A-101-OR
Predictors of T2DM remission in Asian patients at 1 year after LRYGB
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Background:
Evidences have proved that LRYGB is able to induce T2DM remission. Multiple studies have showed different predictors in the remission of T2DM after this procedure. Our objective is to determine the predictors of diabetes remission in T2DM patients that has undergone LRYGB in Asian. Methods: Data was collected on T2DM patients who underwent LRYGB from December 2005 to April 2012. Patients with T2DM who underwent LRYGB were included irrespective of the BMI and age. Data collected were gender, age, body height (BH) and body weight (BW), BMI, waist-hip ratio (WHR), FPG, HbA1c, c-peptide, duration of T2DM, oral hypoglycemic agent (OGHA) and/or insulin used and associated co morbidities. Patients were divided into three groups: total patients (group A), patients with BMI >35 (group B) and those with BMI < 35 (group C). Remission is defined as “FPG <100 mg/dL and HbA1c <6% without the use of OGHA or insulin therapy”. Glycemic control HbA1c of 7% despite no use of anti-diabetic medications. Data were collected prospectively and analyzed retrospectively. Results were analyzed to determine the remission of T2DM and its predictors. Results: Total patients included were 384 patients with BMI >35 were 260 and those with BMI < 35 were 124. In group A, mean age was 41.26yo, baseline mean BMI 38.97yo, baseline mean BMI 43.98kg/m2 FPG 29.33kg/m2 FPG 184.78mg/dl, HbA1c 9.02%, c-peptide 3.58mg/dl. In group B, mean age was 38.97yo, baseline mean BMI 43.98kg/m2 FPG 155.64mg/dl, HbA1c 8.27%, c-peptide 4.13mg/dl. In group c, mean age was 46.06yo, baseline mean BMI was 29.33kg/m2 FPG 184.78mg/dl, HbA1c 9.02%, c-peptide 2.75mg/dl. The duration of the diabetes was range from newly diagnosed up to 20 years. Using univariate analysis the significant factors in predicting T2DM remission at 1 year were, age (p=0.000), BH (p=0.008), BW (p=0.000), WHR (p=0.035), BMI (p=0.000), FPG p=(0.030), HbA1C (p=0.000), c-peptide (p=0.000), duration of DM(p=0.000) and OGHA user (p=0.000), insulin user (p=0.030), and combination of OGHA and insulin user (p=0.000) in group A patients; in group B patients, significant factors were FPG (p=0.009) and fatty liver (p=0.022), while in group C patients BW (p=0.000), BMI (p=0.000), OGHA usage (p=0.043) were significant. Using multivariate regression analysis, the significant predictors in group A were HbA1c (p=0.000) and c-peptide (p=0.031), in group B FPG (p=0.034) was the only significant predictors and C patients BW (p=0.000) was significant predictor. Conclusions: This study demonstrates the significant predictors of T2DM remission in total patients were HbA1c and c-peptide. In patients with BMI > 35 was FPG the only predictors, whereas in patient with BMI < 35 body weight is the significant predictor.

A-102-OR
Risk Prediction of Complications of Metabolic Syndrome Before and 6-years After Gastric Bypass
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Background: Favorable effects of bariatric surgery on glycemic status, lipid panel, and blood pressure have been shown. However, the ultimate results of these changes on end-organ complications are unknown. Several validated risk models for prediction of different diseases including cardiovascular diseases, nephropathy, and retinopathy have been developed in recent years. The objective of this study was to examine changes in predicted risk for cardiovascular diseases, nephropathy, retinopathy, and mortality 6 years after Roux-en-Y gastric bypass (RYGB) among a cohort of diabetic patients. Methods: Outcomes of 131 diabetic obese patients without cardiovascular diseases who underwent gastric bypass between 01/04-12/07 were assessed. The predicted risk of diabetes-related complications were compared between baseline and the last follow-up point by validated risk assessment tools including: Framingham for 10-year overall risk of coronary heart (CHD), cerebrovascular (CVD), and peripheral vascular diseases (PVD) and 4-year risk of intermittent claudication, UKPDS for 10-year risk of CHD, PROCAM for 10-year risk of myocardial infarction, ARIC for 10-year risk of stroke, DECODE for 5-year risk of cardiovascular mortality, QKidney for 5-year risk of nephropathy, and Semeraro’s nomogram for 4-year risk of retinopathy. Results: Patients had a male to female ratio of 0.31:1, a mean age of 48.3±9.3 years, a mean BMI of 48.9±8.1 kg/m², and a mean duration of diabetes of 6.4±5.8 years. After a median follow-up time of 6 (range, 5-9) years after surgery, a mean percent excess weight loss of 60.7±25.1% was associated with diabetes remission rate of 61%. At long-term, the levels of HbA1c, LDL, and blood pressure were within the recommended goals in 85%, 73%, and 61% of patients, respectively. In this cohort of diabetic patients, bariatric surgery was associated with a
A-103-OR
BARIATRIC SURGERY AND THE MID-TO-LONG TERM OUTCOMES OF DIABETES IN SEVERELY OBESE PATIENTS WITH TYPE 2 DIABETES AT VARYING STAGES
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Greenville Health System

