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General Session Abstracts

O1 A Nationwide Survey on Bariatric Surgery in France: Two Years Prospective Follow-Up and Predictive Factors of Outcome

J.M. Chevallier¹, M. Païta², M.H. Rodde-Dunet², M. Marty², F. Noguès², K. Slim³, A. Basdevant⁴

¹Assistance Publique-Hôpitaux de Paris, Hôpital Européen Georges Pompidou, Université Paris 5, France; ²Caisse Nationale d'Assurance Maladie, CNAM-TS, Paris, France; ³Chirurgie Digestive, CHU Clermont-Ferrand, France; ⁴Assistance Publique-Hôpitaux de Paris, Hôpital Pitié-Salpêtrière, Université Paris 6, Inserm Nutrimique u755, France

Background Studies on bariatric surgery outcomes have been performed in clinical trials or reflect the practice of experienced centers. Little is known about the current practice at a nationwide level.

Methods this is a systematic nationwide study on the 2-year outcome of all consecutive 1236 bariatric operations performed in France in December 2002 and January 2003. Data were collected independently by consultants of the French National Medical Insurance Service. For adjustable gastric banding (AGB) Excess Weight Loss (EWL) >50% was considered as a success and compared to 15 different data on chi2 tests and backstep regression.

Results 87.3% of the patients underwent a ABG, 8.6% a vertical banded gastroplasty (VBG), 3.8% a Roux-en-Y gastric bypass (RYGBP) and 0.3% a biliopancreatic diversion (BPD). Loss of follow-up was 12% at year 1 and 18% at year 2. The rate of laparoscopic procedures was 98% (ABG) and 73% (RYGBP). Mortality rate was 0.16% in the operative period and 0.27% during follow-up. EWL ranged from 43%(ABG) to 65% (RYGBP). Comorbidities improved in more than 70% of patients. For AGB statistical analysis showed that age (<40 years), initial BMI (<50 kg/m²), increase of physical activity, change of eating habits and volume of surgical activity (>15 bariatric procedures/2 months) are the factors significantly linked to EWL>50%.

Conclusions Outcomes of bariatric surgery in routine practice are similar to the results published in clinical trials. The best profile for a success after AGB is a patient <40 years, with an initial BMI<50 kg/m², willing to change his eating habits and to recover his physical activity and operated by a team usually performing >2 bariatric procedures per week. This study emphasizes that obesity surgery requires surgical experience and multidisciplinary approach.

O2 Vertical Banding Gastroplasty: Management of Failure

V. Frering, E. Fontaumarid

Espace medico chirurgical de la Sauvegarde, France

Background Vertical banding Gastroplasty is very common procedure in bariatric surgery. High percentage of failure requires defining technical option for redo.

Methods From 1997 to 2007, 680 patients were referred following VBG. Out of them, 352 had failure or complication. All patient had multidisciplinary assessment. Endoscopic dilatation was proposed in 27 patients with stenosis before band removal. In case of VBG failure, Barium swallow was done: according to the results Gastric By pass (GBP) was proposed in case of functional VBG, and laparoscopic adjustable gastric banding (AGB) was proposed for patents with initial good result and staple line or band disruption. **Results** Out of 325 patients with failure, Gastric by pass was proposed and achieved in 42, AGB proposed in 327 and achieved in 301. All failure during redo was related with postoperative adhesion. There were no postoperative complications after AGB. After GBP: 2 postoperative fistulas, and one occlusion, all reoperated.

Conclusions In case of VBG failure related with dismantling, AGB is safer, without VBG dislocation we proposed GBP.

O3 Laparoscopic Adjustable Gastric Banding (Lagb) Versus Open Vertical Banded Gastroplasty (Vbg): 7-year Results of a Prospective Randomized Trial

R. Schouten¹, D. Wiryasaputra¹, F.M. van Dielen², J.W.M. Greve¹

¹Academic Hospital Maastricht, Netherlands; ²Catharina Hospital Eindhoven, Netherlands

Background VBG and LAGB are treatment modalities for morbid obesity. Only few randomised clinical trials (RCT) have been performed to compare the results of these operations. This study describes the 7-year results of a RCT comparing VBG and LAGB.

Methods 100 patients were included in the study. 50 patients underwent VBG and 50 LAGB. Study parameters were long term complications, re-operations including conversions to other bariatric procedures, weight loss and changes in obesity-related comorbidities.

Results follow up was 91% with a mean of 84 months. Long term complications after VBG were mainly staple line disruption (49%) and incisional hernia (26%). After LAGB, main complications were pouch dilatation (23%) and anterior slippage (18%). Major re-operation after VBG consisted in 58% of patients of conversion to gastric bypass. In the LAGB group 45% underwent major re-operation: refixation or band replacement in 34% and conversion to another procedure in 11%.

Weight loss, expressed as % excess BMI loss, was significantly higher after VBG than after LAGB: 68.8% versus 56.9%, respectively. There were no significant differences in weight loss between patients who underwent a re-operation or conversion during follow up and those who had no re-interventions. Comorbidities all significantly decreased except for GERD which increased in both groups.

Conclusions after a mean follow up of 7 years, 58% of VBG patients underwent conversion to GB while 45% of LAGB patients needed major re-operation or conversion. Weight loss was higher after VBG. However, LAGB is considered a safer and more successful operation because of the lower incidence of primary complications and the need for conversions. Furthermore, the outcome of re-operations after LAGB was excellent.

O4 Gastric Band Erosion - Diagnosis and Management

L. Kow^{1,2}, N. Kitan^{1,2}, J. Toouli^{1,2}

¹Adelaide Bariatric Centre, Australia; ²Flinders University of South Australia, Australia

Background Laparoscopic adjustable gastric banding (LAGB) is the commonest bariatric procedure done in Australia and Europe. Gastric band erosion is considered a devastating late complication and leads to band removal.

Aims To evaluate the prevalence of band erosion, factors which may contribute to this complication and its management.

Methods All patients with LAGB in a prospective cohort study from August 1996 to August 2007 were reviewed. Patients with the complication of band erosion were identified and clinical presentations as well as band characteristics were correlated.

Results A total of 1000 morbidly obese patients underwent laparoscopic adjustable gastric banding. Band erosion occurred in 35 patients (3.5%). Median time from operation to diagnosis was 30 months (ranged 4–92 months). Eighteen patients (51%) were asymptomatic (weight gain, sudden loss of restriction). Symptomatic patients presented with abdominal discomfort (10), obstruction (4), reflux (2), recurrent port infection (3) and sepsis (1). Early erosion (<12 months) occurred in 5 patients and 4 (80%) had infection. Fourteen patients (46.7%) in the late erosion group (>12 months) had high volumes of fluid (median 9.3 mls; ranged 8.25–12 mls) and these patients had no infection. Eroded band was removed endoscopically (24), laparoscopic (2) and via open surgery (5). No major complication developed following removal of an eroded band.

Conclusions The prevalence of band erosion was 3.5%. High volumes of fluid and port infection were major factors contributing to this complication. Endoscopic removal of the eroded band was the preferred mode of treatment.

O5 Experience in the Endoscopic Extraction of Gastric Bands

L. Caro, C. Sanchez, C. Casalnuovo, P. Rodriguez, O. Brasesco, A. Grigaites, C. Cerisoli

Gedyt S.A., Argentina

Background One of the therapeutic methods for morbid obesity is the gastric band. Penetration into the gastric cavity (1–5%) can occur; which motivates its endoscopic extraction.

Objective To show our experience in endoscopic band extraction.

Methods We studied 16 patients; 15 women and 1 man from 24 to 66 years old. (43.18 average). All of them had gastric wall erosion, just below the cardias, due to the band; this allowed us to observe it endoscopically. Fifteen of the bands were extracted having had a previous cut with a steal string (bandtritor) or with scissors (Olympus scissors); one of them did not need a previous cut because it had completely migrated into the cavity.

Results 14 patients were treated with adjustable bands and two with fixed bands. The time from surgery to the extraction varied from 6 to 26 months. Surgery complications were seen in 14 patients (bleeding or port infections). We proceeded with the same technique in all the cases except for two of them. A patient who had the whole band in the gastric chamber, the catheter was pulled into the lumen of the stomach and after that it was taken through the mouth. The other one, who had a fixed band, was cut with Olympus scissors, and the band was taken out with a grasping forceps. We had two complications. In one patient we were not able to let the port free because it was fixed to the aponeurosis, so we had to perform the extraction in 2 sessions. In the other, gastric mucosa was injured and had a hard bleeding so we had to delay the extraction.

Conclusions We removed all gastric bands (both adjustable and fixed) in the 16 patients by endoscopy. We found no major complications.

We believe that endoscopic therapy for protruded bands is safe and effective, so it can avoid surgery for this complication.

O6 Gastric Band: The International Experience with the Heliogast® System

F. Bellini¹, P. Pizzi², M. Karayandros, G. Dumbrell, A. Msika, A. Brenna³

¹Gastrointestinal and Obesity surgery. Desenzano Hospital (BS); ²Policlinico, Monza; ³S. Anna, Como

Background Laparoscopic Adjustable gastric banding (LAGB) is the bariatric restrictive operation with the most increasing development in the world.

Our aim is to gather the experience of numerous international centres by the use of a unique database.

Methods We gathered the retrospective data from Australia, France, Greece, Ireland and Italy in a unique devoted database.

The outcomes of more than 6000 procedures are evaluated.

We analyse the results according to mortality, comorbidities, laparotomy conversions, intra and postoperative complications, body mass index (BMI) and % excess weight loss (EWL) at different times of follow up.

Results Till November 2007, 6360 patients underwent LAGB (Heliogast® System) in different countries. Initial mean BMI was 42.2 kg/m² with a mean excess weight of 46.7 kg

At 12 months, mean BMI was 34.4 with 47.6% of EWL.

At 5 years, mean BMI was 33.4 with 56% of EWL.

No intraoperative or postoperative deaths.

Long term major complications: slippage: 148 (2.32%), intragastric migration 12 (0.18%), trocar hernias 24 (0.37%), port disconnections 38 (0.59%), band removal 38 (0.60%), failure to lose weight 434 (6.82%).

Conclusions Different international centres seem to have a similar experience with the Heliogast® gastric band. A preliminary analysis shows a significant efficacy in weight loss with a low rate of complications (less than 1% band removal). Future results should be communicated with the continuous follow up of this patient's group.

O7 Breakthrough in Treatment with Adjustable Gastric Banding, or Just Another Technical Innovation

M. Fried^{1,2}, L. Wolfgang³, K. Dolezalova⁴, M. Gadenstatter³

¹Center for Minimally Invasive and Bariatric Surgery, ISCARE, Prague, Czech Republic; ²1st Medical Faculty, Charles University, Prague, Czech Republic; ³Hospital Krems, Austria; ⁴Center for Minimally Invasive and Bariatric Surgery, ISCARE, Prague, Czech Republic

Weight loss after LAGB depends, among other factors, on gastric restriction. Adjustments based on fluid volume provide only a very crude estimate of restriction, as other important factors, i.e. amount of tissue encircled inside the band. Prospective, blinded study to determine if pressure based adjustments can create more precise restriction (improve weight loss and change WL patterns) than the volume related. 79 consecutive patients (SAGB implanted in 2004–2005) were included and divided into two groups according to % EWL GrA(54pts) >40%EWL and GrB(25pts)<40%EWL. In both groups band intra-luminal pressure was measured and recorded in rest and during deglutition of defined amount of water. GrA underwent no additional adjustments. GrB was adjusted to 20/30 mmHg. BMI and %EWL changes and AEs recorded in 12 wks.

Results (mean): pre-op BMI significantly higher in GrA (43.5) vs GrB (41.0) no statistical difference in band filling volumes 3.5 ml (GrA) vs 2.0 ml (GrB) intra-band pressures were different 5.5 mmHg(GrA) vs 1.0 mmHg(GrB), but not reaching statistical difference.

In 12 weeks: statistically significant difference in BMI –0.2 (GrA) vs –1.6 (GrB) and in %EWL 1.1% (GrA) vs 9.0% (GrB) occurred. Significant change in WL curve patterns between the two groups. No AE reported.

Conclusions Pressure re-adjustments resulted in significantly improved WL in previously unsuccessful patients (%EWL<40).

This may suggest that those patients were under-adjusted, which was not detectable through volume assessment.

O8 Is Method of Band Fill (Radiological or Clinical) After Gastric Banding Significant? An Analysis of Outcome After 3 Years of Follow-up

P. Cherian, V. Tentzeris, S. Verykiou, A. Sigurdsson

Shropshire UGI Unit, UK

Aim Following laparoscopic adjustable gastric banding (GB), patients undergo follow-up (FU) protocol to optimise weight loss, with band volume adjustment either under radiological or clinical guidance. We have previously shown clinical band fill led to greater weight loss in the short term. We now analyse whether that advantage was sustained.

Methods We retrospectively reviewed our obesity surgery database to find all GB patients and grouped them based on method of follow-up without weight exclusions. The medical records and prospectively collected out-patient data of the first 70 consecutive patients from each cohort were retrospectively analyzed for 3 years.

Results From 2002 to 2007 there were 865 LAGBs performed in our unit. We identified 70 patients from 2004 from each cohort as described. After review and exclusions we were left with 50 patients in the radiology group (RG) and 49 in the clinical group (CG) [median BMI 43.8 and 47.1 respectively; Median age 43 years in both]. FU was conducted at regular predetermined intervals to 3 years. The median percentage of excessive weight loss was 22 and 36 at 6 months; 28 and 43; 27 and 47; 33 and 46 at 1, 2 and 3 years and median percentage of excessive BMI loss was 22 and 35 at 6 months; 28 and 40; 28 and 46; 34 and 46 at 1, 2 and 3 years in the RG and CG respectively. There was no difference in difficulties to band-fill in either group as per clinical records. **Conclusions** Our study suggests that even at long term follow-up at least in terms of weight loss, clinical fill is superior to radiological FU with the added benefit of avoiding unnecessary radiation albeit that with further FU the difference between the two methods get smaller. This topic merits a future randomised control trial to make recommendations without biases inherent to retrospective analysis.

09 The Role of Fluoroscopy in the Postoperative Management of Patients with Adjustable Gastric Banding

J.A. Lopez-Corvala, C. Calleja-Enriquez, C. Hermosillo-Valdez, R. Merino-Arellano, F.J. Haro-Valdez

Hospital Angeles Tijuana, Mexico

Background Adjustable gastric banding has shown to be a safe and effective procedure in the surgical treatment of morbid obesity in which the adjustability is the key to success. To date, there is no standardized adjustment technique. In this study, we will report our experience with the use of fluoroscopy for band adjustments and for early detection of late complications.

Methods We selected a group of 1000 patients who underwent laparoscopic adjustable gastric banding from September 1997 to July 2002 with a mean follow-up of 36 months. A retrospective study was performed with the patients that had their band adjustments under fluoroscopy according to the following indicators: loss of restriction, hunger between meals, and weight loss interruption. We analyzed the integrity of the system, the position of the band and the complication rate of the band system and the access port.

Results 3421 band adjustments were performed in a total of 1000 patients with a controlled calibration of the stoma size. We found gastric prolapse in 15 patients (1.5%) in which 14 were anterior and 1 posterior; erosion was detected in 51 (5.1%) patients in which 17 (33%) were asymptomatic. There were no damaged ports during the procedures.

Conclusions Fluoroscopy offers a precise method for gastric band adjustments minimizing the risk of damaging the port. It is also useful in the diagnosis of the main complications of adjustable gastric banding even in asymptomatic patients.

010 Dor Fundoplication in Patients Undergoing Laparoscopic Adjustable Gastric Banding (Lagb) with Hiatal Hernia: Description of the Surgical Technique

J.A. Lopez-Corvala, F. Guzman-Cordero, M. Covarrubias-Hidalgo, R. Merino-Arellano, F.J. Haro-Valdez

Obesity Control Clinic, Hospital Angeles Tijuana, Mexico

Background Up to 15% of patients undergoing LAGB have Gastroesophageal Reflux Disease (GERD). Hiatal hernia and esophagitis are directly related to the BMI. Some authors suggest different techniques of hiatoplasty; however, no concluding results are reported. In this study, we propose Dor Fundoplication technique during LAGB.

Methods We performed the same surgical technique in all of the selected patients with operative finding of hiatal hernia (defect >3 cm): complete dissection of the esophageal hiatus, mediastinal mobilization to bring the GE junction at least 3 cm below the hiatus, hiatoplasty, gastric banding over the GE junction, and finally, Dor Fundoplication. We assessed operative time, bleeding, perioperative complications related to Dor Fundoplication (VIDEO), as well as correct positioning of the gastric band in the postoperative upper GI study.

Results Mean operative time was 42.8 minutes, mean bleeding was 21.4 ml. We had 1 hepatic 50 ml bleeding from an accidental puncture while suturing. No alterations in the band positioning were detected in the upper GI.

Conclusions Dor Fundoplication is a safe technique for patients with hiatal hernia who undergo LAGB, with minimal increase in operative time. It does not interfere with the correct band positioning. It represents a good alternative in the management of obesity and hiatal hernia.

011 Outpatient Laparoscopic Adjustable Gastric Banding

C. Gonzalez de Cosio¹, A. Liceaga Fuentes, F. Campos Perez, J. Lardizabal Mercado, V. Whizar Lugo²

¹Clinica Visso, Mexico; ²Cosmed Clinic, Mexico

Background Laparoscopic Adjustable Gastric Banding (LAGB) is a safe and effective treatment for morbid obesity, it's actual simplified surgical technique is suitable for outpatient surgery.

Methods Databases of patients who underwent LAGB placement in the last three years (March 2005 to March 2008) were reviewed and included. Outpatient surgery in this group is defined as an hospital stay <12 hours and no overnight stay.

Results 82 patients underwent an outpatient LAGB. 2 patients (2.43%) were excluded because 1 patient was converted to open due to an hepatic lesion and stayed 48 hours and 1 patient presented a severe asthma attack that required a 3 day hospital stay. There was no mortality in this group. Of the 80 patients, 62 are females (77.5%) and 18 males (22.5), the mean age was 39 years (range 16–67) and the mean weight was 110 Kilograms (range 79–180 Kgs) with a mean BMI of 46.2 Kg/m² (range 36–57 Kg/m²). Our mean intraoperative time was 38 min (range 25–112 min) and the mean stay at the hospital was 6.5 hours (range 5–8 hours). There was no complications or hospital returns. All the patients received oral analgesics por 1–3 days postoperatively and where contacted by phone on day 1 and 2 after surgery. **Conclusions** Adjustable laparoscopic gastric banding is an ideal outpatient procedure, for its short operative and anesthetic time, minimally invasive procedure, and quick recovery. Special considerations should be taken in the obese population and its comorbidities, before deciding in an outpatient setting.

012 Laparoscopic Gastric Banding in Different Age Groups

S. Ahmad¹, S. Ahmad², N. Younis³

¹Gastriccenter, Obesity Center Stuttgart, Jordan Obesity Center Amman; ²Gastriccenter Stuttgart; ³Jordan Obesity Center Amman

Background Laparoscopic gastric banding (LAGB) procedure is increasing worldwide in all aging groups.as the incidence of morbid obesity is increasing in all ages. We observed weightloss pattern, complications, pre- and post operative comorbidity in patients who under went LAGB.

Methods Between 2001–2008. we have performed 980 LAGB-operations. We collected our data prospectively. We divided the patients regarding the age into three groups Adolescents aging 13–18 years(group A), adults aging 19–49 ys (gr. B) and adults aging >50 years (gr.C). Recorded data preoperatively included age, sex, comorbidity, body mass index (BMI. Postoperatively recorded data included, intra and post operative morbidity and mortality, percentage of excess weight loss (%EWL),at 3,6 and 12-months and then annually postoperatively.

Results 80 adolescents (8%) aged 13 to 18 years, 800 adults (82%) 19–49 years and 100 adult s (10,2%) aged 50–65 years.who have underwent LAGB female/male, 75,% /25% in group A,67%/33% in group B,and 72%/28% in group C. Preoperative BMI was 45, 43, and 47 kg/m. respectively. Percentage of excess weight loss. postoperatively was significantly lower after the first 6 months in group A and C compared to group B, however no difference between group A and C. Postop. slippage rate and reoperation, anaemia was significantly higher in Group A and C than B and no significant difference between A and C. 0% mortality. All comorbidities recorded improved or resolved in similar rate without any significant difference.

Conclusions Laparoscopic adjustable gastric banding seems to be an effective treatment for morbid obesity regardless of the age of the patients. Late postoperative complications are higher in the adolescent and older age group. This could be explained with decreased compliance in these two groups of patients.

O13 Adjustable Gastric Band in Adolescent Patients. Long-term Evolution and Results

G. Trojahn, B. Zilberstein, A.C.Gd. Brito, E. Alves, A. Aita, F. Ramos, F. Matheus, D.C. da Rocha

Gastromed - Zilberstein Institute - São Paulo, Brazil

Objective To study the therapeutic response of adolescents submitted to surgical treatment with Adjustable Gastric Band (AGB) for morbid obesity.

Methods Among 424 patients with AGB, 9 patients had up to 18 years uncompleted, classified as adolescents. Four were men and five were women, with mean age of 16 years (12–17) and average BMI of 48 (41.91–53.65).

Results There were no surgical complications or death. The average length of hospitalization was 16 hs. The average time of follow-up was 28 months (18–37). There was band erosion and migration in 2 cases, after a mean time of 19 months after surgery. Two patients had intolerance and no adaptation to the band, and withdrawal of the AGB was necessary in these cases. One patient did not return to be followed-up after the surgery. There was, in average, a BMI reduction of 26.7% (12.82), weight loss of 40.16 kilograms and loss of excess weight of 57.9% in 18 months. There was no significant weight loss in 5 patients (55,5%).

Conclusions While it is a safe method with practically no complications, Adjustable Gastric Band gives satisfactory results in only 44.5% of cases in adolescents. Therefore, it should be indicated with rigorous patient selection.

O14 Laparoscopic Adjustable Gastric Banding: Who are the Best Candidates?

M. Berry, P. Lamoza, L. Urrutia, H. Coñoman, A. Cuevas, I. Errandonea, V. Alvarez, A. Molina, D. Ghiardo, S. Reyes

Center for Nutrition and Obesity Surgery, Clinica Las Condes, Santiago, Chile

Background Laparoscopic Adjustable Gastric Banding (LAGB) showed controversial results compared with other surgical techniques.

