-level nursing students will be culturally aware, sensitive, safe and competent providers. Given the projected obesity rates of the population, didactic and clinical experiences that target the specialized needs of bariatric care is more representative of what future nurses will encounter. Creation of this innovative module and competency checklist provides the foundation for understanding the complex and challenging needs of bariatric patients and may
improve self-efficacy in the basic care and safe patient-handling practice of this typically marginalized population.