Background: Recent studies from our institution and others have shown beneficial effects of bariatric surgery on end-stage macrovascular and microvascular outcomes in patients with type 2 diabetes (T2DM). However, limited data is available examining the effect of surgery on all-cause mortality in this population, and whether the timing of surgery influences the effectiveness of bariatric surgery in preventing these most detrimental consequences of severe obesity and T2DM. The purpose of our study is to estimate the effects of bariatric surgery on all-cause mortality and end-stage diabetes complications and to evaluate the influence of the timing of surgery on these outcomes. Methods: We conducted a large, population-based, retrospective cohort study of severely obese patients with T2DM using the South Carolina Office of Research and Statistics (SCORS) statewide Uniform Billing (UB-04) database and South Carolina Department of Health and Environmental Control (DHEC) vital records over a 14 year period (1996-2009). The primary study outcome was all-cause mortality; secondary outcomes included end-stage macrovascular events (MI or stroke) and microvascular events (blindness in either eye, laser eye surgery, lower extremity amputation or creation of arteriovenous access for hemodialysis). Subgroups were defined by the presence and severity of diabetes-related vascular complications at the time of surgery. Results: 24,313 patients were identified as having T2DM and severe obesity at the same admission or visit. 2863 of these patients underwent surgical intervention. Bariatric surgical patients were younger, more commonly Caucasian, female and privately insured and were more likely to carry a diagnosis of hyperlipidemia or sleep apnea than were non-surgical patients; however, non-surgical patients were more likely than surgical patients to have clinically identified and more severe macro- and/or micro-vascular disease at baseline. Unadjusted 5-year survival estimates were more favorable in the bariatric surgical group (96±1%) compared to medically treated patients (80±1%; log-rank p<0.001). After adjusting for differences in demographic characteristics and baseline health status, bariatric surgery was associated with an estimated 67% reduction in all-cause mortality (HR=0.33, 95% CI: 0.25-0.43). Surgery was also associated with favorable outcome estimates for the first occurrence of both end-stage macrovascular (HR=0.41, 95% CI: 0.28-0.59) and microvascular (HR=0.25, 95% CI: 0.13-0.49) events. For each study endpoint, T2DM disease progression proved an independent predictor of negative outcome [prior macro/micro events, mortality HR (95% CI)=2.45 (2.15-2.79); macro HR (95% CI)=2.46 (1.76-2.09); micro HR (95% CI)=3.10 (2.30-4.19)]; however, the relative benefits associated with bariatric surgery remained reasonably constant across the disease progression (Table 1). Conclusions: Bariatric surgery is associated with a 67% reduction in the hazard of all-cause mortality among severely obese patients with T2DM. Moreover, bariatric surgery is associated with 60-75% reductions in the end-stage vascular complications of T2DM. Although earlier intervention in the disease process affords the best long-term outcomes, in appropriately selected patients, regardless of the timing of surgery in the disease progression, bariatric surgery remains a consistent independent predictor of improved survival. Prospective studies are needed to confirm these results and to appropriately evaluate the causal role of bariatric surgery in these observed associations.
A-104-OR
TEAMWORK AND HARD WORK MAKES P4P WORK FOR RYGB
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Minimally Invasive Surgery\(^1\)
Geisinger, Medical Center\(^2\)
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Background: Health care in the US is in crisis. It will soon consume 20% of the US GDP. Stakeholders remain at odds over solutions which have largely been imposed on hospitals and providers. A frequent concern of providers has been that any form of capitated care will compromise quality and not be financially sustainable. In 2009, we presented to the ASMBBS our experience implementing a P4P program for RYGB (ProvenCare\(^®\)). The aim of this study was to evaluate the clinical results of this fully implemented P4P program for RYGB. Methods: In 2006, our group began developing a clinical program of 35 best practice elements (BPE) for RYGB. The reliable delivery of BPE’s was defined as a patient receiving > 90% of elements. A control group included all patients for the year preceding ProvenCare\(^®\) (Period 1). BPE delivery was unreliable in the first year (Period 2) and reliable in the following years (Periods 3, 4, 5). Outcomes data was collected prospectively on a cohort of patients who had undergone RYGB between May 2007 and Apr 2012 and was compared using Students t-test. Reliability was tested using Cochran-Armitage trend test.

Results: A total of 2096 patients were involved in the study as outlined in the table. There were no significant patient demographic differences between the periods. ProvenCare\(^®\) BPE reliable delivery was only 40% in Period 2 but was > 90% for Periods 3, 4, 5 (p<0.001). LOS for Period 1 was 3.5 days and improved to 2.01 days (p<0.001) in Period 5. LOS < 2 days was significantly correlated with reliable delivery of BPE’s (p=0.026). Post-operative complications and readmission rates significantly improved from Period 1 to Period 5. Complication improvements were also statistically associated with >90% reliability (p=0.0003). ICU utilization and reoperations also improved during the study period. Overall mortality was 0.68% and 0.29% for Period 5. Mortality not significantly different for any of the time periods. During the study, net revenues fell by 8% with variable direct costs rising by 33%. The result was a 32% drop in the contribution margin. However the contribution margin was still 47% for Period 5. Payor reimbursement was stable with ProvenCare\(^®\).

Conclusions: The rising cost of health care in the US is unsustainable. New care delivery models are inevitable, yet these are routinely met with considerable skepticism. In 2006, our group endeavored to create a best practice program for RYGB as a foundation for the health plan’s commercial product (ProvenCare\(^®\)). This program was embedded in a multi-disciplinary bariatric practice with > 90% reliability. The reliable delivery of this care correlated significantly with broad patient benefits, the result was improvement in all outcomes measures, while maintaining both a satisfactory contribution margin and payor reimbursement. We next need determine if this program is transferable.

A-105-OR
BARIATRIC SURGERY AND DIABETES REMISSION IN SWEDISH OBSE RECIPIENTS.
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Background: Bariatric surgery has been shown to cause diabetes remission over 1-2 years in 40 to 90 percent of operated patients but long-term effects over 10 to 15 years have so far not been reported.

Methods: The intervention study Swedish Obese Subjects (SOS) examines mortality and other outcomes over up to 20 years in 2010 obese patients obtaining bariatric surgery (banding 18.7%, vertical banded gastroplasty 68.1%, gastric bypass 13.2 %) and 2037 contemporaneously matched obese controls obtaining usual care. For the current report we used the 345 surgery patients and the 262 controls that had type 2 diabetes at baseline. Diabetes remission was a predefined secondary endpoint in the SOS study protocol. At baseline, the surgery and control patients had the following mean characteristics: age 49 and 50 years, body mass index 42 and 40 kg/m2, fasting blood glucose 156 and 156 mg/dl, and diabetes duration 3.0 and 3.5 years, respectively. The current report is focusing on diabetes remission at 2 years and on subsequent relapse rates.

Results: The proportion of surgery and control patients in diabetes remission at 2 years was 71.8 and 16.4 percent, respectively (adj. OR: 13.0, p<0.001). The high remission rate 2 years after bariatric surgery was followed by frequent relapses and at 15 years the proportion in remission was reduced to 31%. However, this proportion was markedly higher than in controls (OR=6.0, p<0.001).

Conclusions: Bariatric surgery is superior to usual care in achieving 15-year remissions.
A-106-OR
MECHANISM OF REVERSED GLUCOSE INTELLIGENCE AFTER ROUX-EN-Y GASTRIC BYPASS (RYGB)
Dariush Elahi1; Panagis Galiatsatos; Atoosa Rabiee; Rocio Salas-Carrillo; Amin Vakilipour, MD; Dana K Andersen, MD Medicine1

Background: Morbid obesity has increased to epidemic proportions, and is the main cause of type 2 diabetes mellitus (T2DM) which is characterized by inadequate insulin secretion from the β-cells and development of insulin resistance. Bariatric surgery is the most effective treatment for reduction of body weight and has also been suggested as a treatment modality for the resolution of T2DM, independent of morbid obesity. Despite increased recognition of normalization of fasting plasma glucose levels (< 100 mg/dl) promptly after surgery, it is unclear what is/are the mechanism(s) responsible for the “cure”. Therefore we assessed hormonal and tissue responses longitudinally after RYGB. Methods: Eight patients (five with T2DM) were studied before and at 1, 3, 6, 12 and 15 months after RYGB. A standardized test meal (STM, 475 cc of Ensure Plus) was administrated to assess glucose, insulin and incretin responses. Separately, a 2 hr. hyperinsulinemic-euglycemic clamp (E-clamp) (+1200 pmol/L) and 2 hr. hyperglycemic clamp (H-clamp) (+5.3 mmol/L above basal) were performed with one hour recovery between clamps. GLP-1 was infused (+50 pmol/L) during the last hour of the hyperglycemic clamp. Hepatic and peripheral insulin sensitivities were assessed with 3H-3 glucose infusion. Body composition (iDXA and 3H2O) were assessed at each visit. Results: Subject age was 46.0±3.4 years, BMI 48.9±3.2 kg/m2, FPG 138.2±18.1 mg/dl (T2DM) and 88.3±0.8 mg/dl non-diabetic. STG glucose responses normalized by 3 months; insulin responses normalized by 6 months. Active GLP-1 level, unchanged from basal level pre-surgery, increased dramatically at 1, 3 and 6 months (peak ~58 pmol/L), normalized by 12 and 15 months (peak ~25 pmol/L). Insulin sensitivity (90-120 min M of E-clamp) increased progressively from a rate of 2.2 pre-surgery to ~5.2 mg/kg/min at 3-12 months as fat mass decreased (~60 kg pre to 25 kg, fat free mass remained unchanged). During E-clamps hepatic glucose production was suppressed by 3 months. The insulin response to glucose alone fell progressively over 12 months (~420 to ~120 pmol/L) but the glucose clearance/metabolism (30-60 min M of H-clamp) did not change significantly until 12 months (~3.8 pre to 7.8 mg/kg/min at 12 months). During GLP-1 infusion, plasma insulin level fell progressively from ~3200 pmol/L to ~700 pmol/L at 12 months. During the last 30 min of the H-clamp M/I changed from pre level of ~9 (mg/kg/min)/(pmol/L) to a level of 30 at 12 months. Conclusions: The early exaggerated endogenous GLP-1 response results in increased insulin responses to nutrients, and explains the early normalization of glucose levels. The GLP-1 response normalizes within one year after surgery. Enhanced peripheral tissue sensitivity to insulin starts at three months with loss of fat mass. β-cell sensitivity to glucose improves last at 12 months after surgery, and after loss of ~33% of excess body weight. Normalization of β-cell sensitivity to glucose follows recovering tissue sensitivity to insulin, and may be causally related. There is a tightly controlled feedback loop between peripheral tissue sensitivity, β-cell and L-cell (GLP-1) responses.