Objectives To analyze the preoperative characteristics of patients that influences the success or failure of this technique.

Methods We analyzed gender, age, preoperative BMI and excess weight loss (EWL%) and reduction at 24 months of 412 patients undergoing LAGB via pars flaccida and adjustments from the 1st months after surgery. We defined success (S) if EWL% 50, failure (F) if it is <50%.

Results The relationship gender is 1:3 (M:F), average age 35.9 years (12–68) and mean preoperative BMI 36.6 (30–67), EWL 62.1±3.59%. Follow-Up at 24 months: N=255, S patients=168(68%). The mean preop BMI: 35.4±4.3, mean age was 35.4 yo. The F group N=117 (46%). Mean Preop BMI 38.2±5.5. Mean age was 35.3 yo. Mortality 0% and morbidity: erosions (0%), slippage 6% in both groups. Between Successful and Failure patients there is significant difference in Preop BMI (p<0.0001). There are no statistic differences by sex or age.

Discussion In our series with at least 24 month follow-up, Patients with lower preoperative BMI near 35 are more successful than patients with BMI over 38. There are no differences in success by sex or age. Best candidates for LAGB are patients with BMI near 35.

O15 Pars Flaccida to Perigastric “Two Step Technique”. Not a Return to the Past but an Evolution. The Italian Experience with the Heliogast® Band in 3104 Patients

F. Bellini, P. Pizzi², S. Vita³, A. Brenna⁴, E. Lattuada⁵

¹Gastrointestinal and obesity Surgery. Desenzano Hospital (BS), Italy; ²Policlinico. Monza Hospital, Italy; ³Fatebenefratelli -Roma, Italy; ⁴S. Anna -Como; ⁵Policlinico. Milano, Italy

Background Bariatric surgery is growing worldwide and LAGB is the bariatric restrictive operation with the faster increasing development in the world.

Our aim is to evaluate the advantages of the “pars flaccida to perigastric” two-step technique that most of the Heliogast® Band applicator are using.

Methods Is a retrospective multicentric and non comparative study with a 60 months follow up. The outcomes of 3104 procedures are evaluated.

We analyse the results according to mortality, comorbidities, laparotomic conversions, intra and postoperative complications, body mass index (BMI) and % EWL at different times of follow up.

Results From January 2001 to March 2008, 3104 patients (2457 female, 647 male) underwent LAGB (Heliogast® System).

Initial mean BMI was 43.9 for male, 41.9 for female.

At 2 years was 32 for male, 30.2 for female with 55% of EWL.

At 5 years was 30.6 for male, 30.1 for female with 59% of EWL.

No intraoperative or postoperative deaths.

Conversion rate: 2(0.068%).

Trocar site bleeding: 2 (0.068%) treated with laparoscopic revision, the other conservatively.

Long term major complications: slippage: 79(2.74%), intragastric migration 9 (0,28%), trocar hernias 18 (0,57%), port disconnections 21 (0.67%), failure to lose weight (<25%EWL) 102 (3,2%), band removal for psychological intolerance 20 (0.69%).

Conclusions Pars flaccida to perigastric two-step technique is safe and successful in producing weight loss. At the same time with the two-step approach we have a tight posterior band support, we avoid intimate posterior gastric wall dissection and therefore the posterior slippage.

O16 Adjustable Gastric Band with Anti-Erosive Mechanism. Long-term Results

F. Matheus, B. Zilberstein, A.C.Gd. Brito, E. Alves, F.P. Gallucci, D.C. Rocha H.D.G. Joaquim

Gastromed - Zilberstein Institute, São Paulo, Brazil

Background In order to reduce the most serious complications related to Adjustable Gastric Band (AGB), as erosion and sliding, it was developed an AGB with a polyurethane protective mechanism at the AGB contact face with the gastric wall.

Objective The objective of this study is to analyze the late complications of the use of the AGB with protective mechanism, comparing with the conventional AGB.

Results 424 patients with mean follow-up time of 47 months were prospectively analyzed. The mean initial weight was 118.39 kg (73–175 kg) and average BMI (Kg/m²) of 40.76.

In 92 patients it was used the AGB with protective mechanism. In these patients, the mean loss of excess weight was 60% and two patients had infection of the incision at the valve level; in 332 patients it was used the conventional AGB. The mean loss of excess weight was 62%, 18 patients (5.4%) showed band erosion and 2 patients had band migration.

Conclusions The Silimed Band with polyurethane protection is a good option of device, allowing to reach significant reduction of excess weight and BMI like others AGBs, without showing erosion or migration so far.

O17 Comparison of Food Ingestion Disorders with Three Devices for Obesity Treatment

L. Kow¹, J. Toouli¹, J.W. Freston², K.S. Tweden³, R.R. Wilson⁴, F.G. Moody⁵

¹Flinders University; ²University of Connecticut; ³EnteroMedics Inc; ⁴Health Research, LLC; ⁵University of Texas Health Science Center

Background A novel approach that uses intermittent, high frequency vagal blocking electrical pulses and avoids constriction of the stomach is in clinical trials. Currently available gastric bands constrict the upper stomach and may be associated with food ingestion disorders. Accordingly, after band placement and after each adjustment, product labeling recommends that patients first ingest liquids, then soft foods and then wider choices.

Methods Adverse event (AE) information was obtained from the USA clinical trial data in FDA-approved labeling for Lap-Band® Gastric Band (n=299) and for Realize™ Gastric Band (n=276); and, data on file in a multi-center clinical trial (n=82) of a vagal blocking device (Maestro™ System, EnteroMedics Inc., St. Paul, USA). AEs possibly related to food ingestion disorders were included. Data were analyzed by chi-square test.

Results Table 1 compares AEs potentially related to food ingestion for each device: dysphagia, esophageal dilatation, nausea and/or vomiting and stoma obstruction. Dysphagia, as well as Nausea and/or vomiting, occurred more often with the gastric bands. Finally, esophageal dilatation and stoma obstruction were reported with both gastric bands but not with the vagal blocking device.

Conclusions The Maestro System has been associated with lower incidences of dysphagia, esophageal dilatation, nausea and/or vomiting and stoma obstruction as compared to gastric bands. In selecting an implantable medical

device to treat obesity, patients and their physicians may wish to consider AEs potentially related to food swallowing in the decision-making process.

Table 1 Adverse events potentially related to food ingestion disorders

Adverse event	Lap-band® gastric band[1]	Realize™ gastric band[2]	Maestro™ system[3]
	% (# with AE/total subjects)	% (# with AE/total subjects)	% (# with AE/total subjects)
Dysphagia	8.7% (26/299 subjects)	9.4% (26/276 subjects)	3.7% (3/82 subjects)
Esophageal dilatation	2.0% (6/299 subjects)	NA	0.0% (0/82 subjects)
Esophageal dilatation/ dysmotility	NA	3.7% (10/276 subjects)	0.0% (0/82 subjects)
Nausea and/or vomiting	50.8% (152/299 subjects)	NA	17.1% (14/82 subjects)
Nausea	NA	31.9% (88/276 subjects)	NA
Vomiting	NA	44.9% (124/276 subjects)	NA
Stoma obstruction	13.7% (41/299 subjects)	4.3% (12/276 subjects)	0.0% (0/82 subjects)

*NA=not applicable

[1] LAP-BAND® AP™ System Adjustable Gastric Banding System with OMNIFORM™ Design, Allergan, 2008.

[2] Realize™ Adjustable Gastric Band, Ethicon Endosurgery, Inc., 2008.

[3] Data on file, EnteroMedics Inc., St. Paul, USA

018 Laparoscopic Adjustable Gastric Banding Using the Mid Band – 4 Year Results

S. Norton, A. Johnson, S. Bates, L. Sawyer, K. Lord, J. Morgan

Southmead Hospital, Bristol, UK

Aims Laparoscopic adjustable gastric banding (LAGB) is an effective technique for the surgical treatment of morbid obesity but there remains concern regarding long term weight loss and complication rate. However, newer bands seem to have reduced complication rates. We present our 4 year experience with the use of the MIDband.

Methods Between March 2004 and March 2008, 329 patients who fulfilled the NICE criteria have undergone LAGB in a single centre using the MIDband (Medical Innovation Developpement, Limonest, France). Close post-operative follow-up has been achieved in 99% of patients. Complication rate and weight loss have been prospectively recorded.

Results The age of patients ranged from 17–69 years (median 42) with a BMI between 35–78 (median 46). All patients underwent LAGB using a standardised technique with a median hospital stay of 1 day (range 1–10 days). 6 patients (1.8%) had post-operative dysphagia, 5 patients had minor wound infections and 2 required re-operation for early slippage. Late complications comprised 7 band removals for dilation or slippage (2.1%) and 3 bands and 4 ports were replaced. In total, re-operation was required in 4.3% of our patients. There was no mortality.

Mean excess weight loss was 28%, 50%, 72% and 77% at 6, 12, 24 and 36 months respectively. Weight loss is maintained at 4 years in the small number of patients who have reached this milestone.

Conclusions Gastric banding using the MIDband can produce excellent excess weight loss which is well maintained beyond 3 years post surgery. It has a low complication and re-operation rate and should be considered as the first-line surgical procedure in the majority of patients with morbid obesity.

019 The Adjustable Midband Gastric Surgery to Correct the Vertical Suture Dehiscence in Mason's Gastroplasty

C. Vassallo, G. Berbiglia, A. Della Valle, L. Negri

Surgery II, "Città di Pavia" Clinic, Pavia, Italy

Background The Vertical Gastric Band (V.G.B.) gastroplasty was in the Eighties the most frequently adopted kind of surgery for the treatment of obesity, all over the world and particularly in the U.S.A., in both its forms: Mason's vertical suture and Mac Lean's section-suture. The simple suture form is burdened, even after years, with a percentage of dehiscences going, according to the authors, from 10 to 25 per cent, with possible increase in weight.

Methods Since 1992 until 2001 we have been performing the Mason's V.G.B., during the first five years with a 9 cm long gastric pouch, then reduced to a 6 cm one during the following 5 years, trying to lower the percentage of vertical suture dehiscences, so going from 15% to 8% in the first 5 years after surgery. Of the 72 patients with dehiscence, 14 could stabilize their weight by means of a diet, while 16 underwent surgery again, with open Mac Lean's section-suture technique, and the other 42 had an adjustable gastric mid-band, positioned in videolaparoscopy after removing the gore-tex band.

Results The 42 patients who underwent an adjustable band re-do behave, both from the point of view of weight loss and of diet compliance, as if they had surgery for the first time.

Conclusions The correction of the vertical suture dehiscence in Mason's gastroplasty can be easily performed by means of an adjustable gastric band, positioned in videolaparoscopy.

020 Band Misplacement : an Uncommon Cause of Gastric Banding Failure

M. Blanchet¹, V. Frering², C. Guillaud¹

¹Hopital Croix Rousse, France; ²Espace Medico Chirurgical de la Sauvegarde, France

Background Gastric banding is a very popular procedure in bariatric surgery in Europe. Although complications related to this procedure are currently well known, misplacement of the band is rarely reported in literature.

Methods During the past ten years, more than 7000 patients had gastric banding by our 2 bariatric units. Complications were prospectively collected and assessed. We retrospectively looked for band misplacement in our databases.

Results Band misplacement was demonstrated in 5 patients: the band had not enclosed the stomach but only the perigastric fat. In one patient the gastric banding had been performed elsewhere but the 4 others had been operated on in our 2 high volume centers where bands are placed using the pars flacida route. All patients had central morbid obesity including a large amount of visceral fat. During the follow up, in spite of band inflation, neither restriction nor weight loss were observed. One patient experienced an additional dysphagia due to a compression related to the inflated misplaced band. Barium-enhanced upper gastrointestinal frontal radiograph looks correct in 4 of those 5 patients and misplaced band was diagnosed only on barium swallow including lateral view. For the last patient, confirmation of the misplacement was obtained at the time of surgery. Reoperation included: band replacement in 3 patients, VBG in 1 and GBP in 1.

Conclusions misplacement of the band can occur in patients with visceral adiposity, even in high volume centers. It must be suspected in patients without weight loss. Contrast swallow including lateral radiographs is the only way to diagnose this rare complication.

021 Laparoscopic Roux-en-Y Gastric Bypass (LRYGB): 1500 Cases and 5 Year Follow-Up

C. Boza, J. Salinas, A. Escalona, G. Pérez, A. Raddatz, F. Pimentel, S. Guzmán, F. Crovari, D. Turiel, S. Rayo, L. Ibañez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background To describe surgical results in 1500 consecutive LRYGB.

Methods A review of our prospective electronic database from July 2001 to August 2007. We assessed early and late complications, resolution of comorbidities and excess weight loss (EWL) over a period of 5 years.

Results LRYGB was performed in 1500 patients (75% female). Preoperative age was 37.2±11.0 years, preoperative weight and BMI was 109.8±18.8 kg (67.7–235.9) and 40.5±5.2 kg/m² (30.2–70.6), respectively. Common comorbidities were arterial hypertension (HTN) 30.6%; type 2 diabetes (DM2) 8.8%, insulin resistance (IR) 45.4%, dyslipidemia (DLP) 54.3% and obstructive sleep apnea 5.3%. Open conversion was required in 1.3%. Operative time

was 110.7 ± 42.5 minutes (40–400). Hospital length of stay was 3.6 ± 6.3 days (1–136). No mortality was reported. Reoperation was required in 26 patients, mainly due to intestinal obstruction 1.7%. We follow up 1195 patients (79.6%) with a mean of 19.6 ± 20.0 months (1–72). Follow-up at 1 year post-surgery was 65.7%, and at 5 years was 73.6%. Percent of EWL at 1 year was $88.3 \pm 20.6\%$, and at 5 years $92.2 \pm 26.1\%$. Percent of resolution or improvement of comorbidities at 1 and 5 years was 94.3% and 90% for HTN, 95.8% and 100% for DM2, 98.3% and 100% for IR, 99.1% and 100% for DLP, respectively. Early were 6.5%, mainly due to gastrojejunal stenosis (1.7%). Late complications were 8.6% mainly due to gastrojejunal stenosis 4.6% and intestinal obstruction 2.8%. Late complications were 12.3% during the first 750 cases and fell down to 5.1% during the last 750 cases. The number of surgeons performing LRYGB was 2 in 2001 and currently is 9.

Conclusions LRYGB proved to be an effective procedure to control obesity after 5 years of follow up with low complication rates.

O22 4000 Case Series of Simplified Lap Gastric Bypass. Outcomes and Complications

M. Galvao, A. Ramos, M. Galvao, A. Carlo, E. Canseco, A. Murakami, Y. Moyses

Gastro Obeso Center, Brazil

Background With the Simplified Lap Gastric Bypass (SGB) approach a 4000 case mark was achieved and a retrospective survey applied on outcomes and complications.

Methods From December of 2001 to March of 2008, 4007 SGB patients records were analyzed in a retrospective manner, 1885 of them were vertical banded gastroplasty and 2122 were non-banded gastroplasty; 2,885 were female, age range from 13 a 68 y (M=39,4 y), weight range from 85 a 265 Kg (M=134 Kg) and BMI were between 35,4 a 71 Kg/m² (M=44,3 Kg/m²). The Simplified technique (to be presented) is based in doing all of the anastomosis in the supra-mesocolic floor with the trocars in similar position of lap Nissen procedure.

Results There was no conversion to laparotomy at this series. BMI came from a mean of 45,8 to 27,6 Kg/m² (75,1% EWL) on 2 y follow-up. Operative time stays between 39 to 154 min (M=78 min), Hospital stay within 1,5 to 6 d (M=3 d). Complications occurred in 1,2% of ulcers, 4,6% of gastrojejunostomy strictures, 0,9% of leakage (0,5% of fistulas and 0,4% of leaks), 0,5% of digestive bleeding, 0,3% of food impaction and 0,3% bowel obstruction. Revisional surgery was done in 0,85% due to complications and 2,7% due to non satisfactory weight loss. There were 0,17% (7p) of deaths (3p with pulmonary embolism. e 3p with sepsis due to gastrojejunostomy leakage and 1 for Myocardial Infarctn). There were also 0,8% of silastic ring migration and ring dislodgment on vertical banded gastroplasty patients.

Conclusions The Simplified Gastric Bypass at a mid-term follow-up is safe, effective and with low complication and mortality rates.

O23 Primary Results of Laparoscopic Mini-Gastric Bypass in a French Obesity Surgery Specialized University Hospital

J.M. Chevallier, G. Chakhtoura, F. Zinzindohoué, Y. Ghanem, I. Ruseykin J.M. Ferraz

Hôpital Européen Georges Pompidou, France

Background Since May 2002 we have performed 350 Laparoscopic Roux-en-Y Gastric Bypasses (LRYGB). Since October 2006, we decided to evaluate the efficiency of the Laparoscopic Mini-Gastric Bypass (LMGB), an operation reported as effective, yet simpler than LRYGB. The operation consisted of a long lesser curvature tube with a terminolateral gastroenterostomy, 200 cm distal to the Treitz ligament.

Methods From October 2006 to November 2007, 105 patients (25 males and 80 females) underwent LMGB. Mean age was 40,9 years (17,5–62,4), preoperative mean weight 131,2 kg (85–203) and mean BMI 47,4 Kg/m² (35,9–72,7). 25 patients (23,8%) had previous restrictive procedures: 4 Vertical Banded Gastroplasty and 21 Gastric Banding. Preoperative gastric endoscopy was done with Helicobacter Pylorii present in 26 patients and eradicated.

Results All procedures were completed laparoscopically by six different surgeons. Mean operative time was 154,8 min. There was no mortality. 6 patients (5,7%) presented major early complications: 3 re-operations for incarcerated herniation of small bowel in the trocar wound, 1 re-operation for perianastomotic abscess, 1 re-operation for intra-abdominal bleeding requir-

ing splenectomy and 1 endoscopic haemostasis for anastomotic bleeding. One patient presented anastomotic stenosis that required endoscopic dilatation 2 months post-operatively. Mean BMI at 3 months was 39,0 kg/m² (31,2–60,9) and at 6 months was 35,8 (27,9–53,0). Regarding gastrointestinal symptoms, 8 patients (7,6%) complained of diarrhea that resolved 3 months post-operatively and, significantly, no patient complained of biliary reflux.

Conclusions Pending long-term evaluation, LMBG seems a good alternative to LRYGB, giving the same results with a more simple and reproducible technique.

O24 Intermediate Term Weight Loss Outcome and Success Rate After Banded Gastric Bypass

M. Fobi, C. Che

Tri-City Regional Medical Center, Hawaiian Gardens, CA, USA

Background Determine the weight loss outcome in a significant cohort of patients with five years follow up after a banded gastric bypass

Background Reports in bariatric surgery in the USA with a significant (>100) number of patients followed for five years or more are few. We wanted to determine the weight loss and success rate in a large cohort of patients after silastic ring banded gastric bypass (BGBP) with five years of follow up.

Methods The records of all patients who had surgery through the Center for surgical treatment of obesity (CSTO) in 2000 were reviewed. The BGBP is the operation used at the CSTO. All patients with a few exceptions are selected for surgery using the NIH guidelines. All patients are evaluated by a multiple disciplinary team. Data is kept prospectively on all patients and also reported to the International Bariatric registry in Iowa. Only patients who had a primary operation and who were followed for five years were included in the report.

Results Four hundred and sixty six patients had the SRVGBP through the CSTO in 2000. All the operations were done with an open approach. 344 (73%) of the patients have been followed for five years. Preoperatively the average age was 46.31 years, average BMI was 53.46 and the average patient was 221.51% of their ideal weight. At five years of follow up the average percentage weight loss was 37.9%, the average percentage excess weight loss was 70.13%, the average BMI was 31.25. Sixteen (4.65%) of the 344 patients had less than 50% weight loss.

Conclusions The banded (silastic ring) gastric bypass operation results in an average of 70% excess weight loss at five years of follow up and the success rate (>50% excess weight loss) at five years is greater than 95%.

O25 Laparoscopic Revision Gastric Bypass Surgery for Chronic Marginal Ulcers: A 10-Year Experience

F. Tercero, A. Khan, A. Nimeri, K. Boone, K. Higa

UCSF-Fresno Medical Education Program

Background The etiology of marginal ulcers (MU) after Roux-en-Y gastric bypass (RYGB) is multifactorial, however most MU respond to conservative therapy. Prolonged exposure of known ulcerogenic factors and technical issues have been associated to chronic MU. We present our experience with the laparoscopic approach for intractable marginal ulcers after 6,500 primary RYGB.

Methods Analysis of 38 revisions performed from 1998 to 2008 for intractable marginal ulcers. Patients were analyzed based on risk factors and revisional strategy employed: revision of gastrojejunostomy "GJ" (7), revision gastroplasty "RG" (22), gastrogastic fistula "GGF" take-down (13) and reversal "RV" (4).

Results 38 laparoscopic revisions were performed. There were no open conversions. Mean age was 45.4 years (range 22–67). 83.3% were women. Interval time between surgeries was 4.5 years (range 0.3–18). Technical issues (91.6%) included: large pouch(20), GGF(13) and local ischemia(4); Patient-related factors (33.3%) were: tobacco(9), NSAID's(1) and drug dependency(1). Mean hospital stay was 2.9 days. 19 patients (52.8%) had direct complications. Seven had major complications: leak(4), esophagopleural fistula(1), bile peritonitis(1), and pneumonia(1). Other complications: wound hematoma(2), wound infection(1), stenosis at the GJ(5) and five recurrent MU (NSAID's or tobacco). Two (5.5%) patients had RV as a second revision. Mean follow-up was 2.3 years (range 0.2–8). Follow-up was completed in 91.7%. Weight loss was 102.0%EBL.

Conclusions Laparoscopic revision gastroplasty for intractable marginal ulcers is feasible and effective albeit is associated with significant morbidity. Early identification of technical factors might decrease the complexity of the revision surgery. Noncompliant, drug dependent patients are better served by reversal.

026 Laparoscopic Revision Gastric Bypass for Perforated Marginal Ulcers: A 10-Year Experience

F. Tercero, A. Khan, A. Nimeri, K. Boone, K. Higa

UCSF-Fresno Medical Education Program

Background A late complication after Roux-en-Y gastric bypass (RYGB) is marginal ulceration (MU). Similar to peptic ulcer disease, MU complications include perforation, penetration, obstruction, bleeding and intractability. We report our experience with the laparoscopic repair of perforated MU after 6,500 primary RYGB.

Methods Analysis of 30 primary revisions performed during 10 years. Revisional strategies employed were: Omental patch repair (28, including 6 modified repairs with a vicryl mesh) and revision of gastrojejunostomy "GJ"(2).

Results 30 laparoscopic revisions were attempted with a conversion rate of 6.6%. Mean age 43.1 years (range 24–63). 86.7% were women. Interval time between surgeries was 1.8 years (range 0.05–7.4). Technical factors included: gastro-gastric fistula "GGF"(4), large pouch(2), local ischemia(1). Patient-related factors included: NSAID's (15), tobacco (11), alcohol (3), history of ulcer (6), drug dependency(2) and critically-ill patient (2). Presentation included: dyspepsia (66.7%), pain (93.3%), nausea (53.3%), vomiting (23.3%) and food intolerance (10%). Mean hospital stay was 6.1 (range 4–11). Major complications included (10%): pneumonia (2) and pulmonary embolism (1). 30% of patients had recurrent MU: 55% had technical factors. Six (20%) patients had a second revision: omental patch (1), revision gastroplasty (2), GGF resection (2) and reversal (1). Follow-up was complete in 93.3%. Mean follow-up was 2.2 years (range 0.3–5.7).

Conclusions Laparoscopic repair of perforated MU after RYGB is feasible and effective but is associated with significant morbidity and high recurrence rate if technical factors are not addressed. Avoiding revision of the gastrojejunostomy with the combined omental patch and vicryl mesh repair for large perforations might decrease the complication rate.

027 Endoscopic Therapy for Actively Bleeding Marginal Ulcers. Our Experience After 6,500 Roux-en-Y Gastric Bypass Surgeries

F. Tercero, A. Khan, A. Nimeri, K. Boone, K. Higa

UCSF-Fresno Medical Education Program

Background The etiology of marginal ulcers (MU) after Roux-en-Y gastric bypass (RYGB) is variable. Most respond to medical therapy. We present our experience with endoscopic therapy for bleeding marginal ulcers after 6,500 primary RYGB.

Methods Analysis of 42 therapeutic endoscopies performed in 39 patients from 1999 to 2007 for actively bleeding marginal ulcers after RYGB surgery. Patients were analyzed based on demographics, risk factors, clinical presentation and intervention employed.

Results 42 therapeutic endoscopies were performed for control of actively bleeding MU. Three patients required a second endoscopy. Mean age was 46.7 years (range 24–63). 69.2% were women. Interval time between RYGB and therapeutic endoscopy was 1.7 years (range 0.05–7.0), but peaked at 2.5 months (range 0.05–0.8 years) and 3.7 years (range 1.0–7.0). Patient-related factors included: NSAID's (18), tobacco (5), alcohol (1), and steroids (1). Technical factors included: large pouch (2), gastro-gastric fistula (1), foreign body (1) and unknown (17). Nine (23.1%) patients presented with hemodynamic instability. Endoscopic findings consisted of active, pulsatile bleeding (6); oozing (7); nonbleeding visible vessel (7); adherent clot (6) and no signs of recent bleeding (15). Interventions included: injection therapy(2), thermal energy(6), combined therapy(17), observation(16), angiographic embolization(1) and laparoscopic repair of gastrojejunostomy (anterior blowout of anastomosis due to blind insertion of nasogastric tube). Mean hospital stay was 2.4 days. 25.6% of patients had recurrent MU: 80% due to technical issues, 50% with patient-related factors.

Conclusions Endoscopic therapy is highly effective for controlling actively bleeding marginal ulcers after RYGB, albeit with significant recurrence if definitive treatment is withheld.

028 Laparoscopic Gastric Bypass for Morbid Obesity: Which Type of Anastomosis? Our Experience

R. Allieti, P. Millo, R. Brachet Contul, G. Scozzari, F. Persico, M. Roveroni, S. Cornaglia

Department of General Surgery, Regional Hospital "Umberto Parini", Aosta, Italy

Background To show our experience in feasibility, indications and limits of different types of laparoscopic gastrojejunal anastomosis in LGBP.

Methods between October 2000 and September 2006 one surgeon performed 286 consecutive LRYGBP, 87 mechanical anastomosis according Gagner's procedure (A), 109 using Kockerling Forceps (Storz) (B) and 70 robotic anastomosis with Da Vinci System (C), 20 hand sewn (D).

Results mean operative time was 132 min. (80–420). The mean hospital stay was 8 days. Complications related to the anastomotic techniques were: 10 anastomotic bleedings (3.4%) that required transfusions: 4 in A, 6 in B and 0 in C and D; 22 marginal ulcers(7.6%): 2 in A, 11 in B, 7 in C, 2 in D; 9 strictures (3.1%): 1 in A, 7 in B, 1 in C, in D. 4 port site infections in A, 2 in B (1 case in Fobi procedure) and 0 in C and D; 2 early incisional hernia in A, 1 case in B and 0 in C and D. fistula (1.04%) in the entire series but 1 fistula was observed in A, 2 in C and 0 in B–D. Mortality rate was zero.

Conclusions the results show that all types of gastro-entero anastomosis are safe, feasible and reproducible; anastomosis with laparoscopic pursestring is useful to avoid damage in the oesophagus and robotic anastomosis is precise and less related complications, more sure is confirmed to be hand sewn anastomosis according Higa experience.

029 Gastric Bypass Changes Alcohol Metabolism

J. Morton, G. Woodard, K. Chong, J. Peraza, J. Downey

Stanford University, USA

Background Morbid Obesity is the leading public health epidemic of the industrialized world with bariatric surgery as the only effective and enduring treatment for this disease. Gastric Bypass is known to be very effective for weight loss and has been also shown to alter alcohol metabolism post-operatively when compared to control subjects. We hypothesized that gastric bypass patients will have altered alcohol metabolism when patients act as their own controls.

Methods 19 gastric bypass patients were recruited to participate in this case crossover trial. Each subject consumed 5 ounces of red wine and had their breath alcohol level measured every 5 minutes until the levels reached 0. Patients were tested preoperatively and post-operatively at 3 and 6 months. The outcomes recorded included initial peak breath alcohol level, time for breath alcohol levels to normalize, and patient symptoms.

Results On average, the gastric bypass patients' BMI declined from 49 preoperatively to 36 at 6 months. All patient results were matched and significant. Preoperatively, the average peak breath alcohol level rose from 0.03% preoperatively to 0.05% at 3 months and 0.07% at 6 months. The time for breath alcohol levels to normalize increased from 45 minutes preoperatively to 55 minutes at 3 months and 85 minutes at 6 months. In addition, patient symptoms of somnolence, numbness, and euphoria all intensified after surgery.

Conclusions In this novel case crossover trial, it is demonstrated that gastric bypass profoundly alters alcohol metabolism. With patients acting as their own controls, we demonstrated that peak breath alcohol levels, time for normalization of breath alcohol levels, and symptoms all increased after surgery. Alcohol use in the post-op gastric bypass patient should be approached with caution.

030 Primary Laparoscopic Gastric Bypass (LGBP) can be Performed Safely in Patients with BMI >60 kg/m²

D. Abeles, J. Kim, S. Shah, M. Tarnoff, S. Shikora

Tufts Medical Center

Background Several studies suggest patients with a BMI >60 kg/m² have a greater operative risk and therefore advocate a staged approach to bariatric surgery. However, this requires two separate operations and all associated

risks. At our institution, we do not perform staged bariatric surgeries for these patients; we execute a single stage LGBP. We analyzed our experience in this population after a single stage LGBP.

Methods 95 patients with a BMI >60 kg/m² were compared to 1311 patients with a BMI <60 kg/m² undergoing LGBP from December 2001 to May 2007. Data recorded included age, boy mass index (BMI), estimated blood loss (EBL), operating time, length of stay (LOS), and complications within the first thirty days after surgery. Analysis of the data was performed using an unpaired student's t-test with P < 0.05 as significant.

Results There were no statistically significant differences in age, EBL, or LOS in patients with BMI >60 kg/m² as compared to patients with BMI <60 kg/m². Most importantly, there were no significant differences in 30 day mortality or complications. The difference in operating time between the two groups was statistically significant but likely reflected the learning curve.

Conclusions In our experience, there were no differences in the incidence of complications or mortality for patients with a BMI >60 kg/m² undergoing LGBP as compared to those with a BMI <60 kg/m². Therefore, these high risk patients can safely undergo a single stage LGBP.

Table 1 Outcomes for patients BMI >60 kg/m² vs BMI <60 kg/m²

	BMI <60 kg/m ² (n=1311)	BMI >60 kg/m ² (n=95)	P value
Age (years)	42.6	42.8	0.90
EBL (cc)	68.5	69.5	0.88
OR Time (min)	111.0	118.7	0.02
LOS (days)	3.1	3.1	0.91
Overall complications	167 (12.7%)	13 (13.9%)	0.80
Deaths	3 (0.2%)	0 (0%)	0.08

O31 Laparoscopic Roux-en-Y Gastric Bypass in Patients with a Body Mass Index (BMI) Above 50 kg/m²: Review of 114 Superobese Patients

C. Boza, J. Salinas, G. Pérez, A. Escalona, S. Guzmán, L. Ibáñez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background To describe surgical results in superobese patients who underwent laparoscopic Roux-en-Y gastric bypass (LRYGB).

Methods We review our prospective electronic database for all patients with a BMI 50 kg/m² undergoing LRYGB from May, 2002 to January, 2008.

Results LRYGB was performed in 114 patients (64% female). Preoperative age 38.0 ± 10.3 years. Preoperative weight and BMI was 146.1 ± 20.5 kg (104–236) and 53.9 ± 3.9 kg/m² (50–70.8), respectively. Comorbidities were present in 88 (77.2%) patients, the most common were: insulin resistance 80.7%, dyslipidemia 40.9%, arterial hypertension 7.9% and type 2 diabetes (DM2) 5.6%. Open conversion was required in 3 cases (2.6%). Operative time was 119.4 ± 45.4 minutes (55–280). Hospital stay was 4.2 ± 7.6 days (2–64). No mortality was reported. Reoperation during the first 30 days post-surgery was required in 1 patient due to an internal hernia. We follow up 114 patients (100%) with a mean of 17.3 ± 13.4 months (1–60). Excess weight loss (EWL) was as follow: 69.7 ± 14.9% at 1 year, 71.0 ± 15.8% at 2 years and 64.5 ± 17.6% at 3 years. Percent of patients achieving EWL > 50% was 91.1% at 1 year, 86.2% at 2 years and 77.8% at 3 years. All patients either improved or resolved metabolic comorbidities after 1 year. Early and late complications were 4.2% and 5.5% respectively.

Conclusions LRYGB is a safe and effective therapy for superobese patients with a low complication rate.

O32 An Appraisal of Abdominal Procedures After Gastric Bypass

S. Husain¹, A. Ahmed², A. Adeyeri³, T. Boss³, J. Johnson³, W. O'Malley³

¹Brown University, Providence, Rhode Island; ²Charing Cross Hospital, Imperial College London; ³Highland Hospital, University of Rochester, New York

Background Bariatric surgery is being performed with increasing frequency. The intent of this study is to present our experience with abdominal

procedures that were undertaken in patients status post gastric bypass between June 01 and Dec 06.

Methods A retrospective review of all abdominal surgeries performed on patients status post gastric bypass was conducted. The interval between the index surgery (gastric bypass) and subsequent procedure and type of procedures performed were recorded. Total patient population was divided into Group A (cholecystectomy at the time of bypass for asymptomatic gall stones) and Group B (cholecystectomy with bypass in symptomatic cholelithiasis only).

Results During the study period 2325 laparoscopic and 208 open gastric bypasses were performed. Out of these, 191 patients subsequently underwent a total of 232 abdominal procedures. The average interval between the bypasses and subsequent surgeries was 353 days. Most common procedures included explorations for intestinal obstructions (n=103), incisional hernias (n=50) and cholecystectomy (n=32). There was no significant difference in cholecystectomy rate between group A (28/2144) and group B (4/389).

Conclusions This study shows that about 7.5% of patients will require subsequent abdominal procedure after undergoing gastric bypass surgery. The underlying causes necessitating surgeries after bypass are predictable. Concomitant cholecystectomy for asymptomatic stones does not appear to reduce the incidence of cholecystectomy after gastric bypass.

O33 Internal Hernia After Gastric Bypass

C. Martínez Blázquez^{1,2}, V. Sierra Esteban^{1,2}, J. Vitores Lopez¹, G. Martínez de Aragón Remírez de Esparza^{1,2}, J. Valencia Cortejoso^{1,2}, F. Balsara Rodríguez^{1,2}

¹Hospital Txagorritxu, Spain; ²Osakidetza, Spain

Background Gastric by-pass as other abdominal surgical procedures has a rate of internal hernias. We study the appearance of internal hernia in our gastric by-pass serie.

Methods 662 consecutive obese morbid patients were operated by gastric by-pass. We divided them in 3 groups:

I: 256 patients with laparotomic gastric by-pass. Transmesocolic and retrogastric intestinal limb approach.

II: 214 patients with same technique using laparoscopic approach.

III: 190 patients with laparoscopic gastric by-pass. Antegastric and antecolic intestinal limb approach.

Results In groups I and III doesn't appear any internal hernia.

In group II (RYGBP laparoscopic retrogastric and transmesocolic) 4 patients presented transmesocolic feed limb herniation (2,25%). It appears between 2–25 months P.O.

Reoperation was required replacing the intestinal limb in the inframesocolic room.

Discussion Internal hernias in laparotomic surgeri is an uncommon complication. The use of laparoscopic approach with the same technique increase the appearance of internal hernias up to 3–4.5%, premature or late appearance. Are located in the mesenteric hole (Petersen room) and in the mesocolic hole. It seems to be in connection with minimal adherences production and the fat reduction in postoperative period. According with cientific papers we change the technique to antegastric and antecolic intestinal limb approach. No internal hernias have appear up to now.

Conclusions There is no statical difference because of low number of cases. The antegastric and antecolic intestinal limb approach minimize the risk of internal hernias in laparoscopic Y Roux gastric by-pass in morbid obesity surgery.

O34 Bariatric Revision Surgery Influenced by MSCT - Based Volumetric Gastric Pouch Assessment

W.K. Karcz, T. Baumann, E. Kotter, O. Thomusch, S. Kuesters

University of Freiburg, Germany

Background Evaluation of multi-slice computed tomography (MSCT) based semi-automatic segmentation and volumetric assesments of gastric pouches in patients after bariatric surgery.

Methods 13 Patients with insufficient weight-loss or persistant abdominal complaints after bariatric surgery received abdominal MSCT with a detector collimation of 24.1.2 mm immediately after oral administration of an ionic contrast agent solutin and intravenous administration of buthylscopolamine. Images were reconstructed with 1.5 mm slice thickness and 1 mm increment and transferred to a dedicated 3D post-processing workstation. Segmentation

of contrast agent solution and, if present, air within the gastric pouch was performed by a region growing algorithm. The width of the gastrojejunostomy and the proximal part of the roux-limb were measured on freely angulated reformations.

Results With a mean contrast-to-noise ration beteenpouch content and surrounding tissue of 37.0 (+12.4) semiautomatic segmentation was successful in 12 of 13 Patients. In patients with insufficient weight-loss a pouch volume was over 50 ml (dilatation) was found in 6 cases, the gastroenteral anastomosis widening (over 2 cm) in 4 and dilated proximal rouxlimb (over 5 cm) in 4 cases. Two patients presented a combination of all three findings.

Conclusions The 3D CT gastric pouch volumetry influenced our evaluation, indication and procedure choose in the redo bariatric surgery.

035 Laparoscopic Banded Gastric Bypass After 59 Years Old

J.L. dl Cruz Vigo¹, F. dl Cruz Vigo^{2,3}, P. Sanz de la Morena¹, J.M. Canga Presa¹, J.I. Martínez Pueyo^{2,3}, J. Zárate Gómez²

¹San Francisco Hospital, León, Spain; ²12 de Octubre University Hospital, Madrid Nuestra Señora del Rosario Hospital, Madrid, Spain; ³Nuestra Señora del Rosario Hospital, Madrid, Spain

Background The better quality of life and life expectancy of aged people, as well as the lower surgical risks and better knowledge of bariatric surgery techniques are leading to an augmentation of age limits in this kind of surgery. Our objective is to evaluate anthropometric and surgical data as well as complications and weight evolution of patients operated on after 59 years old. **Methods** Since June 1999 to April 2008, 1045 morbid obese patients have been operated on, all of them by a laparoscopic banded gastric bypass. Thirty-three patients were older than 59 years. Mean age 63 years (60–69) and 82% were women. Mean BMI was 47 (36–58) and 42% were super obese, with a mean of 3 co-morbidities every patient.

Results Operation time has been 139 min. and six trocars have been used. There has been no conversion. Hospital stay has been 4 days. Cholecystectomy has been performed in 15% of patients. The only complication registered has been a jejunal perforation that was reoperated (3,1%). At forty-eight months, % of excess weight loss has been 76% and BMI 31.

Conclusions After 59 years old, morbid obese patients can be operated without an augmentation of morbid-mortality, but with a little bit worse weight loss evolution. This group of age must be selectively and strictly evaluated preoperatively.

036 Bariatric Surgery for Adolescents

F. dl Cruz Vigo^{1,2}, J.L. Cruz Vigo³, P. Sanz de la Morena³, J.M. Canga Presa³, P. Gómez Rodríguez^{1,2}, M. Gutiérrez Andreu¹, A. Beteta Goiti¹

¹12 de Octubre University Hospital, Madrid, Spain; ²Nuestra Señora del Rosario Hospital, Madrid, Spain; ³San Francisco Hospital, León, Spain

Background The geometric growth of the morbid obesity global epidemic among the adolescent population is progressively demanding the surgical treatment in this group of age. Our objective is to analyze its characteristics, risks and efficiency in this population.

Methods Since June 1999 to April 2008, 1045 morbid obese patients have been operated on, all of them by a laparoscopic banded gastric bypass. Twenty-four were under nineteen years old. Mean age was 17 years old (14–18) and 92% were women. BMI 46 (35–67) and 21% super obese, with a mean of 1.2 co-morbidities every patient.

Results Operation time has been 118 min. and five trocars have been used. There has been no conversion. Hospital stay has been 3 days. Cholecystectomy has been performed in 17% of patients. The only complication registered has been a band infection (Staph. Aureus) that was reoperated (4.2%). At forty-eight months, % of excess weight loss has been 80% and BMI 26.

Conclusions Adolescents can be safely treated of their morbid obesity with the laparoscopic banded gastric bypass obtaining very good results. Patients of this group of age must be carefully and individually evaluated.

037 Surgical Complications in 1500 Consecutive Laparoscopic Roux-en-Y Gastric Bypasses

C. Boza, J. Salinas, R. Muñoz, G. Pérez, A. Escalona, S. Guzmán, L. Ibáñez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background To analyze surgical complications in our first 1500 consecutive laparoscopic Roux-en-Y Gastric Bypasses (LRYGB).

Methods We conducted a review of our prospective electronic database for all patients undergoing LRYGB from July, 2001 to August, 2007. We assessed the reoperation rate, early and late complications.

Results LRYGB was performed in 1500 patients over this period (75% female). Preoperative age was 37.2±11.0 years. Preoperative weight and body mass index was 109.8±18.8 kg and 40.5±5.2 kg/m² respectively. Conversion to open technique was required in 1.3%. Reoperation during the first 30 days post-surgery was 2.0%, the most common causes were gastrojejunal leak 0.87%, intestinal obstruction 0.8% and abdominal abscess 0.2%. Early complication rate was 6.5%, the most common causes were: gastrojejunal stenosis 1.73%, intestinal obstruction 0.87%, upper gastrointestinal bleeding 0.73% and hemoperitoneum 0.53%. Late complication rate was 13.9%, the most common causes were gastrojejunal stenosis 5.3%, cholelithiasis 4.2%, intestinal obstruction 3.5% and incisional hernia 0.7%. No mortality has been reported in a 5 year follow-up.

Conclusions LRYGB complications are low-rate and they did not result in mortality during a 5 year follow-up. The complication rate is more frequent after 30 days post-surgery.

038 Laparoscopic Roux-en-Y Gastric Bypass with Jejunum – Ileal Diversification – Technique and Results Shows that Surgery Produces Good Results Without Rings Complications

J.A. Sallet, C.E. Pizani, P.C. Sallet, R. Tussi Jr.

Sallet Institute of Medicine, Brazil

Background During November 98 to April 2007 we performed 3000 bariatric procedures that including: 29% Lap-Band, 41% Gastric By Pass, 26% BIB and 4% BPD. The choice of the method was defined by protocols developed into a multidisciplinary team, considering BMI, social and eating profile, surgery risk, agreement to physical activity and patient's expectation.

Methods In the first two years, we performed Gastric By Pass with Ring in 180 cases with 85% of excess weight loss after two years. We perceived with this kind of surgery the patients had too much difficult with solid foods. Therefore we decided to perform the surgery without ring. There were 274 cases with 69% of excess weight loss in two years and better eating quality. In the last four years we began to perform Laparoscopic Roux-en-Y Gastric By Pass with a Distal Jejunum-Ileal Diversion distant about 1,5 to 2,0 m from ileo-cecal valve(n=776). The surgery is all performed in a supra-mesocolic abdominal area. The gastroenteanastomosis is always pre- gastric and precolic performed with linear stapler and we first make the enteroenteroanastomosis an than staples the intestine. So that, we cant test the both anastomosis with blue of methylene.

Results and Conclusions We had done 776 cases using this method, with 86% of excess weight loss two years after the surgery. With this technique we are able to reduce surgery time, avoid ring complications (erosion, slippage), getting the same perceptual of excess weight loss not using ring, no nutritional effects in long term, and much better eating quality for the patients.

039 Gastrojejunostomy Stenosis. Changing the Suture Reduces Incidence - 175 Patient Series

A. Ramos¹, M. Galvao Neto¹, M. Galvao¹, A. Carlo¹, E. Canseco¹, A. Murakami¹, Y. Moyses¹, J. Campos², E. Moura³

¹Gastro Obeso Center; ²Federal University of Pernambuco; ³Sao Paulo University

Background The Gastric Bypass with Roux and Y are one of the gold standards to treat morbid obesity. One of its possible complications is the gastrojejunostomy (G–J) stenosis. AIM: Evaluate a series of G–J stenosis endoscopic dilatation with Trough The Scope (TTS) balloons and its incidence after introducing a new suture on G–J.