A-107-OR
SLEEVE GASTRECTOMY AND ANTIREFLUX BARRIER
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Background: Sleeve gastrectomy has gained an important place in bariatric surgery. However it has been postulated a deleterious effect on the lower oesophageal sphincter (LES) function, increasing the risk of gastro-oesophageal reflux disease (GERD). An objective analysis was never made on this topic. Methods: 32 patients with sleeve gastrectomy in which antireflux barrier was evaluated before and 1 year after surgery. 29 were women (90.6%) and mean age was 50.2 ± 2.1 years. All patients were studied before surgery with upper-endoscopy, barium swallow, oesophageal manometry and 24-hour pH-monitoring. Sleeve gastrectomy was constructed laparoscopically over a 37 fr bougie. Staple line was reinforced in every case. After 1 year all patients repeated objective evaluation. BMI, Excess weight loss (%EWL), reflux symptoms and need of proton pump inhibitors (PPI) were also registered. Wilcoxon test was used for paired variables, chi square and linear correlation test were used. Results: BMI decreased from 42.8 kg/m2 to 29 kg/m2. Median EWL%-1y was 80.8%. There was a strong correlation between preoperative BMI and EWL%-year (Spearman Rho -0.5253, p=0.0029). Before surgery 24 patients (75%) didn’t have esophagitis. Of these, 7 (29.2%) developed mucosal injury. 6/8 (75%) persisted with or worsened preoperative oesophagitis (p= 0.068). Before surgery 13 patients (40.6%) referred frequent heartburn vs... 4 (12.5%) at 1 year (p=0.18). Use of PPI at 3 months was 56.2% (18 patients), at 6 months 46.8% (15 patients) and 25% (8 patients) at 1 year. LES pressure decreased from 20 to 15.5 mm Hg (p=0.058). Among patients with preoperative normal LES a median decrease of 7 mm Hg was observed (p=0.016). Median DM score showed no significant differences (14.6 vs... 15.1, (p=0.44), nor upright or supine % of time with pH <4). 49% of patients before vs... 74% after surgery.
presented gastroesophageal reflux in contrast swallow (p=0.018). There was no correlation between preoperative BMI, EWL%, preoperative symptoms, hypotensive LES or pathological DM score, with postoperative oesophagitis, reflux symptoms, abnormal pH monitoring or IBP requirements at 1 year. Patients with abnormal DM score prior to surgery presented less weight lost (EWL 68.3% vs... 96%, p=0.015). Conclusions: In our experience sleeve gastrectomy determined a decrease in basal LES pressure in patients with normal preoperative values. Oesophagitis appeared in 29% of those who did not have it. 25% of patients at 1 year were using PPI for reflux symptoms, whereas half of them did not achieve adequate control. We did not observe significant variations in pH monitoring parameters before and 1 year after surgery. We could not find preoperative predictive factors for postoperative GERD.

A-108-OR
LAPAROSCOPIC SLEEVE GASTRECTOMY OR LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS IN PATIENTS WITH EXTREME OBESITY? 30-DAY MORTALITY AND MORTALITY COMPARISON: A NSQIP DATABASE ANALYSIS.
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Yale School of Medicine¹

Methods: Using the National Inpatient Sample database from 2008-2010, clinical data of morbidly obese patients who underwent LSG in the extremely obese due to its lower difficulty and the assumed primary goal of this study was to examine the outcomes of bariatric surgery performed at accredited (AC) vs... non-accredited (NAC) centers. The secondary goal was to examine the outcomes of morbidly obese patients undergoing general laparoscopic surgical operations performed at AC vs... NAC. We hypothesized that bariatric accreditation may improve outcome for patients undergoing bariatric surgery and also may have a secondary benefit of improving outcomes of obese patients undergoing laparoscopic general surgical operations. Methods: Using the National Inpatient Sample database from 2008-2010, clinical data of morbidly obese patients who underwent bariatric surgery (open gastric bypass, laparoscopic gastric bypass, laparoscopic sleeve gastrectomy, and laparoscopic gastric banding) were analyzed using appropriate ICD-9 diagnosis and procedural codes. Outcomes of patients who underwent bariatric surgery

A-109-OR
IMPACT OF ACCREDITATION IN BARIATRIC SURGERY
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University of California, Irvine School of Medicine¹

Background: A recent study questioned the role of accreditation in bariatric surgery and the need for accreditation is currently being evaluated by CMS. The primary goal of this study was to examine the outcomes of bariatric surgery performed at accredited (AC) vs... non-accredited (NAC) centers. The secondary goal was to examine the outcomes of morbidly obese patients undergoing general laparoscopic surgical operations performed at AC vs... NAC. We hypothesized that bariatric accreditation may improve outcome for patients undergoing bariatric surgery and also may have a secondary benefit of improving outcomes of obese patients undergoing laparoscopic general surgical operations. Methods: Using the National Inpatient Sample database from 2008-2010, clinical data of morbidly obese patients who underwent bariatric surgery (open gastric bypass, laparoscopic gastric bypass, laparoscopic sleeve gastrectomy, and laparoscopic gastric banding) were analyzed using appropriate ICD-9 diagnosis and procedural codes. Outcomes of patients who underwent bariatric surgery

Outcomes of patients who underwent bariatric surgery
(length of stay, serious morbidity, in-hospital mortality, and cost) were analyzed according to hospital's accreditation status. Outcomes of morbidly obese patients who underwent common laparoscopic general surgery operations (anti-reflux surgery, cholecystectomy, colectomy, and diaphragmatic hernia repair) were also analyzed according to accreditation status. Results: There were 277,068 bariatric operations performed between 2008-2010, with 88.1% being performed within accredited centers and 11.9% being performed at non-accredited centers. There were more gastric bypass procedures performed at AC than at NAC (72.4% vs. 67.5%, respectively). The overall rate of in-hospital mortality was significantly lower at AC than at NAC (0.08% vs. 0.19%, respectively). For patients who underwent stapling operations (sleeve and bypass), the in-hospital mortality was significantly lower at accredited hospitals (0.09% vs. 0.27% at NAC). On multivariate analyses, non-accredited centers had significantly higher in-hospital mortality for stapling procedure (odds ratio, 3.7; p<0.01) but a similar rate of serious morbidity (odds ratio, 0.87; p=0.1). There was no significant difference in in-hospital mortality or serious complication for patients who underwent gastric banding at AC vs. NAC. Using multivariate logistic regression analyses, morbidly obese patients who underwent common laparoscopic general surgical operations at NAC had higher serious complication for patients who underwent laparoscopic cholecystectomy (odds ratio, 2.4; p=0.05) and diaphragmatic hernia repair (odds ratio, 2.3; p=0.05) compared to AC. There was no significant difference in risk-adjusted serious complication rate for laparoscopic anti-reflux and colectomy between AC vs. NAC. Conclusions: Centers with accreditation in bariatric surgery had almost a four-fold lower in-hospital mortality compared to non-accredited centers. This finding was observed only for complex operations such as laparoscopic gastric bypass and sleeve gastrectomy. The resources established for accreditation may have secondary benefits that lead to improved outcomes for morbidly obese patients undergoing other general laparoscopic operations.

This study was to compare the efficacies of two weight reducing surgeries on diabetic control and the role of duodenal exclusion. Methods: Thirty diabetic patients with a mean BMI of 30 (24-34), mean age of 45 (34-58) and mean HbA1C of 10.0 (7.5-15) were randomized to either LSG (n=30) or LGBP (n=30). The primary outcome was remission of T2DM (fasting glucose <126 mg/dl and HbA1c value < 6.5% without glycemic therapy). Analysis was by intention-to-treat. Mixed meal test were given to all the patients and different gut hormones were measured as well as incretin effect. Results: There was no difference in preoperative clinical parameters between the two groups. After 5 years of follow-up, Remission of T2DM was achieved by 16 of 22 (72.7%) in the gastric bypass group and 12 of 28 (42.8%) in the sleeve gastrectomy group (p<0.05). Participants assigned to gastric bypass had lost more weight, achieved a lower level of BMI (23.6 vs... 24.5) and HbA1C (6.1% vs... 6.5%) than sleeve gastrectomy groups. There was no difference in incretin effects between the groups. Both LSG and LGBP had GLP-1 effect after surgery but LSG had a better ghrelin reduction where LGBP had a better reduction in CCK and PP reducing effects. Conclusions: This study demonstrates that participants randomized to gastric bypass were more likely to achieve a durable remission of T2DM. Duodenum exclusion does play a role in T2DM diabetes treatment. This study was registered at clinicaltrials.gov (ID NCT00540462).

Monday, November 11, 2013
8:00 am – 12:00 pm EST

Oral Presentations: Masters Course in Behavioral Health

A-101-BH

BARI-ACTIVE: A RANDOMIZED CONTROLLED TRIAL OF A PREOPERATIVE BEHAVIORAL INTERVENTION TO INCREASE PHYSICAL ACTIVITY IN BARIATRIC SURGERY PATIENTS

Dale S Bond, PhD; Jennifer Trautvetter1; Graham Thomas, PhD1; Jessica L Unick, PhD1; Sivamaithan Vithiananthan, MD1; John M Jakicic, PhD2; Dieter Pohl, MD2; Beth A Ryder, MD4; Rena R Wing, PhD4
Background: Habitual physical activity (PA) may optimize bariatric surgery outcomes; however, studies with objective PA measures show that bariatric surgery patients have low PA levels preoperatively and fail to substantially increase PA postoperatively. Thus, patients need additional support to perform habitual PA. The Bari-Active trial tested a preoperative intervention to increase habitual PA.

Methods: Participants (n=51, 88% women, 82% White, age=47.2±9.0 years, BMI=45.1±6.7) were randomly assigned preoperatively to 6 weeks of PA intervention (PAI/n=28) or standard care (SC/n=23). PAI received weekly individual face-to-face sessions involving tailored instruction in behavioral strategies (e.g., self-monitoring, goal-setting) to increase home-based structured walking by 30 minutes/day. SC attended routine clinical visits but received no intervention. Participants wore a multi-sensor monitor for 7 days at baseline and post-intervention to measure changes in bout-related (≥10-min bouts) and total (≥1-minute bouts) moderate-to-vigorous PA (MVPA) minutes/day. Results: Retention at post-intervention was 80% in PAI and 82% in SC. PAI achieved a 21.5±22.7 minutes/day increase in bout-related MVPA at post-intervention (4.4±5.8 to 25.9±23.6 minutes/day), compared to no change (-0.7±15.7 minutes/day; 9.6±19.1 to 8.9±12.3 minutes/day) in SC (p=0.001). Similarly, PAI increased total MVPA from 29.2±23.0 to 57.5±32.8 minutes/day whereas SC demonstrated no change (40.4±39.7 to 40.6±31.1 minutes/day) (p=0.001).

Conclusions: With behavioral intervention, severely obese patients can increase their PA to levels approximating national recommendations prior to bariatric surgery. Thus, the preoperative period may be a powerful “teachable moment” for promoting habitual PA. Future studies should determine whether preoperative PA increases are maintained postoperatively and contribute to better surgical outcomes.

A-102-BH

DISTRESS CORRELATES AND OVERALL FUNCTIONING IN BARIATRIC SURGERY PATIENTS WITH NIGHT EATING SYNDROME

Background: Night eating syndrome (NES) is a relatively understudied disorder. It is conceptualized as a circadian delay in food consumption, manifested by evening hyperphagia and/or nocturnal awakenings with food ingestion. Associated symptoms include insomnia, morning anorexia, urges to eat at night, depressed evening mood, and a belief that one must eat to sleep. Despite its association with obesity, little is known about NES in the bariatric surgery population. Therefore, the present study examined emotional, behavioral, thought, and somatic functioning in preoperative bariatric surgery patients with and without NES.

Methods: Within the context of an initial psychological evaluation for bariatric surgery, 880 preoperative patients completed the MMPI-2-RF and were evaluated for NES using research diagnostic criteria proposed by Alison et al. (2010). Medical records were reviewed for demographics and BMI. Of the 880 patients, (66.66 % Caucasian; Mean Age = 46.87; Mean BMI = 50.50 kg/m2; Mean Education = 14.32 years) 14.66% met criteria for NES.

Conclusions: Patients diagnosed with NES...
may have decreased functioning and higher psychological distress across several important domains when compared to patients without NES pursuing weight loss surgery. These results suggest that patients with NES may be more psychiatrically and medically vulnerable than other patients seeking surgery. Research is needed to better understand how somatic/neurological and NES symptoms interrelate. The current results also underscore the need to elucidate how differences between patients with and without NES may impact surgery outcomes, including compliance, overall functioning, and weight loss as well as the importance of examining the impact of NES treatment on outcomes.