Content Between dec-2001 and dec-2007, retrospective data about 3818 patients submitted to lap gastric bypass (banded and non-banded) with a

calibrated G–J to 11–12 mm were analyzed to see the incidence of stenosis and the output of its treatment with endoscopic TTS balloons.

Results From up to 2004, the G–J stenosis rate was 8.26% using the Ethibond® extra-mucosal running suture. After introducing PDS® as suture with the same surgical technique, the stenosis rate dropped to 2.68% ($p < 0.001$), 2.16% and 1.6% in 2005, 2006 and 2007 respectively. In 175 patients (4.6% overall rate) dilated with TTS balloons, no perforations happened, 3 patients referred abdominal pain needing to be medicated without radiological signs of perforation.

Conclusions The use of PDS® suture on gastrojejunostomy, significantly reduces G–J stenosis. Endoscopic dilatations with TTS balloons is a safe and effective option on calibrated G–J stenosis with minimum complication range and no perforation.

040 The Single Loop Gastric Bypass: a Powerful Alternative to Standard RYGBP

R. Tacchino, F. Greco, D. Matera

Department of Surgical Sciences, Policlinico A. Gemelli, Rome, Italy

Background Since GBP is a hybrid operation that combines restriction and malabsorption, altering the balance between these two mechanisms could lead to improved weight loss.

Laparoscopic single loop gastric bypass (LSLGBP) was proposed as a faster and safer treatment for morbid obesity providing also a small but significant advantage to LRYGBP in terms of weight loss.

Methods Four trocars were used. The stomach is divided 8 cm from the esophageal junction, creating a long and narrow gastric pouch, calibrated on a 12 mm oro-gastric tube. A loop of bowel is brought up antecolic measuring 200 cm from the Treitz ligament. The gastro-jejunal anastomosis is performed with a 30 mm linear stapler. The afferent loop is then suspended to the gastric pouch with a continuous suture for a length of 3–5 cm so creating the anti-reflux mechanism. Data from a series of 40 patients (20 LSLGBP and 20 LRYGBP) with 2 years follow-up were collected prospectively and matched for similar preoperative BMI (46.32 DS±6.73 vs 46.43 DS±7.31).

Results BMI at 6, 12 and 24 months were respectively 33.14 (DS±5.93) vs 36.98 (DS±7.65); 31.05 (DS±5.88) vs 33.98 (DS±8.62); 31.5 (DS±6.33) vs 34.3 (DS±8.52) in LSLGBP and LRYGBP groups.

Conclusions The LSLGBP provide an improved weight loss compared with the standard RYGBP: reduced food intake in the single loop gastric bypass is associated to a certain degree of malabsorption, probably due to the fact that very few pancreatic enzymes reach the efferent limb, so that no pancreatic digestion occurs. The LSLGBP as an alternative procedure give us encouraging results and seems to be a more powerful, faster and safer technique in the treatment of morbid obesity.

041 Gastrogastric Fistula after Laparoscopic Roux-en-Y Gastric Bypass (Lrygbp): a Challenge to the Bariatric Surgeon

R. Rumbaut, R. Merino, H. Guajardo, L. Arreguin

Hospital San Jose, Tec de Monterrey, Mexico

Background Gastrointestinal leaks after bariatric surgery can occur since the first postoperative week. The reported incidence is 2–7%. Gastrogastric fistula is a rare but potentially fatal complication. Optimal treatment is controversial, with medical, surgical, and endoscopic options available. We describe the case of a patient who developed this complication and the successful management with multidisciplinary treatment, including endoscopic stenting.

Case description A 47 year old female underwent Laparoscopic Adjustable Gastric Banding 4 years before, with poor weight loss. A LRYGBP was then performed. A leak near the GE junction occurred one week later, managed with medical treatment. An Ultraflex endoprosthesis was placed in, and then removed 4 weeks later, because of prosthesis migration with no evidence of leak persistence. Three weeks later, however, after an episode of acute gastroenteritis, the patient showed up with acute abdominal pain and an endoscopy revealed a gastrogastric fistula. The patient was taken to the OR for laparoscopic lavage, fistulectomy and native subtotal gastrectomy. (VIDEO) Three days later, though, a new leak was confirmed and a micro-perforation was found on diagnostic laparoscopy (VIDEO). An endoscopic stent was again placed. The evolution thereafter was adequate, with the stent successfully removed 6 weeks later.

Conclusions Bariatric patients must be aggressively studied if a complication is suspected, in order to decrease morbidity rate. Although infrequent, gastrogastric fistula is potentially mortal and represents a challenge for the surgeon. Treatment must be individualized. Endoscopic methods seem to be safe and effective as part of the management. Native gastrectomy has good results as well.

042 Laparoscopic Sleeve Gastrectomy as Sole Bariatric Surgery. Experience in 166 Patients for 3 Years

I. Moya, A. Barranco, F. Chavez, J. Rius

Hospital San Juan de Dios de Tenerife, Spain

Background Laparoscopic sleeve gastrectomy (LSG) is a restrictive bariatric procedure that it is usually indicated in particular cases of obesity. With previous experience in duodenal switch, we have indicated the sleeve gastrectomy in all the last 166 patients whose BMI was. We describe the results for 3 years.

Methods We use 4 trocars and start the greater curvature division 8 cm from the pylorus (opposite to the crow's foot) to the His angle. The longitudinal gastrectomy, that include all fundus, is performed over a 56-Fr gastric tube with endoGIAs.

Results The 166 patients, 76% women and 24% men, had mean preoperative BMI of 46 kg/m², and comorbidities in the 52%. In the first year mean BMI was 30.6 kg/m² (n=83) and the percent of excess weight loss (EWL) was 69%; in the second year mean BMI 30.1 (n=42) and EWL 73.3%, and in the third year mean BMI was 31 (n=13) and EWL was 68%. The major complications consisted of three leak at the staple-line (1.8%), one case of trocar site and one staple-line bleeding. One conversion and no mortality in this series. The mean BAROS (Bariatric Analysis and Reporting Outcome System) score (90% of the patients) indicate a very good technique in patients with and without comorbidities.

Conclusions We think that LSG is a bariatric procedure with satisfactory results and it could be considered as a sole bariatric procedure in all type of obesity patients if in, at least, next 2 years the results are maintained in our series.

043 Laparoscopic Sleeve Gastrectomy (LSG): Management of Major Peri-Operative Complications

G. Casella, M. Rizzello, M.C. Fioriti, E. Soricelli, F. Abbatini, G. Silecchia, N. Basso

Department of Surgery P. Stefanini, Umberto I Hospital, Rome, Italy

Background LSG is gaining popularity either performed as 1st step of BPD-DS or RYGBP in high risk superobese pts or as primary procedure. There are few data on the management of major perioperative complications after LSG.

Aim To analyze the incidence of perioperative (30 days) major complications and their management.

Methods From Oct 2002 to Mar 2008, 123 obese pts underwent LSG (BMI 52.4±8.1; M/F 45/78; age 43.5±10.4): 16 pts had BMI>60, 9 pts had BMI<40. The co-morbidities distribution was: OSAS(29), hypertension (66), DMT2/IGT (24). In the last 31 cases the suture line was routinely Reinforced By Manual Suture

Results 15 pts (12.1%) had major peri-op. complications: a) stapler-line leak in 4 pts, 3 early diagnosis (2–4 p.o. days) 1 late (23 days). A non-operative management was successfully adopted in all cases (TPN, percutaneous drainage, PPI and antibiotics i.v). In 2 pts an endoprosthesis was positioned and left in place for 3 months. In 1 case endoscopic treatment with fibrin glue was successfully carried out. b) bleeding in 10 pts, intraluminal bleeding (1–4 blood units) in 8 cases; extraluminal bleeding in 2 cases: one pt underwent lap. reoperation on 1st day p.o., a 2nd pt was successfully managed by embolization. c) Transient acute renal failure in one case. One pt (0.8%) had pulmonary embolia and died at post-op day 5 (Re-do surgery). Readmission was necessary in 5 cases (4.1%).

Conclusions LSG is a safe procedure with a low mortality (0.8%) and reoperation rate (0.8%). Non-operative management of stapler-line fistulas was effective in all cases. The complication rate was 15% in the first 60 cases and 8% in subsequent cases, stressing the importance of the learning curve.

Conservative management of major complications after LSG should be considered as first option avoiding surgery in a high risk population.

O44 Five Years of Digestive Adaptation: a Neuroendocrine Guided Miniaturization Of Digestive System Resulting in Excellent Quality of Life

S. Santoro¹, C. Malzoni¹, F. Milleo², S. Klajner¹, P.C. Borges¹, A. Lacombe¹

¹Hospital Israelita Albert Einstein, São Paulo, Brazil; ²Hospital Vicentino, Ponta Grossa, Brazil

Background Digestive Adaptation is a procedure that reduces the stomach by a sleeve gastrectomy (SG), the foregut by a jejunectomy and visceral fat by an omentectomy aiming at adjusting the neuroendocrine response after meals and improving metabolic profile. It avoids mechanical obstacles to food ingestion and malabsorption.

Methods 240 patients were operated since October, 2002. The technique includes a sleeve gastrectomy, an omentectomy and a proximal jejunectomy. Physical and Metabolic profile were analyzed. Enterohormones were measured pre and post-operatively in subsets of patients. Initial BMI varied from 35 to 51 Kg/m². Follow-up 1 to 65 months

Results Average EBMI% was 79.9% in the first year; 77.3% in the second year; 71.4% in the third year; 68.6% in the fourth year. Patients present early satiety and major improvement in pre-surgical comorbidities, especially diabetes (remission: 91%; improved 9%). Fasting Ghrelin and Resistin were significantly reduced ($P < 0.05$); GLP-1 and PYY response to food ingestion were enhanced ($P < 0.05$). Surgical complications (4.2%) were resolved without sequela and without mortality. There was neither diarrhea nor significant malabsorption. Quality of life is excellent.

Conclusions This procedure miniaturizes the Gastrointestinal (GI) Tract what adjusts postprandial neuroendocrine responses. It leaves basic GI functions unharmed. It reduces Ghrelin while enhances GLP-1 and PYY secretion. Diabetes was improved significantly without duodenal exclusion. The patients present no symptoms and need no nutritional support. The presence of all digestive segments in continuity and absence of malabsorption, excluded digestive segments, prostheses or any sort of stenosis provide a magnificent quality of life.

O45 Evaluation of the Equivalence Between Silastic Ring Gastric Bypass and Silastic Ring Sleeve Gastrectomy: a Prospective Clinical Study

G.P.S. Miguel¹, P.S. Carvalho², I.W. Abreu³, J.L.M. Azevedo⁴, O.C. Azevedo⁴, C.L.C.B. Moreira⁵, R.R. Alencar⁵, T. Correia⁵, E.C. Viana⁵, A.M.P. Gatto², G.S. Aguiar⁴, W. Cardia⁴, F.M.C. Dias⁵

¹Federal University of Espírito Santo; Federal University of São Paulo; Meridional Hospital, Brazil; ²Federal University of Espírito Santo; Meridional Hospital, Brazil; ³Meridional Hospital, Brazil; ⁴Federal University of São Paulo, Brazil; ⁵Federal University of Espírito Santo, Brazil

Background Silastic Ring Gastric Bypass (SRGB) and Silastic Ring Sleeve Gastrectomy (SRSg) are used as bariatric procedures. There are advantages and complications inherent to each operation. As there isn't a concise on this, the research was performed to evaluate the equivalence between the techniques.

Methods Sixty-two patients, women, with body mass index (BMI) between 40 and 45 were included in the study. They were grouped in SRGB (30) and SRSg (32). Both of groups had comparable characteristics in the preoperative evaluation. All patients were submitted to biochemical blood tests, bioelectrical impedance analysis, cardiac-pulmonary capacity tests and others, before and after operation. The study compared early and late complications, Weight loss and resolutions of associated comorbid diseases in a 12 months follow-up.

Results Mean preoperative BMI was 42.62 and decreased to 28.61. Early complications were more common in the SRSg group (9.37%) such O2 leakages, one of them with death. Global mortality index was 1.6%. Late complications occurred with more incidence in SRGB group, although less intensive such as anemia, vitamin and mineral disturbance; dumping syndrome. Weight loss (excess weight loss >50%) and control of associated diseases was effective in both groups.

Conclusions SRGB and SRSg are effective to promote weight loss and control of comorbidities. There were more early complications in SRSg group and late complications in SRGB.

O46 Super Magenstrasse Gastric Bypass vs Sleeve Gastrectomy

C. Vassallo, G. Berbiglia, A. Pessina, M. Carena, A. Firullo, F. Ramajoli, E. Palamarciuc, M. Fariseo

Surgery II, "Città di Pavia" Clinic, Pavia, Italy

Background During the last 5 years the laparoscopic sleeve gastrectomy (L.S.G.) has spread more and more; it is therefore natural to ask why rather not to consider the S.M.G.B.P., which is surgically similar, but requires less demolition and care by the team performing the follow ups, with a more uniform and definitive result in terms of weight loss.

Methods Since 2003 until today we have been performing S.M.G.B.P. on 172 obese or superobese patients, 55% of which female with average BMI 48 and age 34, average surgery time 55 minutes, 62% with hand-assisted video-laparoscopy and 38% with open technique.

Multidisciplinary follow up after 1–3–6–9 months and then once a year.

Results All the 172 patients who had S.M.G.B.P. surgery show, already 1 month after surgery, a definite loss of interest in food. After 1 and 3 years, the average IEW%L is 71; this reaches a steady average value of 76 in the 25 patients 5 years after surgery. No mortality.

The multidisciplinary team usually spends a quarter of an hour to perform a follow up session on the patients who had S.M.G.B.P., while the patients who had surgery of a restrictive kind, like L.S.G., can require even three quarters of an hour.

Conclusions The pyloroplasty and the long but uniform gastric tubulation give to the Super Magenstrasse technique the characteristics of a gastric bypass, therefore being prevalently functional, while the L.S.G. technique, however long the resection may be, nevertheless remains prevalently mechanical, which is a restrictive surgery subject to possible dilatation in the long run. From the enterohormonal point of view, in S.M.G.B.P. we have, excluding the stomach, a result similar to the one we have in R.Y.G.B.P., without resorting to a wide demolition as in L.S.G.

O47 Laparoscopic Sleeve Gastrectomy vs Laparoscopic Magenstrasse and Mill Procedure in Morbid Obesity: Preliminary Results

P. Millo, R. Allieta, G. Scozzari, R. Brachet Contul, M. Fabozzi, M.J. Nardi

Department of general Surgery Regional Hospital "Umberto Parini" Aosta, Italy

Background Aim of the study is to compare laparoscopic sleeve gastrectomy (LSG) with laparoscopic Magenstrasse and Mill (LMM) procedure in morbidly obese patients.

Methods Between June 2005 and January 2008 16 patients were submitted to LSG and 10 patients to LMM. Mean age was 52.9 years in LSG and 51.6 years in LMM. Mean preoperative weight was 150.8 Kg in LSG and 138.5 Kg in LMM; mean preoperative BMI was 57.8 Kg/m² in LSG and 51.6 Kg/m² in LMM.

Results All the procedures were performed laparoscopically, with no conversions. Mortality and intra-operative morbidity were nil. Peri-operative morbidity was 6.25% in LSG (1 patient who presented trocar site bleeding with need to hemotransfusion) and 10% in LMM (1 patient who presented melena, treated conservatively). Mean operative time was 109 minutes for LSG and 121.5 minutes for LMM. Mean hospital stay was 14.2 days in LSG and 8.5 days in LMM.

At 6 months follow-up there were 10 patients (62,5%) in the LSG group and 7 patients (70%) in the LMM group. Mean BMI was 47.5 Kg/m² in the LSG group and 42.4 Kg/m² in the LMM group. Mean excess weight loss % was 32.2% in the LSG group (range 15.7–43.4) and 41.2% in the LMM group (range 18.7–66.7).

Conclusions In despite of the small number of patients and the short follow-up, we can conclude that LSG and LMM are effective as the more traditional types of gastroplasty in producing substantial weight loss, and, unlike these, they allow an eventual subsequent malabsorptive procedure. LSG is technically simpler and faster than LMM, but it is irreversible; so, we perform LSG in high risk patients and in patients who present gastric dysplasia in preoperative endoscopic biopsy. LMM is a completely reversible procedure, so we prefer it in younger patients with a lower surgical risk.

048 Does Gastric Wrapping Using a Cross-Linked Porcine Dermis Bio-Compatible Mesh Prevent Gastric Dilatation After Laparoscopic Sleeve Gastrectomy: Preliminary Results?

C. Boza¹, M. Gagner², J. Salinas¹, N. Devaud¹, J.I. Fernandez¹, L. Ibañez¹, D. Nocca³

¹Department of Digestive Surgery, Pontificia Universidad Católica de Chile;

²Department of Surgery, Mount Sinai Medical Center, Miami Beach, FL;

³Digestive Surgery Center, Montpellier Hospital, France

Background Laparoscopic sleeve gastrectomy (LSG) is a new bariatric procedure with promising weight loss results nearly comparable to the current gold-standard Roux-en-Y gastric bypass. Weight regain due to gastric dilatation is possible in both interventions. There is evidence that wrapping the stomach with prosthetic meshes avoids gastric dilatation, but non-biocompatible materials may cause erosions. The aim of this study was to develop a LSG model in a porcine model wrapping the stomach with a biocompatible cross-linked porcine dermis to prevent the gastric sleeve enlargement.

Methods Four Yorkshire pigs underwent LSG alone or LSG with porcine dermis. We assessed surgical results, histological changes, material integration and weight gain over a 12 weeks follow-up period.

Results Preoperative weight was an average of 25.5 kg. Weight after 12 weeks of follow up was 30 kg for LSG with porcine dermis and 30.7 kg for LSG alone. The stomach extracted weighted an average of 226.6 g. Histological findings revealed gastric serosal penetration of the material with fibroblasts seen between the collagen fibers of the mesh, and neo-vascularization in one animal. Another animal showed foreign body reaction to the material. Animals with porcine dermis wrapping had less dilatation of their sleeve.

Conclusions A porcine dermis bio-compatible mesh used for gastric wrapping integrates very well to the gastric wall. However, longer follow up period is needed to observe weight regain differences.

049 Laparoscopic Sleeve Gastrectomy – Technical Remarks, Results

T. Szewczyk, B. Modzelewski, P. Janczak

Department of Gastrointestinal Surgery, Medical University of Lodz, Poland

Between September 2006 and September 2007 we performed 120 laparoscopic sleeve gastrectomies. The paper assesses the aspects of surgical technique, complications and body weight loss. The procedure was performed in 90 women (mean BMI 44.94) and 30 men (BMI 48.39). In 50 patients, HA was diagnosed, in 26 DM, including 14 insulin-dependent cases. In the group, 14 patients had undergone LAGB previously. The procedures were performed using standard technique. Green 60 mm loads were used. An F 34 gastric tube was used. Additionally, continuous suture was applied. Duration of the first procedures ranged from 145 to 80 minutes. The current average operation time is 63.75 minutes, and in patients after previous LAGB - 92.74 minutes. On the average, 5,29 loads were used. Intraoperative complications included: bleeding from the gastric vessels (11- without conversion, controlled with clipping). In 2 patients, leak in the gastro-esophageal region (one relaparoscopy and suturing of the leak, in the other case esophageal prosthesis for 4 weeks). In the postoperative period, antihypertensive drugs were discontinued in 17 patients, and in 20 their doses were reduced, in 5 insulin was withdrawn, and in 9 insulin doses were reduced. Heartburn, which aggravated or appeared for the first time in 18 patients, was a distant complication. Mean %EWL after 1-year follow-up was 61.04 (42 to 111.3).

Laparoscopic sleeve gastrectomy is a safe and effective method of treatment of severe obesity, associated with few complications, especially serious ones.

050 Postoperative Complications After Laparoscopic Roux-en-Y Gastric Bypass Versus Laparoscopic Sleeve Gastrectomy

D. Awruch, A. Escalona, G. Perez, C. Boza, L. Ibañez, S. Guzmán

Department of Digestive Surgery. Faculty of Medicine. Pontificia Universidad Católica de Chile, Chile

Background Bariatric surgery is an effective alternative of treatment for morbid obesity. Laparoscopic Roux-en-Y gastric bypass (LRYGBP) and

laparoscopic sleeve gastrectomy (LSG) are commonly performed procedures. There is poor information that compares postoperative morbidity after those procedures. The aim of this study was to evaluate and compare the rate of postoperative complications after LRYGBP and LSG in a single institution. **Patients and Methods** Prospective database of all patients who underwent laparoscopic bariatric surgery was reviewed. Postoperative complications were evaluated for both procedures up to 30 days after the surgery.

Results From August 2001 to March 2008, 1652 and 337 patients underwent LRYGBP and LSG respectively. Mean age and BMI were 37.3±11 years and 40±5 kg/m² respectively. 1413 (71%) were female. There were no deaths. Postoperative complications were observed in 8% and 2.1% of patients after LRYGBP and LSG respectively (p<0.001). A higher risk of postoperative complications was observed after LRYGBP compared to LSG, OR=4.1 (IC 95%: (1.9–8.8)). Reoperation was necessary in 1.6% patients of the LRYGB group and 0.3% of patients of the LSG group (p=0.03).

Conclusions A higher postoperative complication and reoperation rate was observed after LRYGBP compared to LSG. A higher risk of postoperative complication was observed after LRYGBP.

051 Transoral Gastroplasty (TOGA) for Obesity – Results of Second Phase Multi-Center Study

C. Moreno¹, G.D.J. Ojeda Valdes², G. Costamagna³, L.F. Cuevas Herrera², J. Closset¹, A. Mehdi¹, P. Eisendrath¹, S. Dugardeyn¹, M. Barea¹, O. Le Moine¹, J. Devière¹

¹Erasmus Hospital, Department of Gastroenterology, Université Libre de Bruxelles, Brussels, Belgium; ²Hospital Regional 1st Octubre, Department of Surgery, Mexico City, Mexico; ³Digestive Endoscopy Unit, Catholic University, Rome, Italy

Background Transoral gastric stapling is being evaluated as a less invasive restrictive procedure for morbid obesity. Results in the first 21 patients were reported previously¹. Device modifications were made to reduce procedure time and improve anatomic results. We report results of a second phase study conducted at 3 centers with the revised device.

Methods Subjects met NIH criteria for surgery, were consented, and were treated with the TOGA System (Satiety, Inc.) from January 2007 to February 2008. Additional restrictions were allowed after 3 months. Follow-up was done at 1, 3, 6 and 12 months.

Results 41 patients were enrolled (28 female). Mean age was 44.7 (21–60) and BMI was 42.7 (35.1–54.2). All procedures were completed uneventfully, except one patient with difficult anesthesia recovery. Mean procedure time was 94 min. Hospital stay was 1 night for all patients except the anesthesia AE who stayed 2 nights. Most common AEs were pain, gastric ulcer, asthenia, diarrhea, and nausea. One patient was lost to f/u at 1 month, and one exited at 6 months due to pregnancy. Six patients received additional restrictions at 4–5 months for insufficient weight loss. %EWL (MetLife) was 42.5% and %EBMIL (target BMI 25) was 49.0% at 12 months.

Conclusions This second phase study confirms safety of transoral gastroplasty with improved weight loss to 12 months. Procedure time was also significantly reduced.

1. Devère J, et al. Safety, feasibility and weight loss after transoral gastroplasty (TOGA): first human multicenter study. Surgical endoscopy ; EPUB Nov 1, 2007.

Table 1 Evolution of weight and BMI

	BMI	WL (kg)	%EWL	%EBMIL	n
Baseline	42.7				41
1 mo	39.6	09.8	17.8%	20.0%	35
3 mo	37.5	16.1	28.7%	32.3%	30
6 mo	35.7	22.0	39.6%	44.1%	25
12 mo	32.6	20.0	42.5%	49.0%	7

052 One Year Weight Loss in First 21 Patients Treated with New Transoral Gastric Stapling System

C. Moreno¹, G.D.J. Ojeda Valdes², L.F. Cuevas Herrera², J. Closset¹, A. Mehdi¹, P. Eisendrath¹, S. Dugardeyn¹, M. Barea¹, O. Le Moine¹, J. Devière¹

¹Erasme Hospital, Department of Gastroenterology, Université Libre de Bruxelles, 808 route de Lennik, Brussels 1070, Belgium; ²Hospital Regional 1st Octubre, Department of Surgery, Mexico City, Mexico

Background The TOGA System is a new endoluminal stapling system for the treatment of obesity. Six month results for the first 21 patients treated were previously reported. We now report one year weight loss results for this group.

Methods Patients were recruited based on established criteria for bariatric surgery. With patients under general anesthesia, the TOGA System was used to create a stapled restrictive sleeve along the lesser curve of the stomach. Patients were kept overnight for observation. Follow-up was completed at 1 week and 1, 3, 4, 5, and 6 months. Ethics committee approval was obtained to extend follow-up to 12 months, patients were re-consented and weights were collected.

Results Twenty one patients were enrolled and treated. There were no significant adverse events. The most common procedure or device related AEs were vomiting, pain, nausea and dysphagia, which all resolved within 3 weeks. 7 patients received additional restrictions to reduce size of the sleeve outflow tract between 5 and 7 months after the initial treatment. At 12 month follow-up, weight was obtained for 20 patients. Mean weight loss was 38.7 pounds (17.6 kgs). %EWL (ideal weight from MetLife) was 34.8% at 12 months, and %EBMIL (target BMI=25) was 38.8% at 12 months.

WL (lb)	WL (kg)	%EWL	%EBMIL	n
1 mo 17.6	8.0	16.2%	18.2%	21
3 mo 24.5	11.1	22.6%	25.3%	21
6 mo 26.5	12.1	24.4%	27.4%	21
12 mo 38.7	17.6	34.8%	38.8%	20

Conclusions Despite improvements in safety of current surgical procedures for obesity, there exists interest in a less invasive treatment option. This first human study of the TOGA (transoral gastroplasty) procedure shows the procedure is preliminarily safe, and results in significant weight loss out to one year. These results should be confirmed in larger studies with longer follow-up.

053 Intra-Abdominal Vagal Blocking Reduces Body Weight with Associated Reductions in Heart Rate and Without Adverse Effects on Electrocardiographic Parameters

R.R. Wilson¹, J. Toouli², L. Kow², K.S. Tweden³, J.W. Freston⁴, E.L.C. Pritchett⁵, C.J. Billington⁶

¹Health Research, LLC; ²Flinders University; ³EnteroMedics Inc; ⁴University of Connecticut; ⁵Duke University Medical Center; ⁶University of Minnesota

Background Electrodes were laparoscopically implanted on both vagal trunks near the esophagogastric junction and connected to a subcutaneous neuro-regulator. The device delivered a high-frequency current, creating intermittent vagal blocking and resulting in a 21% excess weight decrease at 6 months.

Aim To assess the effects on electrocardiographic (ECG) parameters of intra-abdominal vagal blocking to treat obesity

Methods To assess intra-cardiac conduction effects proximal to the electrodes, all 12-week ECGs were compared with baseline and were analyzed at a core laboratory (Mayo Clinic). Endpoints included changes in heart rate (HR), PR interval, QRS duration and QTcB interval (QT interval Bazett correction). ECGs were, in all known instances, recorded with the vagal blocking off to detect sustained effects, if any.

Results To date, 15 of 35 subjects' 12-week ECG data were available for analysis. Compared with baseline, HR decreased a mean 6.9 bpm ($p < 0.001$), consistent with observed weight loss. Mean PR interval and QRS duration were unchanged (+2.5 msec, $p = 0.53$ and +0.13 msec, $p = 0.94$, respectively). Mean QTcB changed 10.9 msec ($p = 0.05$), consistent with HR changes and not deemed clinically significant. In addition, 6 subjects had a concurrent diagnosis of hypertension and were receiving anti-hypertensive medication. 2 of these 6 had reductions in anti-hypertensive meds and a third discontinued all anti-hypertensive meds; in all these instances, blood pressures remained in the normal range.

Conclusions Intermittent, intra-abdominal vagal blocking resulted in clinically significant weight loss with an associated reduction in HR and no clinically significant changes in ECG parameters.

054 Utilization of the Intra-gastric Balloon (BIB) in Pre-Operative Preparation for Super Obese Patients with High Surgical Risk

J.A. Sallet¹, J.C. Marchesini², P. Miguel², M. Ribeiro Jr.², C.E. Pizani¹, P.C. Sallet¹, R. Tussi Jr.¹

¹Sallet Institute of Medicine, Brazil; ²Brazilian Intra-gastric Balloon Protocol, Brazil

Background Superobese patients show a high surgical risk (major complications in 30% and mortality rate of 5–12%). The present study evaluates the use of BIB as a preoperative procedure aiming an initial weight loss and reduction of surgical risk.

Methods From November 2000 to February 2006, 63 superobese patients (mean BMI=60.3+10.1 kg/m²) were treated with the BIB for at least four months before surgical treatment: 40 male (BMI=59.0+9.6) and 11 female patients (BMI=65.3+11.7). They showed associated diseases, including systemic arterial hypertension (27 cases), diabetes mellitus (10 cases), sleep apnea (20 cases), hypercholesterolemia (10 cases) and osteoarthritis (16 cases).

Results Patients showed mean percent excess weight loss (%EWL) of 23.4+11.0%, mean percent total weight loss (%TWL) of 13.6+6.5%, and mean BMI reduction of 8.4+4.9 Kg/m². More than 80% of patients showed improvement in hypertension and diabetes mellitus, with sleep apnea changed from severe to minimal. Surgical risk was reduced from ASA III–IV (before the BIB) to ASA II. All these patients were submitted to bariatric surgery (GB, LAGB or BPD). Four patients had wound infection (8.3%). There was no mortality.

Conclusions Our results showed that the intra-gastric balloon is an effective technique in order to prepare superobese patients in preoperative time, reducing their major complications and mortality.

055 Intra-gastric Injection of Botulinum Toxin A for the Treatment of Obesity

R. Mittermair¹, C. Keller², J. Geibl³

¹University Hospital Innsbruck, Dep. of Surgery; ²University Hospital Innsbruck, Dep. of Anesthesia and Intensive Care Medicine; ³Yale University School of Medicine, Dep. of Surgery

Background Botulinum toxin A (BTX-A) is a powerful and long-acting inhibitor of muscular contractions in both striated and smooth muscles. Hypothetically BTX-A should inhibit the acetylcholine-mediated peristalsis, which is mainly responsible for gastric motility, and thereby inducing slowed gastric emptying, earlier satiety and weight loss. The aim of this study was to observe the effects of endoscopic intra-gastric injections of BTX-A in obese patients.

Methods After approval by the University Ethics Committee, 10 female patients with class I obesity (body mass index 30–35) were double blind randomized into two groups (BTX-A and 0.9% Saline). In Group I 200 U BTX-A were injected endoscopically into the antrum and the distal gastric body. In Group II 0.9% saline were injected endoscopically into the antrum and the distal gastric body. Body weight and feeling of satiety were recorded monthly over a period of 6 months.

Results Both groups (BTX-A and 0.9% Saline) showed no significant weight reduction ($p > 0.05$). One patient in Group I and two patients in Group II reported a feeling of early satiety. No adverse effects related to BTX-A or complications resulting from endoscopic procedure were observed.

Conclusions Intra-gastric injection of BTX-A for the treatment of obesity does not seem to reduce body weight.

056 Minimally Invasive Bariatric Surgery in Teen Agers: 11 Years Experience

L. Angrisani¹, P.P. Cutolo¹, F. Persico¹, M. Lorenzo¹, G. Vitolo¹, M. Battagliani Cicerello¹, P. Scarano¹, G. Saldamacchia²

¹General and Endoscopic Surgery, S.Giovanni Bosco Hospital, ASL NA 1, Naples, Italy; ²Dipartimento di Medicina Clinica e Sperimentale, A.U.P. Federico II, Napoli, Italy

Background In the last decade only a minority of surgeons started to treat obese adolescents.

Methods From December 1996 to May 2007, 26(20F/6M) patients 19 years old with minimum follow-up of 1 year were selected for this retrospective study. Mean age was 18,19±0,85 yrs; mean preoperative weight, BMI and % excess weight were 120.17±17.65 Kg, 43.49±5.15 Kg/m² and 73.34±20,77 respectively. 8/26(30.77%) patients were preoperatively submitted to BIB® Intra-gastric Balloon placement. Laparoscopic Adjustable Gastric Banding (LAGB) was performed with Lap Band System (Allergan), Laparoscopic Gastric Bypass(LRYGBP) was performed by using circular stapler ante-colic ante-gastric anastomosis, Laparoscopic Biliopancreatic Diversion(LBPD) was performed according Scopinaro technique on 2 female patients, of which one affected by Prader Willi's Syndrome. Failure was considered BMI>35.

Results 14(9F/5M) patients with LAGB presented a mean weight, BMI and %EWL of 102.30±24.48 Kg, 36.66±6.93 Kg/m², 33.62±36.21 respectively (mean follow-up:64.21±41.20 months). 3/14LAGB underwent band removal due to unsatisfactory weight loss, 2 converted to LRYGBP and 1 to LBPD; 6 other patients (54.54%) failed presenting BMI 35. 10(9F/1M)LRYGBP patients presented a mean weight, BMI and %EWL of 80.38±15.53 Kg, 30.13±5.58 Kg/m² and 75.85±25.06 respectively (mean follow-up:36.60±22.64 months). None of the patients treated by LRYGBP presented BMI>35. One patient submitted to LRYGBP had a laparotomic conversion. LBPD patients presented a mean weight, BMI and %EWL of 107.35±2.90 Kg, 40.47±2.42 Kg/m² and 41.61±17.53 respectively (mean follow-up:27±21.21 months). Follow-up rate was 96.15%. Mortality and complications were absent.

Conclusions restrictive procedures for treatment of obese teenagers have a high-rate of failure and conversion to other bariatric operations.

057 Results of Laparoscopic Gastric Banding Versus Bypass in a Country with High Prevalence of Obesity and Diabetes

F. Chikh Torab¹, A. Fardoun², F. Branicki¹

¹Faculty of Medicine and Health Sciences, United Arab Emirates; ²Tawam Hospital in affiliation with Johns Hopkins, United Arab Emirates

Background Cardiovascular diseases which are directly related to obesity and diabetes are the leading cause of death in the United Arab Emirates (UAE). We compared the results of laparoscopic gastric banding (LGBand) with the results of laparoscopic gastric bypass (LGBypass) in reducing obesity and its related morbidity.

Methods LGB was performed in 85 patients (Group1). 59 females/26 males. Mean (range) age, Body Weight (BW) and Body Mass Index (BMI) were 33 (20–56) years, 124 (83–181) Kg and 45.4 (33–73) Kg/m² accordingly. LGBypass was performed in 85 patients (Group2). 63 females/22 males. Mean (range) age, BW and BMI were 34 (21–55), 135.96 (97–186) kg and 50.13 (36.3–60.6) kg/m² accordingly. One or more comorbidity were found in 38 patients from group1 and in 35 patients from group 2.

Results both groups have no mortality. Table shows results of follow-up of patients at least three months after operation. Comorbidities were improved in all patients in both groups, but better in group 2. In group 1, minor complications occurred in six patients and band was removed in eight patients due to slippage or migration in four patients and inadequate weight loss in four patients. In group 2, major morbidity occurred in nine patients included leakage (5), intra-abdominal bleeding (1) or upper gastrointestinal bleeding (1), an intraabdominal collection (1) and mild pulmonary embolism(1). **Conclusions** Obesity surgery is a safe and an effective method to reduce weight and related morbidity. Gastric bypass has shown better results in reducing weight and morbidity of obesity

Table 1 Follow-up of patients at least three months after operation.

Variable	OR type	3 mo	6 mo	9 mo	12 mo	18 mo	2 y	3 y	4y
BMI reduction (mean)	Banding	4.1	5.86	8.19	7.12		8.5	8.3	9.9
	Bypass	7.7	11.9	13.7	15.4	14.1			
% excess weight loss (mean)	Banding	18.3	25.1	31.9	31		35.3	34.4	41
	Bypass	30	46	50	62	52.2			

058 Selecting Vagal Blocking Electrical Algorithms for Obesity Treatment

L. Kow¹, M.F. Herrera², J.P. Pantoja², K.S. Tweden³, R.R. Wilson⁴, C.J. Billington⁵, J. Toouli¹

¹Flinders University, Adelaide, South Australia; ²Instituto Nacional de la Nutricion, Mexico City, Mexico; ³EnteroMedics Inc, St. Paul, Minnesota, USA; ⁴Health Research LLC, Arden Hills, Minnesota, USA; ⁵University of Minnesota, Minneapolis, Minnesota, USA

Background Excess weight loss (EWL) has been reported using a first generation medical device that intermittently blocks both vagi near the esophagogastric junction using laparoscopically implanted electrodes delivering high-frequency algorithms.

AIM To compare the EWL of a second generation vagal blocking device with that of a first generation device

Methods Retrospective analysis of data from the initial trial was used to select the best therapy algorithms. Then, in the next trial of obese patients implanted with the second generation device, vagal block was initiated using the analysis based selected therapy algorithms (STAs). Patients were followed for EWL and safety, including adverse events (AEs) up to 6 months.

Results Parameter estimate analysis revealed greater EWL in patients with therapy algorithm durations of 90–150 seconds compared to shorter or longer durations (p<0.01). Twenty-seven subjects (mean BMI: 39.3±0.8) were implanted in the second trial and programmed with STAs of 120 seconds "on" followed by 5 min "off" for 12 hours per day. EWL with the second generation system at 6 months was 22.7±3.1% (n=24) compared with an EWL of 14.2±2.2% (n=29) with the first generation device. For both devices, a higher number of STAs per day was associated with greater EWL (p=0.03). There were no deaths or unanticipated adverse device effects and no medically serious AEs associated with the second generation device.

Conclusions Improved EWL efficacy was observed with the second generation vagal blocking device compared with the first generation device. Greater weight loss was associated with enhanced delivery of STAs. A good safety profile was observed with this device.

059 Implantable Gastric Stimulation (IGS) for the Treatment of Clinically Severe Obesity

S. Shikora¹, R. Bergenstal², M. Bessler³, F. Brody⁴, G. Foster⁵, A. Frank⁴, M. Gold⁶, S. Klein⁷, D. Sarwer⁸, R. Kushner⁹

¹Tufts Medical Center; ²International Diabetes Center at Park Nicollet; ³Columbia-Presbyterian Medical Center; ⁴George Washington University; ⁵Temple University; ⁶University of Florida; ⁷Washington University; ⁸University of Pennsylvania; ⁹Northwestern University, USA

Background IGS has been proposed as a first line treatment for severely obese patients, but previous investigations reported inconclusive results. This study compared the IGS therapy with a standard diet and behavioral therapy regimen in a group of carefully selected Class 2 and 3 obese subjects.

Objectives The study was designed to evaluate the difference in percent excess weight loss (EWL) between the control and treatment groups. The primary endpoint was percent EWL from baseline after 12 months post-randomization.

Methods A total of 190 subjects were enrolled for this prospective, randomized, placebo-controlled, double-blind, multi-center study. All subjects were implanted with the implantable gastric stimulator and randomized to one of two treatment groups, the control group (stimulation OFF) or the treatment group (stimulation ON). Subjects were evaluated on a monthly basis. All subjects enrolled in this study agreed to follow a 500 kcal/day-deficit diet and participate in monthly support group meetings.

Results The procedure resulted in no deaths and a low complication rate. The primary endpoint of a difference in weight loss between the treatment group and the control group was not met. The OFF group lost 11.68±16.94% of excess weight while the ON group lost 11.80±17.58% (p=0.717) based on an intent-to-treat analysis.

Conclusions IGS as a surgical option for the treatment of morbid obesity is a less complex procedure compared with the current bariatric operations.

However, the results of this study do not support its application. Further research is indicated to understand the physiology and potential benefits of this therapy.

060 A Multi-Center Efficacy Study of the Endobarrier™ for Pre-Surgical Weight Loss

R. Schouten¹, C. Rijs², N.D. Bouvy¹, I. Jansen², G.H. Koek¹, W. Hameeteman¹, J.W.M. Greve¹

¹Academic Hospital Maastricht, Netherlands; ²Rijnstate Hospital Arnhem, Netherlands

Background The endoscopic duodenal jejunal bypass sleeve (DJBS) or EndoBarrier™ has been designed to achieve pre-surgical weight loss in morbidly obese patients. We report the first European experience with this device.

Methods A multi-center randomized trial was performed. Forty subjects were included of which 30 underwent sleeve implantation and 10 subjects served as a diet control group. All subjects followed the same low-calorie diet during the study period. The purpose of the study was to determine the safety and efficacy of the device.

Results 26 devices were successfully implanted. In 4 subjects implantation could not be achieved due to anatomical issues. Four devices were explanted prior to the study protocol date. Mean procedure time was 33 minutes for implants and 15 minutes for explants. There were no procedure related adverse events. Initial mean weight and body mass index (BMI, kg/m²) was 142.5 / 129.5 kilogram (kg) and 48.9/47.4, for the device and control subjects, respectively. During the study period, a total of 30 device related adverse events were recorded, mainly abdominal pain (11) and nausea (10). The mean % excess weight loss at 3 months was 18.9% versus 6.9% ($p < 0.001$) for device and control subjects. Absolute change in BMI from baseline at 3 months was 4.4 and 1.7 kg/m², respectively. Diabetes mellitus was present at baseline in 8 subjects of the device group and all improved dramatically during the study period.

Conclusions The EndoBarrier™ is a feasible and safe noninvasive device with excellent short-term weight loss results. The device also seems to have a significant positive effect on diabetes mellitus. Long term randomized and sham studies for weight loss and treatment of diabetes are necessary to determine the role of the device in the treatment of morbid obesity.

061 Notes Obesity Surgery: a Prospective Long Term Survival Animal Study

K.R. Mannur¹, A. Ghanbari¹, F. Olagbeiyi¹, C. Holland², K.G. Hardeler³, H. Niemann³, A. Fritscher-Ravens¹

¹Homerton University Hospital, London UK; ²Kings College Hospital, London, UK; ³Institute for Animal breeding, Mariensee, Germany

Background Natural orifice transluminal endoscopic surgery (NOTES) is a growing field in surgery. Transgastric and Transvaginal procedures such as gastrojejunostomy, appendectomy, cholecystectomy etc. have been proven feasible in the animal experiments. One very interesting concept is development of NOTES bariatric surgeries. We have developed and tested endoscopic closure of the gastric antrum and NOTES gastrojejunostomy for obesity surgery.

Methods 7 pigs were used for 3 months survival study to assess weight gain, followed by autopsy/histology outcome. The closure of the antrum was performed entirely endoscopically with new prototype endoscopic closure system. Subsequently, a full-thickness incision was made into the gastric body wall, the endoscope pushed through and a jejunal loop was caught with snare and forceps and sewn to the gastric wall to form gastrojejunostomy.

Results The procedure was performed successfully in all animals. No complications occurred during surgery or immediately afterwards. All pigs recovered quickly, all but one thrived and were kept alive for 3 months; the animals gained 20% less weight than expected for an average animal with the same feeding in the same facility. One animal died on day three due to a clot causing stomal obstruction and an over-expanded stomach leading to sudden cardiac death.

Conclusions NOTES obesity surgery performing gastric closure and gastrojejunostomy seem possible, achieving its goal of reduced weight gain in the experimental animal model. Although endoscopic suturing systems need improvement, they worked in principle and made entire and valid closure of the antrum/pylorus possible. These first experiences may encourage further animal studies as the prospect endoscopically performed obesity procedures might be advantageous for selected obese patients.

062 Dealing with the Consequences of Significant Weight-Loss in the Post-Bariatric Patient. A Multi-Stage Approach

A.L. Pomerane, E.E. Cristaldo, V.H. Bertone, C.A. Casalnuovo

Hospital de Quemados de la Ciudad de Buenos Aires, Argentina

Ever since the introduction of gastric surgery for the treatment of morbid obesity, there has been a marked increase in demand for the surgical correction of excess skin and for the removal of the remaining fatty deposits which invariably follow such drastic weight loss. These effects of the weight loss treatment negatively affect the patient both at personal and social level. The role of the plastic surgeon is to help resolve this situation in a satisfactory manner.

For the purpose of this study we have reviewed 18 cases of patients surgically treated between 2003 and 2008. All the patients studied consulted the surgeon after having lost at least 30 kilograms due to gastric surgery.