A-103-BH

BIPOLAR DISORDER SYMPTOMS IN PATIENTS SEEKING BARIATRIC SURGERY AND THEIR RELATIONSHIP TO UNDERGOING BARIATRIC SURGERY

Karen B Grothe, PhD ABPP LP1; Manpreet S Mundi, MD1; Susan Himes, PhD2; Michael G Sarr, MD2; Matthew Clark, PhD2; Jennifer Geske, MA2; Sarah Kalsy, MA, LP2, Mark Frye, MD2

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Background: Up to 68% of patients with Bipolar Disorder (BD) are obese, for which bariatric surgery is currently the most effective long-term treatment. The prevalence of BD in patients seeking bariatric surgery varies and little data exist regarding how bipolar symptoms influence surgical outcomes. Our aim was to examine the prevalence of bipolar symptoms and their association with psychological variables, eating behaviors and weight, and six-month bariatric outcomes in patients seeking bariatric surgery.

Methods: Adult outpatients seeking bariatric surgery underwent psychological evaluation between 4/2009 and 2/2011. The Primary Care Mood Disorder Questionnaire (MDQ) was used to screen for lifetime symptoms of mania/hypomania. Additional instruments assessed unipolar depression, anxiety, alcohol use, childhood trauma, emotional overeating, and distress tolerance. We examined relationships of bipolar symptoms to demographics, weight, and psychological variables at baseline and to weight and attendance at 6 month postoperative follow-up (for those with available data). Medical records of patients with bipolar symptoms who did not undergo bariatric surgery were reviewed for potential barriers to surgery completion. Results: 935 patients (92% Caucasian, 47 ± 12 years of age, BMI of 47 ± 9) completed the pre-surgical psychological evaluation and 188 underwent RYGB and had six-month post-surgical data available. Six percent (n=54) screened positive for symptoms of bipolar disorder. Patients with bipolar symptoms described more depression, anxiety, alcohol misuse, history of abuse, and less distress tolerance than patients without bipolar symptoms. Patients with bipolar symptoms also had less excess body mass index loss at six months after bariatric surgery, although the number who completed RYGB was small (n=7). Less than 20% of the patients with bipolar symptoms had undergone bariatric surgery at the time of analysis (n = 12), yet only 13% were denied surgery by the bariatric team for psychiatric reasons. Of the patients with bipolar symptoms who did not complete surgery, one in four was psychiatrically hospitalized within the year following their psychological evaluation, derailing their pursuit of bariatric surgery. Conclusions: The prevalence of bipolar symptoms was more common than reported for the general population and those with bipolar symptoms reported more robust psychopathology. Few patients with bipolar symptoms actually completed bariatric surgery. In the current study, factors that influenced surgery completion include more psychological recommendations at evaluation, psychiatric instability, and difficulty completing a standardized behavioral pre-surgical program. Of those that actually undergo bariatric surgery, patients with bipolar symptoms may lose less weight at six months postoperatively.

A-104-BH

FOOD CRAVINGS IN INDIVIDUALS SEEKING BARIATRIC SURGERY VS... BEHAVIORAL OBESITY TREATMENT

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Background: While previous research has found that higher body mass index (BMI) is positively associated with food cravings in adults, little is known about food cravings in individuals seeking bariatric surgery versus individuals pursuing non-surgical obesity
VERBAL ABUSE: A RISK FACTOR FOR DEPRESSION IN PRE-SURGICAL EVALUATIONS

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Background: The incidence of suicide is increased following bariatric surgery, highlighting the need to identify reliable risk factors. Although depression is one of the largest risk factors for suicide in the general population, depressive symptoms are often underreported in pre-bariatric surgery psychological evaluations, thus limiting their predictive utility. However, childhood verbal abuse is much more common in pre-bariatric surgery patients. Accordingly, the authors sought to 1) examine the use of childhood verbal abuse a predictor of depressive symptoms and the need for psychological services, and 2) investigate the necessity of multi-modal assessment of childhood verbal abuse. Methods: We conducted a retrospective chart review of 121 patients who received a pre-bariatric surgery psychological evaluation. Their age ranged from 19 to 69 (M = 43.36, SD = 12.04), and their BMI ranged from 34.17 to 67.09 (M = 46.44, SD = 7.20). We obtained information as follows: (a) childhood verbal abuse from 3 measures (the Childhood Trauma Questionnaire (CTQ), the Eating Disorder Questionnaire (EDQ), and a question from a semi-structured interview); (b) personality characteristics from the Millon Behavioral Medicine Diagnostic (MBMD) questionnaire; and (c) depressive symptomatology from the Depression Anxiety Stress Scales-21 (DASS-21). Results: Overall, 49.6% of patients endorsed abuse on at least one measure; 36.5% on the CTQ, 30.5% on the EDQ, and 28.5% in the semi-structured interview (20% on 1 measure, 18% on 2 measures, 13.5% on 3 measures). Endorsing abuse on a greater number of measures was associated with an increase in severity of depressive symptoms on the DASS Depression subscale (r (120) = .33, p < .001) and on the MBMD Depression, Depressed, and Psych Referral subscales (r’s (116) = .24 (p = .01), .31 (p = .001), and .25 (p = .007), respectively). Analyzed a different way, presence of any abuse significantly predicted DASS depression, F (1, 119) = 6.87, p = .01 (beta = .23). However, when the number of measures on which an individuals reported emotional abuse was added to the model, the model strength increased significantly, F (1, 118) = 9.02, p < .001. Similar results emerged using the MBMD Depression and Denigrated subscales. Lastly, reporting abuse on all 3 measures was associated with a significant increase in likelihood of a mood disorder diagnosis as compared to no endorsement, OR = 6.44, Z = 2.25, p = .02. Conclusions: Multi-modal assessment of childhood verbal abuse in pre-bariatric surgery psychological evaluations, thus limiting their predictive utility.
A-106-BH

AN IN-DEPTH ANALYSIS OF RATES OF PSYCHOPATHOLOGY IN BARIATRIC SURGERY CANDIDATES USING STRUCTURED INTERVIEWS

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Background: Psychopathology rates generally have been found to be quite high among candidates for bariatric surgery. However, only a small number of these studies have used structured diagnostic instruments. The purpose of this review will be to review these studies in detail, in particular focusing on comparisons between the rates obtained in these studies with rates obtained using structured interviews in non-bariatric obese samples, and in general population samples, in the United States and other countries where such data are available. The paper will address whether or not socio-demographic variables may be affecting the rates obtained.

Methods: Literature regarding rates of psychopathology using structured diagnostic interviews from samples in the United States, Germany and Italy were reviewed. Socio-demographic characteristics of the samples utilized in each of the bariatric surgery studies were also examined in detail. Sources of information included data in published research as well as databases available in the literature or over the web. Results: Clearly the rates of psychopathology appear to be elevated among the obese seeking bariatric surgery. Some of this may be attributable to the severity of the obesity among these individuals and some to obesity-related psychopathologies such as diabetes, which carry an increased risk for psychopathology. Lifetime rates for Axis I disorders have varied from 36.8 to 72.6 and for current Axis I psychopathology from 20.9 to 55.5. The distribution of the common categories across these studies were fairly consistent. The results of these studies were compared with the data obtained by the National Comorbidity Survey-Replication Study (NCS-R) and the European Study of Epidemiology of Mental Disorders (ESEMeD). Overall, rates were higher among bariatric samples compared to the control groups. Three of the studies were done independently of the routine psychiatric evaluation prior to bariatric surgery while in two studies rates may have been affected by “impression management” since they were part of the routine evaluation. Areas which were not well covered included the spectrum of eating disorders, which varied among the studies, and the somatoform, psychotic and adjustment disorders. Some differences may also be attributable to socio-economic status of the samples used. Conclusions: Although a limited number of studies have been done, the extant bariatric surgery samples have used reasonably large sample sizes. All used the same structured clinical interviews and they were reported from several different countries. Limitations have included the lack of BMI-matched control groups, and that not all did the evaluations independent from the evaluation process. Also very little information was reported on comorbidities and medications.

A-107-BH

COURSE OF DEPRESSIVE SYMPTOMS AND TREATMENT IN THE LONGITUDINAL ASSESSMENT OF BARIATRIC SURGERY (LABS-2) COHORT

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Results: At baseline, 28.3% reported mild-to-severe depressive symptoms (BDI score ≥ 10); moderate and severe symptomatology (BDI=19-29 and 30-63, respectively) were rare (4.2% and 0.5%, respectively). 40.4% reported treatment for depression (35.3% antidepressant use, 14.6% counseling). Having mild-severe depressive symptoms markedly increased odds of postoperative depressive symptoms (OR=6.8; 95% CI=5.5-8.4; p<.0001). Symptom severity was significantly lower at all post-op time points compared to pre-op (ps<.001) (e.g., prevalence of mild-severe symptoms was 8.9%, 6 months; 8.4%, 1 yr.; 12.2%, 2 yr.s; and 15.6%, 3 yr.s). There was a statistically significant increase in depressive symptom severity between 1 and 2 yr.s (p<.001), and 2 and 3 yr.s (p<.01). Treatment for depression was modestly but significantly lower postoperatively (32.0%, 1 yr.; 33.1%, 2 yr.; 34.6%, 3 yr.; ps<.01) and did not significantly differ by post-op year (ps<.05). Although there were minor differences between surgical procedures in change in depressive symptoms and treatment from baseline to 1 yr. (ps<.05), changes were not statistically significant from baseline to 2 or 3 yrs. (ps>.05). Change in BDI score over time was significantly but weakly associated with change in body mass index (r=.15; p<.001); the association was stronger among those with greater symptomatology at baseline (r=.48; p<.001 among those with a baseline BDI score ≥ 10). Conclusions: Bariatric surgery has a positive impact on depressive features. However, data suggest some deterioration in improvement after the first year. Longer follow-up of this cohort will be important to understand the durability of this effect.

A-108-BH

CHANGES IN SEXUAL FUNCTIONING AND SEX HORMONES IN MEN WHO UNDERGO BARIATRIC SURGERY

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Background: A number of studies have suggested that a modest weight loss is associated with improvements in sexual functioning and sex hormones in men. Relatively few studies have investigated changes in these domains in relation to the substantially larger weight losses seen with bariatric surgery. This study investigated changes in sexual function and hormones among men who underwent bariatric surgery in comparison to men with obesity who were treated with lifestyle modification. Methods: Thirty-five men (median age [interquartile range] 49 years [40-56], BMI 44.9 kg/m\(^2\) [41.8-51.4]) underwent bariatric surgery (BS) and 25 men (median age 46 years [36-54], BMI 41.0 kg/m\(^2\) [38.0-43.0]) were treated with lifestyle modification (LM). Prior to surgery or treatment and at 12 and 24-months, sexual functioning was assessed with the International Index of Erectile Functioning (IIEF). Changes in quality of life, body image, depressive symptoms and marital satisfaction also were assessed by validated questionnaires. Sex hormones (total and free testosterone, leutening hormone
LH), and sex hormone binding globulin (SHBG) were measured by blood assays. **Results:** The average (95% confidence interval) initial percent weight loss at 24-months for BS participants was -29.9% (-33.4%, -26.4%), which was significantly greater than the weight loss for LM participants -4.7% (-10.0%, 0.6%) (P=0.02). After adjusting for baseline differences, there were significant changes in erectile and orgasmic function and overall satisfaction over time, but these changes were not significantly different between treatment groups. Change in sexual desire was negatively correlated with change in BMI (r=-0.53, P=0.004). Changes in sex hormones over time were significantly different between LM and BS participants for total testosterone (P=0.001), LH (P=0.035), and SHBG (P<0.001). For free testosterone there were significant changes following baseline, but no significant differences between BS and LM participants. There were significant differences between the groups on changes in quality of life, as assessed by the SF-36 physical component score of the SF-36 and the IWQOL-Lite (all domains and total score). There were significant changes over time on body image, depressive symptoms and relationship satisfaction, but these changes were not significantly different between groups. **Conclusions:** Both groups of men experienced significant improvements in sexual functioning and sex hormones with weight loss. The larger weight losses seen with bariatric surgery were associated with significantly greater improvements in sexual desire as well as total testosterone, LH, and SHBG. Men who underwent bariatric surgery also reported significantly greater improvements in physical functioning and weight-related quality of life. Weight loss appears to have beneficial effects on sexual health; the larger weight losses seen with bariatric surgery are associated with greater improvements in sex hormones and quality of life.

**A-109-BH**

**RELATIONS BETWEEN DEPRESSION, EATING BEHAVIOR AND WEIGHT LOSS AFTER BARIATRIC SURGERY**

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_Lille University Hospital1_

**Background:** Weight loss (WL) is largely inconstant following bariatric surgery, depending on surgical procedures, lifestyle and psychological factors. Our study evaluated relations between depression, eating behavior and WL after bariatric surgery. **Methods:** We followed during 5 years, 454 subjects, who underwent gastric banding (GB) (60.4%) or gastric bypass (GBP) (39.6%) from 1996 to 2006. WL, eating behavior via the DEBQ (Dutch Eating Behavior Questionnaire) and depression via the Beck questionnaire were assessed before and 1, 2 and 5 years after surgery. **Results:** 16.9% of patients had moderate or severe depression before surgery. In women, depression score decreased more at 1 year after GBP than after GB (7.8 vs. 10.9, p=0.007), and then did not differ. Emotionality and externality scores decreased more at 2 years after GBP than after GB (2.0 vs. 2.3, p=0.003 and 2.0 vs. 2.5, p=0.01) and then did not differ. Restriction score increased more at 1 year after GB than after GBP (3.0 vs. 2.5, p=0.002) and then did not differ. There was no difference in men. In women, after GB, WL was inversely correlated with 1-year emotionality score (r=0.325, p<0.0001), and 5-years restriction score (r=0.230; p=0.02); after GBP, no correlation was found. In men, after GB, WL was inversely correlated with 2-years restriction score (r=0.443, p=0.039); after GBP, WL was inversely correlated with 1-year and 2-years restriction score (r=0.294, p=0.045 and r=0.435, p=0.021). **Conclusions:** Depression changed favorably after bariatric surgery. Eating behavior scores evolved differently with gender and surgical procedures and were correlated with WL.