We established a minimum waiting period of one year after the process of weight loss had concluded. A one year wait was deemed enough for the body weight to stabilise and to correct any imbalances in the levels of vitamins, proteins and minerals as well as to deal with cases of anemia.

A total of 36 interventions of varying degrees of complexity were carried out: 18 tummy tucks (50%), 8 thigh lifts (22.22%), 5 brachioplasties (13.88%), 3 mastopexy with breast implant (8.33%) and 2 face lifts (5.55%).

We established a protocol especially designed for each patient in order to minimize the time spent on the operating room, the amount of anesthetics required and any possible complications. The average number of surgeries per patient was 2.2.

As a result we observed 10 minor complications (27.7%): six cases of seroma (16.66%) and 4 cases of haematoma (11.11%).

Contour deformities after massive weight loss are diverse and often severe in nature. The essential principles for a safe procedure are meticulous preplanning, detailed team effort, artistic contouring of remaining tissues and an informed motivated patient.

063 Prediction of Resolution of Type 2 Diabetes After Gastric Bypass Surgery

R. Stubbs¹, M. Hayes², T. Croft², Y. Tychinskaya², L. Hunt³

¹Wakefield Hospital, Wellington School of medicine & Health Sciences, Wellington, New Zealand; ²Wakefield Hospital, Wellington, New Zealand; ³Dept of Statistics, University of Waikato, Hamilton, New Zealand

Aim There is now abundant published evidence to indicate that Type 2 diabetes can be resolved in around 85% of severely obese diabetics following gastric bypass surgery. An ability to predict which patients with Type 2 diabetes will experience resolution of their diabetes might be valuable in clinical practice.

Methods A detailed retrospective analysis of 12 potentially relevant clinical and biochemical parameters measured pre-operatively in 123 severely obese diabetic individuals was undertaken to determine which had independent predictive value for resolution of diabetes. Resolution was defined by a finding of fasting plasma glucose (FPG) <6.0 and an HbA1c of <6. Non-resolution by FPG of >7.0 and/or HbA1c of >7, or the need for ongoing medication. A middle, indeterminate group, was also identified. Assessments were made at 3-monthly intervals out to 12 months after surgery, and groupings made according to the latest assessment. The available data were used as the training data to derive a model or rule that could be used to classify new patients into the appropriate groupings. Various statistical and data mining techniques were used to develop the models.

Results Resolution occurred in 85, non-resolution in 19 and was indeterminate in 19. The following 3 parameters were found to have independent predictive value: nature of diabetes prior to surgery (previously unrecognised or insulin requiring), pre-op HbA1c, and the pre-operative BMI.

Conclusions A rule or formula has been identified which provides a high level of accuracy for predicting resolution of diabetes following gastric bypass. This can now be tested on an expanded and prospective group of patients, and may prove valuable for those diabetics who seek gastric bypass primarily for its diabetes resolving capability.

064 Long Term Diabetes Mellitus Type 2 Control Improvement in Morbid Obese Patients After Gastric Bypass

G. Martínez de Aragón Remírez de Esparza, F. Balsera Rodríguez, C. Martínez Blázquez, J. Vitores Lopez, V. Sierra Esteban, J. Valencia Cortejoso, K. Latorre García

Hospital Txagorritxu Osakidetza, Spain

Background Gastric by-pass has good results in weight loss but also has good results in associated diseases. Type 2 diabetes mellitus is associated with morbid obesity in 20% of patients. We check the glycemic control 5 years after surgery.

Methods We present a cohort study of 41 patients with gastric by-pass operated 8 years ago with preoperative diabetes or glycemic alterations. We had 3 groups:

I: Basal glycemia elevated n=18

II: DM2 with pharmacological therapy n=16

III: DM2 with insulin n=7.

We recorded age, sex, BMI index pre and postoperative, basal glycemia and type and number of medication. The quantitative variables (sex, pre and post BMI) are expressed as median and intercuartile range (P25–P75). The qualitative variables are expressed as absolute and/or relative frequencies (%). For the hypothesis contrast we use non parametric tests in quantitative and comparative ratio for qualitative.

We considered significant a $p < 0.05$.

Results BMI doesn't represent differentiates between the 3 groups, either preoperative and 5 years control. (Kruskal-Wallis; $p > 0.05$) There was a decrease in weight in all the groups (Wilcoxon; $p < 0.05$). The proportion of patients that need medication (insulin and/or OAD) comes from 56,1% (39.1 and 7% respectively) in preoperative period to 15,4% in 8 years after control (10,3 and 5,1%) (comparative ratio $p < 0.0002$) Only 1 patient with insulin treatment preoperative continue using it. One patient with oral anti diabetes medication preoperative, needs insulin in the 8 years control despite the BMI reduce from 45 to 29 Kg/m².

Conclusions Gastric by-pass reduce pharmacological treatment needs in morbid obese patients in long term period.

065 Is Rygbp Beneficial for Type 1 Diabetes Control?

G. Alvarez, E. Faria, D. Girardon

Federa University of Santa Maria, Brazil

Background Obesity is common in type 2 diabetes but is rarely seen in type 1 diabetes. However, as shown in same Diabetes Trial cohort, a subset of type 1 diabetic patients are overweight. We intend evaluate RYGBP efficacy on treatment of type 1 diabetes in three overweight patients.

Methods and Results We performed RYGBP in three patients with type 1 diabetes associated with severe obesity. The first patient was a 34-year-old woman with type 1 diabetes since age 29 years, which was poorly controlled (HbA1c 9,5%) and treated with a basal bolus insulin regimen (daily insulin dose 80 IU). Her body weight was 90 kg, height 1,58 cm, and BMI 36 kg/m². One year after RYGBP, she was 63 kg (BMI 25 kg/m², 31,4% reduction). Besides, the mainly result was the patient glucose control improved markedly (HbA1c 6,3%), with daily insulin dose reduced to 30 IU. The second patient was a 30-year-old man with type 1 diabetes too since 6-year-old. He present HbA1c 8,2% and received treatment with basal bolus insulin of 100 IU. The patient underwent a RYGBP 8 months ago. Actually his glucose control improved markedly (HbA1c 6%), with daily insulin dose reduced to 25 IU. The third patient was a 31-year-old woman with type 1 diabetes since 29-year-old. She present HbA1c 13,2% and received treatment with basal bolus insulin of

90 IU. She also underwent a RYGBP 3 months ago and she present uneventful post operator. Besides, she improved markedly (HbA1c 6,8%), with daily insulin dose reduced to 25 IU.

Conclusions Gastric bypass surgery not only leads to a significant and maintained weight loss in type 1 diabetic patients, but also results in remarkable improvement in metabolic control (reduction in HbA1c of 35%). Consequently RYGBP is an excellent option to improve type 1 diabetes treatment in appropriate patients.

066 Laparoscopic Adjustable Gastric Banding (LAGB) in Severe Obese Diabetic Patients

C. Casalnuovo^{1,2}, C. Refi¹, H. Rozas¹, L. Manzano¹

¹Centro de Cirugía de la Obesidad (CCO); ²Hospital de Clínicas - University of Buenos Aires, Argentina

Background Patients with severe obesity present a higher risk of developing type 2 diabetes (DM2). In these patients bariatric surgery produces a sustained weight loss, improving the insulin sensibility and obtains a satisfactory glycemia.

Methods 500 severe, morbid and superobese patients (BMI > 35) underwent bariatric surgery (LAGB). 122 patients (24.4%) presented DM2, excluding impaired fasting glucose (IFG) and glucose tolerance (IGT). Average age: 43 years-old (24–69), gender F: 60.7%, BMI: 51.4±9, average weight: 140±29 Kg (89–235). Ninety-four have been evaluated 2-years after surgery. BMI, %EWL, fasting and post-load glycemia, and HbA1c, with type and dose medication were determined. Evaluation criteria: Resolved (normoglycemia without medication), Improved (controlled with minimum dose of antidiabetic medication: oral(O), insulin(I), oral+insulin(OI)), and Not Modified.

Results With BMI reduction from 51.4±9 to 35.8±7 ($p < 0.001$), and an EWL of 55.1±23% 2 years post-op, an average fasting glycemia reduction from 161.3±58 to 99±20 mg/dl, and a HbA1c from 7.6 to 6% were found. The 38.3% of pre-op patients (n=94) received the hypoglycemic medication (25:O, 5:1, 6:OI), and in the post-op only 9.5% (4:O, 2:1, 3:OI). 76.6% has resolved DM2, 18.1% improved and 5.3% was not modified. The variation percentage (Resolved+Improved) was 94.7%.

Conclusions Long-term weight reduction with bariatric surgery (LAGB) is effective in the control of DM2 in severe obese patients. Resolution and improvement with minimum dose of antidiabetic medication results in an important number of patients that achieve a better quality of life in a long-term follow-up.

067 Type 2 Diabetes: Study Comparing Four Different Surgical Procedures

A.S. Fin, P.H.N. Mansur

Hospital Sao Luiz, Brazil

Background Success in surgical treatment of type 2 diabetes (DM) is associated to antrum, duodenum and jejunum in the intestinal transit and weight.

Methods 130 type 2 diabetic patients submitted to: Scopinaro procedure (A group); Duodenal Switch (B group); Roux-en-Y gastric by pass (C group) and revisional procedure after Roux-en-Y gastric by pass fail (D group) were analyzed between Mar/2001 to Mar/2008. In the D group the jejunum was the alimentary limb.

A group: 48 patients (BMI 29 to 51 Kg/m²), B group 42 patients (BMI 29 to 49 Kg/m²), C group: 15 patients (BMI 32 to 44 Kg/m²), D group 25 patients (BMI 31 to 41 Kg/m²).

The glycemia and BMI were measured : 1 day before the procedure, in the operative day, 1°, 3°, 7°, 14°, 28°, 45°, 90°, 180° pos-operative days also 1 year, 2 years, 3 years, 4 years, 5 years after. The curve of plasma glucose concentration was analyzed in all groups.

Results The glycemia range between 160 mg/dl to 450 mg/dl before the procedure (mean 230 mg/dl). The A group present the normal rate of the plasma glucose concentration until 4 weeks. The B group present the normal rate of the plasma glucose concentration until 8 weeks.

In the C group 10 (66,6%) patients were euglycemic after 1 year and 5 (33,3%) patients require oral medications to control the glucose level.

In the D group 22 (88%) patients were euglycemic after 1 year and 3 patients require oral medications to control type 2 diabetes.

Conclusions The type 2 diabetes was controlled after Scopinaro procedure and Duodenal Switch procedure in a short time before reduce the weight and in the others two groups require the weight reduction to improve the results. Considering the difference between the procedures we conclude that the jejunum and the high weight difficult the plasma glucose concentration to become normal.

068 Gastric Bypass and the Resolution of Diabetes Mellitus Type 2 in Non Obese Patients

J.M. Leon¹, M. Chitrit², J. Zafrani³, M.A. Flor⁴, M. Reyes¹, F. Barriga¹, J. Mendoza¹, M.A. Lamota¹

¹Guayaquil University Hospital; ²John Hopkins Punta Pacifica Hospital; ³Clinica Biblica; ⁴Luis Vernaza General Hospital
Department of Surgery, Mini Invasive Surgery-Bariatric-Metabolic, Hospital Universitario, Universidad de Guayaquil, Guayaquil-Ecuador

Background The prevalence of Diabetes mellitus type 2 (DMT2) in Latin America is increasing and is around 12–25% of the population according to statistics.

Methods This is a prospective observational study with 31 patients, between 24 and 52 years old (34 years), 16 men (51.61%) 15 women (48.38%) with Body mass index (BMI) between 21 and 30 Kg/m² (24 Kg/m²) with less than 10 years of disease. We perform a laparoscopic gastric bypass with large reservoir (120 cc approximately), average time of surgery around 60 minutes, 48 hours of hospital stay after the procedure (between August 2005 until April 2008)

Results The blood glucose that was very high, around 300 mg/dl in pre-op, in almost every patient, after 8 hours post surgery we observed a progressive decrease in blood sugar levels until normal values that appear between 24 and 48 hours post-op except in one case that took 15 days to return to normal levels. The glycosylated hemoglobin (HbA1C) levels notably elevated before the surgery, decrease to near normal levels (6.4+/2) after 30 days of hospital discharge and ambulatory follow up. These levels of HbA1C were obtained in 97% of the patients.

The patients report a great improvement in the resistance to physical activity, visual capacity, libido, and erectile dysfunction. The mortality observed was 0% also the morbidity was 0%.

Conclusions This procedure accomplished in non obese Diabetic type 2 patients seems very effective to improve the blood glucose and HbA1C values with no need of related diabetes medications, we also observed a decrease in blood lipid levels, blood pressure without pharmacologic treatment until now.

069 Laparoscopic Duodeno-Jejunal Bypass (LDJB) as a Surgical Treatment for Type 2 Diabetes Mellitus in the Non Obese Patients. Early Results

M. Berry, P. Lamoza, L. Urrutia, P. Burdiles, H. Coñoman, R. Lahsen

Center for Nutrition and Obesity Surgery, Clinica Las Condes, Santiago, Chile

Background We know from bariatric surgical literature that all bariatric surgical techniques resolve diabetes (T2DM) from 73% to 98% in obese patients, this resolution occurs among days to weeks after surgery. Based on Dr. Rubino's research on animals, LDJB has been proposed as an alternative of treatment for T2DM non obese patients. We report our first cases with this technique.

Patients and Methods Following a strict protocol with ethics committee approval in our institution, 2 Patients underwent a LDJB, transection of the duodenum 2 cm. distal to the pylorus, confection of a DJB, biliopancreatic limb of 75 cm, alimentary limb 100 cm. Barium swallow was done on the second postoperative day.

Results Case No. 1: 50-years-old female T2DM for 5 years, user of Avandia[®] and 30 U of insulin per day. Despite strict and well-led treatment, presented poor metabolic control, HbA1c of 9.8%. Preoperative C-Peptide 1.6. Postoperative without incident, no longer insulin or medication was used with fasting glucose of 105 mg/dl and postprandial 150 mg/dL. No weight loss. Case No. 2: 34-year-old male T2DM for 5 months treatment: Metformin. Fasting glycemia 120–150 mg/dl, no other morbidity. C-Peptide 4.6. LDJB was performed. Discharged at 3^o day. No longer diabetes medication needed. No weight loss.

Discussion These early results are encouraging, showing complete resolution of diabetes with no significant morbidity. We agree with Dr. Rubino that

duodenal exclusion is the main mechanism that explains these results. Although these preliminary results are very promising as an alternative treatment for T2DM in Non Obese patients, longer follow-up is needed.

070 Duodenal–Jejunal Lap Bypass -DJB to Treat Type 2 Diabetes –T2dm. 6 Month Data

A. Ramos¹, M. Galvao¹, M. Galvao¹, A. Carlo¹, E. Canseco¹, A. Murakami¹, M. Yglesio¹, F. Rubino²

¹Gastro Obeso Center; ²Weill Cornell Medical College, Diabetes Surgery Center

Background Some limited clinical experience indicates that DJB can treats T2D. The authors present the initial prospective data on 20 p who achieve 6 m follow-up.

Methods from aug-2006 to feb-2007, 20 diabetic patients were submitted to DJB; 11 male, age 32–60 y (m=42,9 y), T2DM 2–8 y (m=5,3 y), BMI 25–30 (m=27,9), fasting glycemia 139–252 (m=171.35), HbA1C 7,5–10 (m=8,86), C peptide 1,2–3,4 (m=2,08), all on oral medication with no insulin. Ethics commission approved and inform consent cleared.

Results at six months; the BMI drop to a mean=24,46 (20,8–28,3), glycemia to m=96,3 (78–118), HbA1C to m=6,83 (6–7,9) and C peptide raise to a mean of 2,51 (1,8–3,2). All but two (90%) patients were off meds. There were no intra-op complications, no reoperation or mortality. 2p (10%) presented gastric stasis.

Conclusions DJB on T2DM treatment is feasible and shows promising result on six month data.

071 Metabolic Surgery. Surgical Treatment for Type2 Diabetes in Patients with BMI <35

M. Torres

Hospital Eugenio Espejo, Hospital Metropolitano, Centro de Cirugia Bariátrica y Metabólica Gastromed, Ecuador

Background Given the existence of bariatric surgery and the control of comorbidities we propose the possibility of resolving tipo2 Diabetes with surgery. We practice surgeries which have a pathophysiological basis, supported on four hypothesis that are still under study. At the same time, studies like this are yielding excellent results all around the world in terms of the resolution or the improvement of this pathology.

Methods Review of 6 cases: 3 are type 2 diabetic patients with a BMI>30 who underwent Roux-en-Y gastric bypass surgery, and 3 are type 2 diabetic patients with BMI<30 who underwent duodenal–jejunal bypass surgery in 2007–2008.

Results Review of 6 patients diagnosed with Type 2 Diabetes, who met inclusion and exclusion criteria; men and women with ages between 31 and 58 without clinical treatment. We perform paraclinical measurements (Glycemia, glycosylated hemoglobin, insulin and peptid C) before and after surgery; also the reduction or suspension of medication that patients might have been taking was considered. The surgical procedures performed were: Roux-en-Y gastric bypass and duodenum–jejunal bypass respectively. Average surgical time: 180 minutes; average hospital stay: 96 hours. Postoperative morbidity: stenosis of anastomosis in one case. Mortality was null. Normal glycemia was obtained without the use of hypoglycemic medication.

Conclusions Metabolic surgery raises the solution for type 2 diabetes. The minimal invasive approach results to be an effective intervention without significant morbidity and null mortality.

Keywords: Type 2 diabetes, Roux-en-Y gastric bypass, Duodenal-jejunal bypass

072 Interim Report on a Prospective Sham Controlled Randomized Trial Investigating a Completely Endoscopic Duodenal Jejunal Bypass Sleeve for the Treatment of Type 2 Diabetes

L. Rodriguez¹, E. Reyes¹, P. Fagalde¹, M.S. Oltra¹, J. Saba¹, M. Alamo¹, C.G. Aylwin¹, C. Prieto¹, A. Ramos², M. Galvao², C. Sorli³, M. Tarnoff⁴

¹Centro de Cirugía de la Obesidad, Hospital DIPRECA, Av. Vital Apoquindo 1200 – Las Condes, Santiago de Chile; ²Gastro Obeso Center, Barata Ribeiro street, 881, ZIP 01308-000 - Sao Paulo, Brazil; ³Department of Endocrinology, Billings Clinic, Billings, Montana; ⁴Tufts Medical Center, Department of Surgery, Boston, MA, USA

Background Duodenal bypass is an important component of the rapid resolution of diabetes (T2DM) following gastric bypass. This is the first report of a completely endoscopic duodenal–jejunal bypass sleeve (DJBS) to specifically treat T2DM.

Methods In a single blind ongoing 52 week study, 18 T2DM patients were prospectively randomized to receive either the DJBS (n=12) or a sham endoscopy (n=6). Both groups were maintained on their baseline caloric intake for the first two weeks and were equally counseled about low calorie diet at each subsequent visit. The primary endpoint was reduction of HbA1c from baseline at 12, 24 and 52 weeks. Select secondary endpoints include safety, fasting plasma glucose (FPG), 7 point glucose profile, total body weight loss (TBWL) and change in the area under the curve after meal tolerance testing (MTT AUC) as compared to baseline.

Results One week data was analyzed for all patients. At week 1, the mean change in MTT AUC was 18.6% and +10.1% in device and sham groups respectively (p=0.05), FPG was 51.6+43.5 mg/dl and +16.5+77.7 mg/dl (p=0.17), and the aggregate reduction in 7 point glucose profile was 54.8+54.5 mg/dl and +1.1+45.7 mg/dl (p<0.05). TBWL between groups was similar with 4.5+1.3 kg and 3.9+1.3 kg for device and sham respectively (p>0.05).

Conclusions These results highlight the ability of duodenal bypass to rapidly restore glycemic control independent of weight loss or diet. The durability of glycemic control with the DJBS requires further study, which is ongoing at this time.

O73 GLP-1, Insulin and Insulin Resistance in the First Week After Bariatric Surgery

D. Pourmaras¹, C. Le Roux², A. Osborne¹, S. Hawkins¹, S. Bloom², M. Ghatei², D. Mahon¹, R. Welbourn¹

¹Musgrove Park Hospital, Taunton, Somerset, UK; ²Department of Metabolic Medicine, Hammersmith Hospital, Imperial College London, UK

Background The laparoscopic Roux-en-Y gastric bypass (LRYGB) causes resolution of type 2 diabetes in 84% of patients independent of weight loss. We aimed to investigate changes in insulin resistance and insulin production after LRYGB and to correlate these with the known incretin, glucagon like peptide 1 (GLP-1).

Methods Patients undergoing LRYGB were studied pre-operatively and at two, four, seven days and six weeks post-operatively. After a 12-hour fast a standard 420 kcal meal was administered. Insulin and glucose were measured. Insulin resistance was calculated using the homeostatic model approach (HOMA-IR). The GLP-1 response was measured over 3 hours. Radioimmunoassay was used to measure GLP-1 levels. Results were compared in the diabetic and non-diabetic groups as well as two control groups, one with diabetic patients who underwent a band and one with patients who were on a low calorie pre-operative diet.

Results Eight men and fifteen women were recruited following gastric bypass (mean [SD] age 48 [2.0] years; body mass index 50 [1.3] kg/m²); twelve had type 2 diabetes. At day 2 both groups significantly increased insulin production (p<0.05). GLP-1 production increased at day 2 (p<0.05) in diabetic patients and day 7 in non-diabetic patients (p<0.05). HOMA-IR was high in the diabetic group but fell on day 7 and 42 (p<0.05). Fasting GLP-1 was unchanged. These effects are maintained for the six week study period.

Conclusions LRYGB alters the insulin and GLP-1 response to food and decreases insulin resistance before weight loss. Increased insulin production in the first week after surgery may be explained by increased postprandial GLP-1 responses.

O74 TNF-Alpha in Morbidly Obese Patients With and Without Type 2 Diabetes Before and After Silastic Ring Vertical Gastroplasty

A.F. Catoi Galea¹, R.F. Galea¹, C. Catoi²

¹University of Medicine and Pharmacy Cluj Napoca, Romania; ²Faculty of Veterinary Medicine, Cluj Napoca, Romania

Background Morbid obesity is associated with a multitude of co-morbid conditions, and type 2 diabetes is one of them. Both diseases are associated

with a low grade chronic inflammation. The aim of this study was to evaluate TNF-alpha levels in morbidly obese with and without type 2 diabetes versus normal weight subjects, and to evaluate the effect of weight loss after silastic ring vertical gastroplasty.