**A-110-BH**

**TWO YEAR FOLLOW-UP OF THE COMPARATIVE EFFECTS OF ROUX-EN-Y GASTRIC BYPASS, SLEEVE GASTRECTOMY, AND THE ADJUSTABLE GASTRIC BAND ON QUALITY OF LIFE**

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_Florida Hospital Celebration Health1_

**Background:** Comparative studies of the effects of Roux-en-Y gastric bypass (RYGB), sleeve gastrectomy (SG), and the adjustable gastric band (AGB) on quality of life (QoL) are lacking. In the present study, we report on the findings of a 2-year
FEASIBILITY OF ECOLOGICAL MOMENTARY ASSESSMENT TO CHARACTERIZE ADOLESCENT POSTOPERATIVE DIET AND ACTIVITY PATTERNS FOLLOWING WEIGHT LOSS SURGERY

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A-111-BH

Background: Adherence to postoperative eating and physical activity recommendations may be important in determining sustained weight loss or weight maintenance following weight loss surgery (WLS). The limited literature on this topic, focusing primarily on adults, reveals poor adherence to at least one postoperative recommendation, with insufficient physical activity and snacking predominating. Adherence may be particularly concerning among adolescent WLS patients given adherence rates among pediatric populations generally recognized to be below 50%. Objectively assessing adherence using ecological momentary assessment (EMA) methodology has been recommended for use with WLS patients. To date, no studies have been conducted among adolescent WLS patients.

Methods: The present study is a single-site ancillary study executed within the multi-site prospective observational Teen Longitudinal Assessment of Bariatric Surgery (Teen-LABS) Consortium. Teen-LABS participants and their caregivers provided assent/consent at their 12-month research visit. Three Daily Phone Diaries (DPDs) (two weekdays, one weekend) were scheduled within 4-6 weeks following 12-month clinic visit and at 18 months (+/- one month) post WLS. The DPD is a cued recall procedure that tracks individuals through their activities over the previous 24-hours. For activities lasting 5+ minutes, adolescents reported the type of activity they engaged in and duration of the activity.

Results: Eight of thirteen (62%) eligible participants consented to participate. The sample was 75% female and 75% Caucasian (25% Black). Mean age of participants was 18.4±1.8 years (range 14.8-19.7). Participants underwent Roux Y gastric bypass (RYGB, n=7) or sleeve gastrectomy (n=1) 12 months prior to study enrollment. Forty-five of forty-eight DPD calls were completed. Participants ate 2.4±1.0 meals/snacks per day on weekdays and 2.5±1.1 meals/snacks on weekends. Adherence to the recommendation to consume >3 meals/snacks per day was met by 2 participants on weekdays and 3 participants on weekends. Average duration of meals/snacks was 28.1±21.2 minutes/weekdays and 28.0±21.9 minutes/weekends. Eating episodes lasting <20 minutes were similar on weekdays and weekends (38% and 35%, respectively). Participants ate within 1 hour of waking more frequently on weekends (10/15 days) than on weekdays (14/30 days). Seventy-five percent of participants adhered to the recommendation to eat >1 hour before lying down. Participants engaged in >30 minutes of Active

Cincinnati Children’s Hospital Medical Center
Recreation on 12/45 days (27%) with no difference between weekends and weekdays. Average duration of Active Recreation on those days was 77.1±50.6 minutes (range 30-180 minutes). Three participants achieved recommended level of activity (>30 minutes/day) when averaged over time.

Conclusions: This study contributes to the emerging literature by providing new insights into the activity patterns and adherence behaviors of adolescent WLS patients during the second postoperative year. Results support the feasibility of using DPD as an informative methodology within this population. Preliminary data reveal few adolescents met postoperative physical activity and dietary recommendations. Although not surprising given the general pediatric adherence literature, these results still warrant concern. Targeting non-adherence is essential in not only improving health outcomes but in deciphering the true potential effectiveness of WLS in this at-risk population.

A-112-BH

ADVANCES IN BEHAVIORAL WEIGHT-CONTROL TECHNOLOGY: IMPLICATIONS FOR ADJUNCTIVE BEHAVIORAL INTERVENTIONS IN THE BARIATRIC SURGERY POPULATION

Graham Thomas, PhD; Dale S Bond, PhD; David B Sarwer, PhD

Background: Our group recently published a review on the use of technology for behavioral assessment and intervention with bariatric surgery patients. The purpose of this presentation is to discuss advances in Internet and mobile health (mHealth) technology that allow for increasingly sophisticated behavioral interventions to facilitate weight loss and maintenance. These technology-based interventions may decrease cost by reducing the need for in-person provider contact, and increase efficacy by providing tailored treatment in patient’s natural environment at almost any time. Commercially available weight-control tools are highly popular, but most are not tailored for bariatric surgery patients and may have limited efficacy because they do not incorporate empirically validated weight control strategies. Thus, it is important to consider how the available tools can be applied as adjunctive interventions in the bariatric population, and what additional research is needed to tailor these tools for the bariatric population.

Methods: “Live SMART” is a large ongoing randomized controlled aimed at producing at least as much weight loss via a tailored semi-automated smartphone-based treatment as traditional group-based treatment. The smartphone-based intervention combines a commercially available application for self-monitoring with an application developed by the researchers to teach healthy eating and activity skills via 144 brief videos streamed to the phone, real-time interventionist feedback, and peer support.

“Experience Success” is a study aimed at developing and testing Web-based virtual reality (VR) technology to teach and build confidence with behavioral weight controls skills. The first VR scenario, focused on skills for eating in social situations, has been developed and pilot-tested (n=40). “B-Mobile” is a smartphone application aimed at reducing sedentary behavior in bariatric surgery patients. The smartphone’s onboard accelerometer monitors time spent sitting in real-time, and participants are prompted to take brief activity breaks after 30, 60, or 120 minutes. The application provides engaging graphical feedback to encourage compliance. Results: A pilot test of the “Live SMART” intervention produced a weight loss of 11% (SE 1%) of initial body weight at 24 weeks. Adherence to the self-monitoring protocol was 91% (SE 3%) during the first 12 weeks and 85% (SE 4%) during the second 12 weeks. Participants gave maximum ratings for treatment satisfaction. “Experience Success” produced improvements in knowledge and commitment for using behavioral skills to control eating in social situations. Participants gave high ratings for the realism of the VR scenario, and indicated that it mimicked real-world situations that they have experienced. “B-Mobile” is in testing; preliminary results will be presented at the meeting.

Conclusions: A variety of novel approaches that capitalize on Internet and mHealth technology allow for powerful intervention on eating and physical activity behaviors with reduced need for in-person provider contact. These technologies may facilitate adherence to healthy eating and physical activity behaviors needed to maximize weight loss following bariatric surgery. Technology may also provide new ways of teaching these strategies to maximize knowledge and commitment for use. Despite the promise of these new technologies, caution must be exercised when recommending new weight control technologies to bariatric patients as research shows that many of them lack empirical support, and they may need to be tailored for the special requirements of bariatric surgery patients.
Tuesday, November 12, 2013
1:30 pm – 5:30 pm EST

Behavioral Health Papers

A-113-BH

PROJECT HELP: A 5 WEEK BEHAVIORAL INTERVENTION TO REDUCE EXCESSIVE VOMITING AND GASTROINTESTINAL COMPLICATIONS IN POST-OPERATIVE LAP-BAND PATIENTS

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Background: Many patients experience gastrointestinal (GI) complications after bariatric surgery. One of the most common complications is vomiting. Excessive vomiting is associated with several negative outcomes, including esophagitis, nutritional deficiencies, fatigue, and general disruption in functioning. There is also emerging evidence that excessive vomiting may be linked to esophageal cancer in post-operative bariatric surgery patients. The primary aim of this ongoing study is to test a five week behavioral intervention to reduce vomiting and GI complications in post-operative Lap-Band patients by targeting key eating behaviors associated with vomiting: excessive portion size, eating too quickly, and insufficient chewing.

Methods: (NCT2030-09) Thus far, 5 patients (100% female, 80% White, 47.2±9.0 years of age, 35.3±6.4 kg/m², 2-12 months post-surgery) have been recruited and randomized (3:1 randomization scheme) to either the behavioral intervention (BI; N=4) or no treatment control (C; N=1). At both baseline and post-treatment participants completed a structured interview to assess frequency of vomiting and the Gastrointestinal Symptom Rating Scale (0=no GI discomfort; 6=very severe GI discomfort). Results were analyzed using descriptive statistics.

Results: Retention from pre- to post-treatment was 100%. Preliminary results suggest that BI reduced the frequency of vomiting by 90%; prior to treatment BI patients were vomiting an average of 4.5±1.1 times per week whereas after treatment participants were vomiting only 0.5±0.6 times per week. In contrast, weekly vomiting decreased by only 13%, or 1 episode per week, in the control participant (Pre: 8 episodes/week; Post: 7 episodes/week). BI participants also experienced a greater decline in GI discomfort (BI: -1.7±0.8; C: -0.2). Moreover, from pre- to post-treatment, BI participants lost an average of 2.1±1.9kg, whereas the participant in the control condition lost an average of only 1.0-kg.

Conclusions: These preliminary results suggest that a five week eating behavior intervention focused on portion control, rate of consumption, and proper chewing decreases vomiting and gastrointestinal complications in post-operative Lap-Band patients. Since recurrent vomiting is implicated with Band slips, a multidisciplinary approach would benefit patient food compliance, and potentially lower Band related complications. This intervention may also improve weight outcomes. If additional data continue to show promise, the Project HELP program may have the potential to reduce negative health consequences of post-surgical complications (e.g. esophagitis) and decrease rates of emergency room visits, hospitalizations, and conversions to gastric bypass surgery.

A-114-BH

IMPACT OF BEHAVIOR THERAPY ON OUTCOMES AFTER BARIATRIC SURGERY: A PILOT STUDY

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Mayo Clinic

Background: About 30% of patients fail to lose adequate weight or regain weight after anatomically correct bariatric surgery. Some have proposed that psychiatric co-morbidities or a lack of skills for behavior change contribute to weight regain. Evidence supporting the benefit of pre-surgical weight loss is limited. Our aim was to evaluate the impact of participation in a pre-surgical 12-week behavior therapy program on percent weight loss (%WL), psychosocial functioning, and resolution of medical
REGAIN IN BARIATRIC SURGERY PATIENTS

Lauren Bradley¹; Evan Forman¹; David B Sarwer, PhD²; Meghan L. Butryn, PhD²; James D Herbert, PhD²

Drexel University¹
Center for Weight and Eating Disorders²

Background: While bariatric surgery typically results in substantial weight loss in the first 1-2 postoperative years, tens of thousands of patients each year experience sub-optimal weight losses and/or significant regain. Poor outcomes have been associated with reduced compliance to rigorous dietary recommendations. Decreased compliance may result in part from lack of psychological skills necessary to respond to the return of negative internal experiences that make weight control difficult (e.g., hunger, cravings). Thus, there is the need for the development of interventions to promote long-term success by fostering the psychological skills needed for dietary adherence. Methods: An intervention for individuals experiencing weight regain after bariatric surgery was developed. An acceptance-based behavioral intervention was chosen, as these approaches teach skills (e.g., distress tolerance, present-moment awareness, clarity of values, linking values to in-the-moment decision-making) that appear to be well-matched to the challenges faced postoperatively. The intervention included 10 weekly, 90-minute group sessions. An open-trial is currently being conducted to evaluate feasibility, acceptability, and preliminary effectiveness of this intervention. Weight and measures of eating-related variables were assessed and pre- and post-intervention. Results: An open trial of an acceptance-based behavioral group treatment for individuals who have regained at least 10% of their weight loss since surgery is currently being conducted, with the first wave (n=5) completed. This intervention was shown to be acceptable, with 100% retention and participants’ mean rating of satisfaction with the program a 4.0 out of 5. Weight regain was stopped, and even reversed, with a mean weight loss of 2.09% ± 1.65% throughout the 10-week intervention. Pre to post improvement in process measures, including restraint (1-p² = 0.43), eating in response to internal cues (1-p² = 0.24), and intention to eat in response to a craving (1-p² = 0.45), exhibited very large effect sizes. Conclusions: Together, these data provide initial support for the feasibility and acceptability of an acceptance-based intervention for the post-bariatric

A-115-BH

A ROLE FOR ACCEPTANCE-BASED INTERVENTIONS TO STOP WEIGHT

comorbidities at 6 months after Roux-en-Y gastric bypass (RYGB). We hypothesized that participation in the behavior therapy program would increase weight loss and improve psychosocial functioning after surgery. Methods: Participants were recruited from all patients undergoing bariatric surgery and randomized to a 12-week program of behavioral weight management (treatment) or treatment as usual (control). Inclusion criteria were: BMI between 40 and 60, age 25 to 65, and seeking RYGB procedure. Patients with previous bariatric surgery or schizophrenia, bipolar disorder, or borderline personality disorder were excluded. Weights were measured at baseline, time of surgery, and 6-months post-surgically. Psychosocial functioning (depression, anxiety, alcohol use, distress tolerance, emotional eating, eating self-efficacy, and quality of life) and medical comorbidities (diabetes, hypertension) were assessed at baseline and 6 months post-surgically. Results: Thirty-four participants were randomized to behavior therapy (n=17) or control (n=17); 74% were female and 91% Caucasian; age (x ̅ ± SD) was 44 ± 8 years. Of the 34 participants, only 55% (n=19) underwent bariatric surgery (8 treatment, 11 control); 3 had procedures other than RYGB. Both groups lost weight prior to surgery: treatment -2.7 ± 2.8%, control -2.9 ± 3.2%, p = 0.87. Control group participants reported self-directed weight loss efforts prior to surgery using the behavior therapy program manual on their own (29%), meal replacements (29%), and self-directed dieting (35%). The treatment group reported trends toward a decrease in anxiety (p=0.07) and emotional overeating (p=0.08) from pre-surgery to 6 months post-surgery. At 6 months post-surgery, there were no differences in %WL (p=0.12) or resolution of diabetes (p=0.35) or hypertension (p=0.13). Conclusions: The sample size is small, but this study suggests that behavior therapy prior to bariatric surgery may not influence weight outcomes at 6 months after surgery for less psychologically complex patients. These patients may benefit from encouragement to engage in self-directed weight management prior to surgery. Patients with more psychological distress or emotional eating may benefit more from a pre-surgical behavioral intervention.
surgery population. Our findings also lend support for the potential efficacy of the intervention.