Methods and Patients Mean BMI was 48,03±8,32 kg/m² in the first group (20 morbidly obese patients without diabetes) and 50,52±6,73 kg/m² in the second group (20 morbidly obese with type 2 diabetes). All the patients underwent silicon ring vertical gastroplasty. Plasma glucose and serum TNF-alpha were determined in morbidly obese before and six months after surgery and also in a group of healthy, normal weight subjects.

Results Weight reduction was significant in both groups (p<0,0001). TNF-alpha value was 19,36±9,09 pg/ml in the first group and 27,56±16,18 pg/ml in the second one, markedly elevated (p<0,0001) when compared with controls 9,23±4,98 pg/ml. There was significant statistical correlation between TNF-alpha values and BMI at baseline in morbidly obese patients without type 2 diabetes (r=0,48, p<0,05). By the end of the study TNF-alpha mean value was 18,46±11,20 pg/ml in the first group and 20,31±9,30 pg/ml in the second group of patients, but the reductions were not statistical significant.

Conclusions The present study showed that morbidly obese patients with and without type 2 diabetes have high levels of TNF alpha versus controls. Weight loss after silastic ring vertical gastroplasty is associated with TNF-alpha values reduction. However, six months after the surgical intervention, TNF-alpha values were still high.

O75 A Comparison of Three Different Forms of BPD

J. Ritchie, J. Ritchie

The Keyhole Surgery Centre, Australia

Background To compare the weight control, complications and side effects of the Scopinaro, transactional (BPD/WAP) and BPD/DS versions of biliopancreatic diversion.

Methods A retrospective study of BPD patients was conducted including circulating a patient survey to update satisfaction and side effects. A 65% response to the survey was received. The results of the survey were analysed and weight losses side effects and improvement in co-morbidities compared. **Results** All forms of BPD gave similar results as regards weight loss although BPD/DS produces marginally superior results. The only mortality occurred in Scopinaro BPD (2.4%). BPD/DS had the highest incidence of serious complications with a 11% of leaks mainly in revisional procedures. It had the best results in the long term with respect to long term control of food intake, bowel function, anaemia and bad breath. To date there has been no incidence of protein malnutrition in BPD/DS whereas transactional BPD does seem to carry a high risk of protein malnutrition.

Conclusions All forms of BPD produce excellent long term weight loss and control of co-morbidities. Despite the highest risk of leaks from the gastric tube BPD/DS offers the best quality of life after surgery. Hyperphagia is not a problem and there is long term control of food volumes. Patients do not have bad breath and there is no incidence of severe diarrhoea. The incidence of anaemia is reduced possibly because of retention of 3–4 cm of duodenum in the alimentary stream. It has a zero incidence of stomal ulceration.

O76 Transitory Vertical Gastroplasty or Gastric Resection Associated with Biliopancreatic Diversion: Outcomes After 8 Years Follow-up in a Large Series

E. Di Betta, F. Mitterpergher, A. Vilardi, C. Casella, B. Salemi

1st Department of Surgery, Medical University of Brescia, Italy

Background We compared outcomes of BPD associated with transitory vertical gastroplasty (TVG) or gastric resection (GR) in obese patients.

Methods We prospectively collected data regarding patients undergoing BPDGR and BPDTV performed from January 1999 to January 2007. The study endpoints were: long-term results of %Excess Weight Loss (%EWL), Body Mass Index (BMI) and postoperative morbidity, mortality and evolution of preoperative comorbidities.

Results BPDGR was performed in 138 patients and BPDTV in 179, with a mean preoperative BMI of 47.6 kg/m² and a mean follow-up of 43 months.

There were no significant differences between BPDGR and BPDTVG with regards to age, sex, BMI or morbidity and mortality. Mean (\pm SD)%EWL and BMI at 12,36,60,96 months was in BDPGR: 53.2(\pm 4.3)%, 71.3(\pm 3.8)%, 74.5(\pm 3.5)%, 74.4(\pm 1.7)% and 39.3(\pm 5.2), 34.6(\pm 4.6), 31.3(\pm 3.4), 30.1 (\pm 2.1) Kg/m², respectively. In BPDTVG patients was: 61.3(\pm 3.7)%, 72.4 (\pm 3.8)%, 73.7(\pm 3.5)%, 75.1(\pm 1.7)% and 37.2(\pm 4.2), 33.3(\pm 3.8), 31.1(\pm 3.2), 29.6(\pm 2.1) Kg/m². Major and minor complications occurred in 12 patients (3.7%) and 9 patients (2.8%) respectively, without significant differences between BPDGR and BPDTVG. Nausea, vomiting and diarrhoea were more frequent in BPDGR ($p > 0.05$). Hypoalbuminemia, anemia and hypocalcemia were 16%, 28% and 16% in BPDGR patients and 11%, 15%, 14% in BPDTVG patients. Elongation of common tract from 50 to 100 cm was in 5(3.6%) cases of BPDGR and in 1(0.5%) case of BPDTVG, due to malnutrition or profuse diarrhoea. We observed improvement of all comorbidities after both procedures. No mortality was observed.

Conclusions BPD is a safe and effective procedure in bariatric surgery, requiring a strict follow-up in order to prevent malnutrition. DBP-TVG induces a quicker weight loss in first year and is associated with less gastrointestinal symptoms and less nutritional complications.

077 Transit Bipartition: A Better Alternative to Duodenal Switch to Empower a Sleeve Gastrectomy

S. Santoro¹, C. Malzoni¹, M. Velhote², F. Milleo³, M.A. Santo², S. Klajner¹, P.C. Borges¹

¹Hospital Israelita Albert Einstein, São Paulo, Brazil; ²Hospital das Clínicas da Faculdade de Medicina, Universidade de São Paulo, Brazil; ³Hospital Vicentino, Ponta Grossa, PR, Brazil

Background A Transit Bipartition (TB) creates a gastro-ileal anastomosis in the antrum after a sleeve gastrectomy; the duodenum is left open, with its transit maintained, avoiding a blind loop and minimizing malabsorption. A partial biliopancreatic bypass (BPD) is constructed. The stomach remains with two exits.

Methods Since 2003, 180 patients were submitted to a sleeve gastrectomy and TB. 170 cases were submitted also to an omentectomy and proximal jejunectomy, maintaining initial 40 cm of jejunum and final 260 cm of ileum (keeping bowel length within normal range). In ten recent cases the jejunectomy was not performed. In all cases, jejunum was laterally anastomosed to ileum at 80 cm of the cecum ("the common channel").

Results Follow-up: 1 to 60 months. Average EBMI% was 79.9% in the first year; 91.3% in the second year; 90.4% in the third year; 88.6% in the fourth year. Patients present early satiety and major improvement in pre-surgical comorbidities, especially diabetes (93% of remission). Postprandial GLP-1 and PYY were enhanced ($P < 0.05$). Radiographic studies show nutrient transit mainly through gastroileostomy. Surgical complications were 5.5%, all resolved without sequelae. Signals of malabsorption are rare. No deaths. Most patients present no symptoms at all. TB without enterectomy cause a smaller reduction in weight loss, but data is recent.

Conclusions TB is simple alternative to Duodenal Switch that makes it better and easier. TB maintains positive neuroendocrine changes of BPD however avoiding blind loops and minimizing malabsorption, diarrhea, flatulence. Weight and comorbidities are very much improved. Diabetes is improved significantly without duodenal exclusion.

078 Bariatric Revisional Surgery

P. Mognol, J. Marmuse

Hopital Bichat, France

Background Ineffective weight loss or complications of previous bariatric surgery often require revisional bariatric procedures. Our aim was to review the indications, operative approach, and outcomes of 275 revisional bariatric procedures at a tertiary center.

Methods 234 patients (85%) underwent conversion of gastric banding to gastric bypass, 26 patients underwent gastric bypass after VBG, 9 patients underwent conversion of gastric banding to sleeve gastrectomy and 6 patients underwent conversion of sleeve gastrectomy to gastric bypass.

Results LAGB→RYGB VBG→RYGB LAGB→SLEEVE SLEEVE→RYGB
N 234 26 9 6

Open/laparoscopy 29/205 12/14 0/9 0/6

Morbidity 9% 11.5% 11% 16%

Mortality 0 0 0 0

BMI decrease 13+/-5 kg/m² 11+/-5 kg/m² 17+/-3 kg/m² Data insufficient

%EWL 67+/-10% 58+/-11% 55+/-20% Data insufficient

Conclusions Revisional bariatric surgery is safe and effective in experienced centers. Complications (mechanical/symptomatic/nutritional) or unsatisfactory weight loss after primary bariatric procedures can be treated effectively with revision to Roux-en-Y gastric bypass.

079 Laparoscopic Proximal Gastric Banding After Failed Vertical Gastroplasty and Gastric Bypass

E. Avinoah, S. Mizrahi

Soroka Medical Center, Ben-Gurion University, Israel

Background Most gastric restrictive operations are based on small gastric pouch and narrow stoma. Gastric bypass failure is attributed to enlargement of the gastric pouch and/or the stoma, While vertical gastroplasty failure is due to stapled line disruption. We describe our clinical experience with revision operations performing proximal gastric banding.

Methods Between 1997 to 2007 we performed 5000 laparoscopic gastric banding for morbid obesity. 360 of the patients were after open vertical gastroplasty, and 25 after open gastric bypass. Most patients after gastroplasty had stapled line disruption and those after gastric bypass had gastroenterostomy enlargement. These patients after previous gastric surgery regained weight to an average BMI of 43 \pm 6 (35 to 64) their mean age was 47 \pm 10. At operation we used Verez needle and the camera was inserted at left hypochondrium. Laparoscopic adhesiolysis was performed under the scar and liver and banding performed at the gastroesophageal junction.

Results There were no leaks and no mortality. Hospital stay was no longer than 24 hours. Two patients had large hiatal hernia and banding could not be performed. One patient was converted from gastric bypass to biliopancreatic diversion. BMI gradually declined depending on band tightness. Three to seven years follow up shows no slippage and no erosions. One patient had esophageal dilatation. Present survey shows that BMI remains stable below 29 even more than eight years after surgery.

Conclusions Laparoscopic proximal gastric banding is safe operation. Gastric revision operation restoring the gastric restrictive effect, is efficient even at long term follow up.

080 Laparoscopic Revisional Surgery for Insufficient Weight Loss or Weight Regain

E. Soricelli, M.C. Fioriti, M. Rizzello, G. Casella, F. Abbati, G. Silecchia, N. Basso

Department of Surgery P. Stefanini - Umberto I Hospital, Rome, Italy

Background Due to the widespread of bariatric surgery, an increasing number of patients will require revisional surgery for complications as well as for insufficient weight loss (IWL) or weight regain (WR) and persistence of comorbidities.

AIM to evaluate the safety of the laparoscopic approach in a subset of morbid obese patients candidate to revisional bariatric surgery.

Methods 30 patients underwent laparoscopic revisional surgery for IWL or WR. Post-operative morbidity, mortality rate, weight loss and co-morbidities modifications were evaluated.

Results see table n°1:

* De-banding was simultaneous to revisional surgery in 13 cases (76%)

The conversion rate was nil. No major post-operative complications occurred. 1 patient undergone band removal and conversion to LSG died of pulmonary embolia five days post-op.

Conclusions Laparoscopic revisional surgery is a safe and effective procedure. After a primary restrictive procedure, LSG and RYGB seem to be effective achieving similar weight loss and co-morbidities remission.

Table 1

From	To	N [*] Pts	BMI primary surgery	Time interval (months)	BMI at Re-do	Current BMI (FU months)
LAGB	Removal	9	42,8	36	35	–
LAGB	LSG*	9	49,9	66	42,92	30,21 (26)
LAGB	RYGBP*	8	44,25	61	46,14	34,8 (41)
RYGBP	Distal RYGBP	1	45	41	42,4	30,4 (24)
VGB	RYGBP	2	52,1	48	44	32 (48)
LSG	Re- SG	1	58,2	36	44	–

081 Comparative Outcomes After Duodenal Switch Operation with Fixed Lengths for Alimentary and Common Limb Versus Percent Limb Lengths of the Jejunum–Ileal Segment

N.G. Meinhardt, K.E. Souto, A.T. Stein, B. Dellamea, R. Franz

Brazil

Background Modern bariatric surgery could be described in two main brands. One are based on alimentary restriction and the other in malabsorption. Malabsorptive surgery are based on the functional exclusion of variable lengths of small bowel. Scopinaro et al., indicates a 50% exclusion of small bowel for his BilioPancreatic Diversion (BPD). Marceau et al, indicate fixed measures of 100 cm and 250 cm from the ileo–cecal valve, for common and alimentary limb, and Hess et al, indicate 10% and 40% of the small bowel length for the same finality, for the same surgery with Duodenal Switch (BPD-DS). There are few papers about small bowel dimensions. Outcomes of BPD-DS with fixed limb lengths are compared with percent of small bowel length, to the same use.

Methods It was evaluated 104 cases which were operated between Feb-2002 and Aug-2006. 44 cases were operated with 100/250 for common and alimentary limb (Marceau) compared to 60 cases with 10% and 40% of the total small bowel to the same function.

Results The difference in %EBMIL is favourable to percent measures, even when adjusted to the unequal pos-operative time.

Conclusions The outcomes achieved with BPD-DS were carried out with common and alimentary limb as percent of the small bowel length were significantly better in this group of patients.

Table 1

	Initial BMI	Years Pos-op	%EBMIL	Small bowel length
(Marceau) fixed length - 44 casos	50,39+8, 12 kg/m ²	3,2+1,0 anos	58,47+ 26,16%	6,8+0,63 m
(Hess) percent length - 60 casos	48,48+ 6,55 kg/m ²	1,8+0,4 anos	82,34+ 15,42%	6,78+0,88 m

ALLIED HEALTH ABSTRACTS

MD O1 Requirements of a Bariatric Surgery Center and the Role of the Bariatric Coordinator

P. Millo, R. Allieta, R. Brachet Contul, F. Persico, M. Roveroni, G. Scozzari, M.J. Nardi, A. Gatti

Regional Hospital "Umberto Parini"- Dept. of general Surgery, Aosta, Italy

Background Obesity is defined as a multifactorial pathology and therefore its treatment, whether be medical or surgical, requires a multidisciplinary approach. A bariatric surgery centre must initially treat obesity under the medical-dietological profile, and only subsequently, in case of failure, through surgery. Therefore, the surgical part must be inserted in the treatment for obesity, viewed as a social disease with the whole procession of comorbidity symptoms that can be resolved or improved. Surgical treatment is not a plastic or cosmetic surgery treatment, but one of the possible approaches to the pathology.

Centre Characteristics The minimum requirements for organisation of a bariatric surgery centre are: creation of a multidisciplinary team, dedicated personnel, minimum guaranteed operating program, diagnostic clinical pathway, patient selection (according to the American Society of Bariatric Surgery, SAGES and NIH criteria), postoperative Cure, early and late complication management capacity, psychoeducational groups. The multidisciplinary team is the fundamental requirement of the centre for a global approach to the patient, which takes into account all of the clinical and nonclinical variables. The team selects the patients, discussing the cases in fortnightly meetings, assesses the type of operation suitable for the specific patient, keeping in mind all of his characteristics (BMI, age, eating habits, psychological aspects), identifies the complex cases that require special courses, and checks follow-up progress.

Conclusions The multidisciplinary team and the bariatric coordinator is the gold standard of the organization of a bariatric center to have best results in pre, post operatively and future management of such a complex pathology.

MD O2 The Functionality of the Interdisciplinary Staff on the Support of Patients who Underwent a Gastric Surgery

E. Pereira, A. Pereira, M. Trelles, F. Bergoli, K. Keller, L. Rubin, L. Pereira, P. De Freitas, L. Ramos, J.M. Santos, E. Coelho, L. Luiz

Equilibrium - Therapeutic Center of Obesity, Brazil

Goal To show the functionality of the interdisciplinary performance.

Methodology The surgery itself does not guarantee goods results, this way, it is essential the patient motivation an engaged staff. According the medical point of view the interdisciplinary staff should offer an efficient and safe pre and post surgical treatment. Physiotherapy improves pre and post surgical conditions, the respiratory capacity, encourages earlier movements and relieves the pain. Nursing assures technical competence in the pre trans and pos-surgical being the link among professional, patients and relatives. The psychologist enriches the interdisciplinary assistance job as well as support the patient emotionally, strengthening capacities and establishing realistic goals regard the loose of weight and the future image. Permanent Nutritional support is very important for the private diet therapeutic behavior, avoiding nutritional insufficiency or over supplementation. Phonodiology guides changes in the chewing patterns, reducing (Emeses)vomits and taking advantages of nutrients. The physical educator watches the corporeal composition development, sets goals and creates strategies to maintain the weight according to the patient's nutritional evolution. We attempted interdisciplinary through the patient nutritional communication, in which each ones feelings are subsides for following measures definitions.

Conclusions the interdisciplinary performance demands well prepared, obstinated and modest professionals as well as a leader and committed surgeon with, interdisciplinary approach. Everybody has to speak the same language, all the staff has the same thought towards the patient, emphasizing that the success of the surgical treatment depends on his or her commitment. The great challenge is to lose weight and keep fit with life quality.

MD O3 Morbid Obesity, Vascular Inflammation and Metabolic Surgery

T. Silvestre, M. Ruano, E. Aguirreigoicoa, L. Criado, A. Matco, G. Garcia-Blanch

Hospital of Mostoles, Spain

Background Type 2 diabetes mellitus (DM2), morbid obesity (MO) and dyslipidemias are associated to an increased cardiovascular risk that can be attributed to endothelial dysfunction and inflammatory events. The objectives of the present study are: 1) to evaluate the influence of metabolic surgery on the markers of cardiovascular inflammation in patients with MO; and 2) to analyze their long-term evolution.

Methods Retrospective evaluation of 215 patients, 170 women and 45 men with MO operated in our Hospital and that showed hypertensive disease (DH) and/or DM tipo 2. The mean age was 43.5 years (19–62). Before surgery and 6, 12, 24, 60 and 84 months after it we have collected anthropometric measures and determined the blood pressure and the serum levels of insulin (INS), blood glucosa (GLU), total cholesterol (TCH), HDL-cholesterol (HDL-C), TCH/HDL-C ration, LDL-cholesterol (LDL-C), homocystein (Hcy), reactive C-protein (RCP), serum A amyloid protein (SAA) and interleukine 6 (IL-6).

Results Before surgery the mean (SD) values for BMI and WC were 49.2 (7.2) and 123.1 (18.2), respectively Blood pressure was high and we found elevated serum levels of INS, GLU, TCH, LDL-C. PCR, Hcy, SAA and IL-6, while HDL-C was reduced and mean TCH/HDL-C ratio=6.38. In the first 6 months following surgery the values of BMI and WC began to decrease and the values of the serum markers tended to normalize, something that was true after 24 months and remained so at 84-months follow up.

Conclusions Bariatric surgery is the most effective method for MO therapy and cardiovascular risk reduction.

MD O4 Gastric Bypass and its Effect on Blood Pressure

A. Ahmed¹, D. Coniglio², T. Boss², J. Johnson², W. O'Malley²

¹Charing Cross Hospital, Imperial College London, London, United Kingdom; ²University of Rochester Medical Center, New York, USA

Background Gastric bypass surgery is known to have a significant effect on obesity related comorbidities such as hypertension curing it in some (50–70%) whilst improving control in others. Our aim was to observe the changes in blood pressure in a cohort of 100 patients followed prospectively for 1 year after laparoscopic gastric bypass.

Methods Blood pressure measurements were recorded prospectively in 100 consecutive patients preoperatively and then postoperatively at weeks 1, 5, 9, and months 6 and 12. In order to reduce bias, 3 blood pressure measurements were made by the same nurse at each office visit and the mean recorded. Pre and postoperative usage of anti-hypertensive medication was also noted.

Results 89 women and 11 men underwent gastric bypass and their blood pressures monitored for 1 year. Table 1 demonstrates at 1 year after surgery, there was an 85% follow-up rate with mean % excess body weight loss (% EBWL) of 60. Reductions in systolic (9 mmHg) and diastolic (7 mmHg) blood pressure measurements were seen as early as week 1 postoperatively and maintained for the duration of the observation period (P<0.05). Furthermore postoperative usage of anti-hypertensive medication is reduced to a third of preoperative use.

Conclusions Laparoscopic Roux-en-Y gastric bypass is associated with an early reduction in blood pressure and anti-hypertensive medication usage which is maintained at 1 year after surgery. This early impact on blood pressure occurs before any significant weight loss is achieved thereby suggesting a hormonal mechanism may be involved for the changes observed.

Table 1 Blood pressure changes post gastric bypass

	Preop (N=100)	Postop week 1 (N=100)	Postop week 5 (N=91)	Postop week 9 (N=91)	Postop month 6 (N=80)	Postop month 12 (N=85)
Mean weight (kgs)	138	132	125	120	102	93
Mean BMI	49	47	44	43	36	33
Mean %EBWL	–	7	17	25	48	60
BP systolic (mean±sd)	134±9	125±10**	124±10**	124±8**	124±13**	119±11**
BP diastolic (mean±sd)	84±9	77±6**	74±8**	74±7**	74±7**	75±8**
Anti-hypertensive usage (total number of medications)	71	23	23	23	18	18

** p<0.05 (paired t test)

Table 3 Histopathology of "normal" endoscopy

	Inflamation	Mucosal inflammation	Lymphoid hyperplasia	Mucosal desorganization	Helicobacter pylori	Atrophy	Intestinal metaplasia
Obesos 39	26 (66,7%)	20 (51,3%)	12 (30,8%)	4 (10,3%)	19 (48,7%)	6 (15,4%)	3 (7,7%)
Controls 33	19 (57,6%)	14 (42,4%)	10 (30,3%)	4 (12,1%)	11 (33,3%)	3 (9,1%)	1 13,0%)

MD O5 Study of Upper Digestive Endoscopy Findings and their Histopathology in Obese Patients Seeking Bariatric Surgery Compared to Non-Obese Controls

N.G. Meinhardt, J. Dietz, J.M. Kulczynski, K.E. Souto

Brazil

Background Bariatric surgeries are the most effective treatment for morbidly obese patients, and invariably involve surgeries on the stomach. Upper digestive endoscopy is routinely performed in the preoperative of bariatric surgeries. The literature lacks detailed studies on gastric histopathology in morbidly obese patients.

Methods 70 morbidly obese patients and 70 non-obese controls (BMI<30 kg/m²) were paired for gender and age. The control non-obese patients had indication to upper digestive endoscopy by digestive complaints. All patients were submitted to upper digestive endoscopy with antral and body biopsy, and the histopathological findings were analyzed.

Results see Tables 1,2,3.

Conclusions/Questions Obese patients are less symptomatics? Obese patients has less symptoms? Histopathological and endoscopic criteria need a revision? This is a local phenomena or has a worldwide distribution?

Table 1 RESULTS – Endoscopy findings

	Esofagitis	Gastritis	Erosive gastritis	Hiatal hernia	Gastric ulcer	Normal endoscopy
Obese - 70	9 (12,9%)	12 (17,1%)	14 (20%)	1 (4,9%)	3 (4,3%)	31 (44,3%)
Non-obese - 70	5 (8,8%)	19 (27,1%)	9 (12,8%)	3 (4,3%)	0	34 (48,6%)

Table 2 Histopathological findings

	obese (%) n=70	non-obese (%) n=70	OR	C.I. 95%	P
Mucosal inflammation	52 (74,3)	51 (72,5)	1,08	0,51–2,28	1,00
Lymphoid hyperplasia	26 (35,7)	21 (30,0)	1,30	0,64–2,63	0,59
Inflammatory activity	40 (57,1)	40 (57,1)	1,00	0,51–1,95	0,86
Mucosal desorganization	8 (11,4)	9 (12,9)	0,87	0,32–2,41	1,00
Helicobacter pylori	37 (52,9)	34 (48,6)	1,19	0,61–2,30	0,73
Atrophy	10 (14,3)	10 (14,3)	1,00	0,39–2,58	0,81
Intestinal metaplasia	4 (5,7)	6 (8,6)	0,64	0,17–2,40	0,74

MD O6 Hair Loss Following Roux-en-Y Gastric Bypass: Patient's Perception and Trichogram Evaluation

A.C. Leite Jr^{1,2}, A.B. Garrido Jr^{1,2}, I. Ceconello^{1,2}

¹HC-FMUSP, Brazil; ²Surgery of Digestive Tract Discipline by the Gastroenterological Department, Brazil

Patients who have undergone bariatric surgery may complain of hair loss. A trichogram is designed to measure hair loss by collecting a sample of 40 to 100 hairs that are attached to the scalp and then evaluating their roots under a light microscope. Roots of growing hairs were compared with those of hairs in the process of shedding. Eighty-three patients were examined more than

one year after the bypass procedure via dermatological exam and trichogram. We record the fact that 36 patients (43.37%) showed positive history and trichogram-proven hair loss, 12 patients (14.45%) showed trichogram-proven hair loss but without a record of any complaint in their history, 22 patients (26.5%) showed no hair loss via trichogram, but complained of faster loss than before they underwent the surgery, and 13 (15.66%) patients showed no hair loss, a claim proven by their trichogram results. Data show that patients' perceptions about hair loss and the real increase in lost hair of approx. 40% of patients do not match reality, when compared with patients' own recall and trichogram results more than one year after undergoing surgery for obesity.

MD O7 Evolution of Comorbidities and Weight Loss Three and Five Years After Roux-en-Y Gastric Bypass (RYGBP)

M. Suter¹, J. Calmes², A. Paroz², S. Romy², V. Giusti³

¹Hopital du Chablais, Aigle-Monthey, Switzerland; ²Department of surgery, CHUV, Lausanne, Switzerland; ³Division of diabetology, endocrinology and metabolism, CHUV, Lausanne, Switzerland

Background The goals of bariatric surgery are weight loss, correction of comorbidities, improvement of quality of life, prolonged life expectancy and cost savings. In this study, we present the effects of RYGBP on weight loss and comorbidities.

Methods Prospectively maintained bariatric database incorporating all patients operated in both institutions. Retrospective analysis.

Results 864 patients, 97.9% of whom presented at least one comorbidity, underwent primary RYGBP between 1999 and 2008. Operative mortality was 0.11%. EBMI was 77.7%, 76.2 and 71.5% after one, three and five years respectively. Fasting glucose and serum lipids improved significantly as of the first postoperative year. The prevalence of an elevated total cholesterol level dropped from 64.4% to 37.6% at five years, that of an elevated cholesterol/HDL index from 25.7% to 4.7%, that of increased triglycerides from 37.1% to 8.4%, and that of hyperuricemia from 37.4% to 17.7%. Glucose metabolism was improved in all patients. After three or five years, hypertension was resolved or improved in 87% and 90% respectively, sleep apnea syndrome in 97 and 96%, GERD in 95 and 93%, back pain in 79 and 80%, joint pain in 80 and 80%. Four patients died during follow-up, for a total mortality of 0.58%. **Conclusions** RYGBP is followed by substantial weight loss and a significant, albeit not complete, resolution of all of the evaluated obesity-related comorbidities. Mortality, both operative and long-term, is very low.

MD O8 Laparoscopic Sleeve Gastrectomy: Review of 308 Cases in a University Center

C. Boza, N. Quezada, J.I. Torrealba, J. Salinas, D. Arbuló, G. Pérez, A. Escalona, F. Pimentel, L. Ibañez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background To describe the results of Laparoscopic Sleeve Gastrectomy (LSG) on 308 patients performed in a University center.

Methods We conducted a review of our prospective electronic database of patients who underwent LSG from Nov 2005 to Jan 2008. Demographic, surgical results, complications, weight, %EWL and comorbidities were assessed.

Results 308 patients underwent LSG during this period (76% females). Mean age was 36.7±11 years. Mean preoperative BMI was 36.3±4.6 kg/m² (28.7–64.9). Mean operative time was 82±31 minutes. There were no conversions to open surgery. Mean hospital stay was 2.9±2.1 days and time to oral feeding was 1.2±0.4 days. Five patients had early complications: 2 leaks, 1 antral stenosis, 1 bleed and 1 mesenteric thrombosis. Only 1 patient required reoperation. Six patients developed late complications: 4 cholelithiasis, 1 portal vein thrombosis and 1 abdominal pain. Median follow up time was 15 months (1–26). Percent of excess weight loss was as follow: month 1: 32.7±15.3; month 3: 58.5±18.3; month 6: 79.1±24.2; month 12: 96.1±28.2 and month 24: 102±35.8. Preoperative comorbidities status was: hypercholesterolemia: 66%, hypertriglyceridemia: 63%, high LDL-cholesterol: 45%, type 2 diabetes 6%, insulin-resistance: 54% and arterial hypertension 20%. Resolution of comorbidities 1 year after surgery was: hypercholesterolemia: 64%, hypertriglyceridemia: 74%, high LDL-cholesterol: 57%, type 2 diabetes 82%, insulin-resistance: 94% and hypertension 73%.

Conclusions LSG was good in terms of weight control with sustained weight loss after 2 years. Comorbidities resolution was good and similar to the resolution achieved by laparoscopic Roux-en-Y gastric bypass reported in literature. Also, LSG had a low risk of complications, becoming LSG an attractive surgical treatment for obesity.

MD O9 Type 2 Diabetes Obese Patients After Gastric Bypass. Greater Incidence of Dumping Syndrome.

A.V. Padoin¹, M. Galvão Neto², L. Glock¹, M. Moretto¹, F. Barancelli¹, C.E. Schroer¹, F.G. Colossi¹, C.C. Mottin¹

¹Centro da Obesidade Mórbida do Hospital São Lucas da Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil; ²Gastro Obese Center, São Paulo, Brazil

Background Dumping is one of the most common complications in operated morbid obese patients. The aim of our study was to determine the factors related to dumping in patients submitted to gastric by-pass.

Methods Retrospective study. Selected for the study were 179 patients with morbid obesity who were submitted to gastric by-pass and followed-up at 3, 6 and 12 months after surgery. The occurrence of dumping was determined by the patient's medical chart, where it was considered positive if recorded in at least one of the three evaluations.

Results The 179 patients evaluated had a BMI of 48.1±8.8 kg/m² and age of 38±10 years, with 72% being women. The prevalence of dumping syndrome in this population was 21.8%. No significant differences were observed among the subjects with respect to length of biliary tract, age, BMI, waste size and gender ($p>0.05$). The prevalence of dumping was greater in patients with DM2 (41.1%; $p<0.001$). A significant difference was also seen with regard to length of alimentary tract ($p=0.003$) between patients with and without dumping. When patients with and without DM2 were evaluated separately, a significant difference was seen in length of alimentary tract. However, when stratified with respect to DM2, patients with and without dumping syndrome did not show a significant difference in length of alimentary tract.

Conclusions Dumping syndrome is a common postoperative complication in gastric by-pass. Patients with DM2 show a greater postoperative prevalence of dumping. The length of the alimentary tract is a possible confounding factor, and a prospective study is warranted to draw more definitive conclusions.

MD O10 Thyroid, Morbid Obesity and Metabolic Surgery

V. Silvestre^{1,2}, R. Mario^{1,3}, E. Aguirrecoia^{1,3}, L. Criado^{1,3}, A. Marco^{1,4}, G. García-Blanch^{1,2}

¹Hospital of Mostoles, Spain; ²Department of General and Gastrointestinal Surgery; ³Department of Biochemistry; ⁴Department of Endocrinology.

Hospital General of Móstoles, Móstoles (Madrid, Spain)
C/Río Júcar s/n 28935 Móstoles (Madrid) Spain

Background Morbid obesity (MO) and subclinical hypothyroidism (SH) are associated. Prevalence of MO in 2005 was 15.5% and prevalence of SH ranged between 3–15%. The objectives of the present study are: 1) to evaluate abnormalities in the levels of hormones and antithyroid antibodies in patients with MO; 2) potential reversibility of these abnormalities following bariatric surgery; and 3) long term evolution of these changes.

Methods Retrospective evaluation of 303 patients, 240 women and 63 men with MO operated in our Hospital (gastric bypass following Capella's procedure: 240; gastroplasty: 60; Scopinaro's biliopancreatic bypass: 1 and gastric Sleep: 1). The mean age was 39 years (range: 16–62). We found SH in 18.8% of the cases ($n=57$). Before surgery and at 6, 12, 24, 60 and 84 months follow up we have collected anthropometric measures and the serum levels of thyroid stimulating hormone (TSH), free thyroxine (FT4), free triiodothyronine (FT3) and antithyroid antibodies.

Results Before surgery the mean value (SD) was 49.7 (7.0) for the BMI, 121.8 (19.5) for the WC and 10.6(1.1) U/mL for TSH, 1.1 (0.3) g/dL for FT4, 2.2 (1.2) pg/mL for FT3 and antibodies were positive. After surgery and during the first 6 months the values of BMI, WC and TSH decreased, although they tended to stabilize after 24 months; this situation remains unchanged at 84 months follow-up.

Conclusions The reduction of BMI, WC and the normalization of the hormone levels of TSH suggest that the possible origin of the SH can be MO.

MD O11 Does Gastric Bypass Alter Male Endocrine Function?

G. Woodard, J. Downey, K. Chong, J. Peraza, J. Morton

Stanford University, USA

Background Morbid Obesity is the leading public health epidemic of the industrialized world affecting men and women equally. Bariatric surgery is the only effective and enduring treatment for this disease. Gastric Bypass is known to be very effective for weight loss but little is known of its effect on male endocrine function and expression. We hypothesized that gastric bypass will effect testosterone (TEST) dehydroepiandrosterone (DHEA) and prostate specific antigen (PSA).

Methods 30 male gastric bypass patients were recruited to participate in this case crossover trial. Testosterone, DHEA, and PSA levels were recorded preoperatively and at 3 and 6 months.

Results On average, the gastric bypass patients' BMI declined from 53 preoperatively to 36 at 6 months. All patient results were matched and significant. Preoperatively, testosterone rose from 231 preoperatively to 389 at 3 months and 428 at 6 months. DHEA levels changed from 2.2 preoperatively to 1.8 at 3 months and 2.3 at 6 months. Finally, PSA levels increased from 0.89 preoperatively to 0.98 at 3 months and .99 at 6 months.

Conclusions In this unique trial, it is demonstrated that gastric bypass improves male endocrine function. With patients acting as their own controls, we demonstrated that testosterone and PSA levels increased after surgery. Surgical weight loss demonstrates better testosterone production and that PSA levels in obese men may be artificially low due to hemodilution.

MD O12 Adrenal Glands, Morbid Obesity and Metabolic Surgery

V. Silvestre, M. Ruano, E. Aguirreigoicoa, L. Criado, A. Marco, G. Garcia-Blanch

Hospital of Mostoles

Background When studying the abnormalities of the adrenal glands (infrequent, but severe) we find a significant coexistence with obesity, hypertensive disease (HD) and low levels of potassium. The objectives of the present study are: 1) to evaluate abnormalities of the adrenal gland and ion levels in patients with morbid obesity (MO); 2) to determine reversibility of the changes following metabolic surgery; and 3) to analyze their long-term outcome.

Methods Retrospective evaluation of the data from 215 patients, 170 women and 45 men with MO operated in our Hospital and suffering from HD and/or DM2. The mean age was 43.5 years (range: 19–62). Before surgery and at 6, 12, 24, 60 and 84 months follow up we have collected anthropometric measures and also determined the blood pressure (BP) and the serum levels glucocorticoides and hormones implicated in the renin-angiotensin-aldosterone system (RAAS), sodium (Na), potassium (K) and insulin (INS).

Results Before surgery the mean (SD) values for BMI and WC were 49.2 (7.0) and 123.1 (18.2), respectively. The BP was high and we found elevated serum levels of glucocorticoids, RAAS hormones and Na, while K levels were decreased. During the first 6 months following surgery the values of BMI, WC, BP, hormones and Na decreased and K increased. These figures stabilized at 24 months and remained so after 84 months.

Conclusions Reduction of antropometric parameters, BP and abnormal hormone levels after surgery confirm this therapy as an effective means in the fight against MO and comorbidities associated with it, as HD and/or DM2

MD O13 Gut Hormone Changes in the First 24 Months After Gastric Bypass

D. Pournaras¹, C. Le Roux², A. Osborne¹, S. Hawkins¹, S. Bloom², M. Ghatei², D. Mahon¹, R. Welbourn¹

¹Musgrove Park Hospital, Taunton, Somerset, UK; ²Department of Metabolic Medicine, Hammersmith Hospital, Imperial College London, UK

Background Gut hormones are implicated in the reduction of appetite and weight after laparoscopic Roux-en-Y gastric bypass (LRYGB) seen in the initial post-operative period. We aimed to evaluate the physiological importance of the satiety gut hormones peptide YY (PYY) and glucagon like peptide-1 (GLP-1) in the first 24 months after surgery.

Methods Sixteen patients were studied cross-sectionally at three different time points, 12 (n=6), 18 (n=5) and 24 (n=6) months after LRYGB. Another group of patients were studied preoperatively. All participants were given a standard 420 kcal meal after a 12 hour fast and plasma levels of PYY and GLP-1 were correlated with changes in appetite over three hours using visual analogue scores (VAS).

Results Four groups of patients, pre-op, 12, 18 and 24 months post-operatively were compared. The postprandial PYY profile was raised at 12 months and remained raised for the whole of the study (p<0.05). There was a trend for increasing GLP-1 response at 18 and 24 months, but this did not reach statistical significance (p=0.189).

Conclusions The attenuated appetite after gastric bypass is associated with elevated PYY and GLP-1 concentrations. The results suggest a role for gut hormones in the mechanism of weight loss after gastric bypass as well as the maintenance of this weight loss 24 months following gastric bypass. This may have implications for the treatment of obesity in the future.

MD O14 Roux-en-Y Gastric Bypass and Bone Metabolism in Postmenopausal Women

J.P. Valderas¹, M.S. Velasco², A. Escalona³, Y. Liberona¹, P. Viviani⁴, A. Maiz¹, G. Gonzalez²

¹Departament of Nutrition, Diabetes and Metabolism, Faculty of medicine, Pontificia Universidad Catolica de Chile, Chile; ²Departament of Endocrinology, Faculty of Medicine, Pontificia Universidad Catolica de Chile, Chile; ³Departament of Digestive Surgery, Faculty of Medicine, Pontificia Universidad Catolica de Chile, Chile; ⁴Departament of Public Health, Faculty of Medicine, Pontificia Universidad Catolica de Chile, Chile

Background Effect of Roux-en-Y gastric bypass (RYGBP) in bone metabolism remain poorly understand.

Objective The aim of this study was to evaluate the impact of RYGBP on bone mineral density (BMD) and metabolism markers in postmenopausal women. Subjects and methods: 26 postmenopausal women with previous RYGBP were chosen at random (from 261) and were matched by age and BMI with 26 controls women; all of them without bone disease. RYGBP was performed 3,5±1,1 years before and excess of weight loss (EWL) was 76,8±16,9%.

Results There were no differences between RYGBP and control group in age (58±3,9 vs 57,5±4,7 years), BMI (29,5±3,8 vs 29,2±4,1 kg/m²), calcium and vitamin D intake (759±457 vs 705±460 mg/d; 176±160 vs 111±86 UI/d). In control group, ghrelin showed a positive correlation with femoral neck BMD (r=0,51, P=0,01) and negative with PTH (r=0,39, P=0,06). In RYGBP group, PTH showed positive correlation with calcemia (0, 41, P=0, 04) and negative with phosphatemia (r=0,43, P=0,03).

Conclusions RYGBP produces an increase in bone resorption and hyperparathyroidism, independently of age, BMI, calcium or vitamin D intake and 25OHD levels. Positive effect of ghrelin on bone was not observed in RYGBP patients. RYGBP could change normal mechanism of bone regulation.

Table 1 Bone metabolism markers and bone mineral density RYGBP and controls groups

	RYGBP	Control	P value
N	26	26	
Serum calcium (mg/dl)	9,4±0,4	9,3±0,3	NS
PTH (pg/ml)	68,3±35	49,4±16	0,02
25-hydroxyvitamin D (ng/ml)	18,8±7,6	17,4±5,9	NS
Fasting ghrelin (pg/ml)	763±336	621±274	NS
Serum carboxitelopeptide (ng/ml)	0,71±0,21	0,43±0,15	<0,01
Alkaline phosphatase (UI/L)	101±22	94±25	NS
BMD L2-L4 (g/cm ²)	1,059±0,132	1,071±0,207	NS
BMD femoral neck (g/cm ²)	0,892±0,109	0,934±0,100	NS

MD O15 Use of the 6 Minute Walk Test in Morbidly Obese Patients as an Investigative Component of Preoperative Prepare.

J.R.I. Carneiro^{1,2}, J.d.V. Quaresma³, G.G. da Cruz^{2,3}, D. Xerez³, A.C.N.V. Mesias¹, J.E.P. de Oliveira¹

¹Universitary Hospital Clementino Fraga Filho / UFRJ. Diabetes and Nutrition Department, Brazil; ²V Enfermaria - Santa Casa de Misericórdia do rio de Janeiro, Brazil; ³Universitary Hospital Clementino Fraga Filho / UFRJ. Psychiatry Department, Brazil

Background The 6 minute walk test has been used to evaluate quality of life and mobility in obese and morbidly obese patients. During this procedure the balance, respiratory, cardiovascular and Skeletal-muscle systems integrity were analyzed. In our practice we utilize the 6 minute walk test as an investigative component of preoperative prepare for bariatric and other surgical procedures. **Methods** 76 morbidly obese patients (59 women and 17 men, matched by age and BMI; BMI average=51,22+/-8,26 Kg/m²) were submitted to a 6 minute walk test in the preoperative period of bariatric surgery. We recorded before the test, after 2 minutes, after 4 minutes and at the end of test the distance covered (mts), the average speed (Km/h) and the energy expense (METs). All patients were previously evaluated by our cardiologist.

Results We didn't find any difference in the parameters analyzed, when we compared women to men. Only 7 patients (9,21%) could not reach the inferior limit of the test. When we compared this group of patients (group 2) with the other, composed by those who could exceed the limit calculated for him/her (group 1), we didn't find difference on height and age, but BMI was higher in the group 1 when compared to group 2, respectively (57,29+/-12,70 Kg/m² 50,60+/-7,54 Kg/m², p<0,05) We also found a significant inverse correlation between the distance covered at the end of the test and the BMI of the patients (r=0,576, p=0,01).

Conclusions The 6 minute test is an applicable test for evaluate the integration of diverse systems on preoperative prepare for bariatric surgery. Only a small number of patients could not reach his/her personal inferior limit for this test. BMI is a factor related to worse performance.

MD O16 Characterization of Dumping Syndrome in Morbidly Obese Patients Undergoing Laparoscopic Roux-en-Y Gastric Bypass (LRYGBP)

T. Palazuelos^{1,2}, C. Gonzalez-Jauregui^{1,2}, C. Gómez^{1,2}, M. Mosti^{1,2}, M.F. Herrera^{1,2}

¹The American British Cowdray Medical Center IAP, Mexico; ²Clínica de Atención Integral al Paciente Obeso, Mexico

Background Dumping syndrome has been recognized as one of the limiting factors for carbohydrate intake in patients undergoing Roux-en-Y Gastric Bypass. Frequency and characteristics of dumping syndrome have not been fully evaluated. The aim of this study was to characterize dumping syndrome in a cohort of patients who underwent LRYGBP.

Methods A questionnaire assessing the presence of dumping syndrome, type of symptoms, and food triggers was applied to 49 consecutive patients with a minimum follow-up of 3 months who were seen by a dedicated dietician at our outpatient clinic as a part of routine postoperative care. Food was divided in several groups as follows: cereals, sugar, fruit, fat, alcohol, milk, or others.

Results The cohort included 16 males and 33 females with a mean age 6 months±11 years. Mean time between surgery and dietary evaluation was 8±of 38 25%. A group of 41 patients (84%) ±Mean EBWL at the time of evaluation was 70 reported symptoms indicative of dumping syndrome. The most common symptoms were: perspiration (11%), desire to lie down (10%), fatigue (10%), and palpitations (9%). Fat was the most common food trigger (39%) followed by sugar (31%), milk (11%) and fruits (9%). The frequency of dumping syndrome was related to the time the trigger food was consumed. Symptoms did not seem to change with time.

Conclusions Eighty percent of patients undergoing LRYGBP develop dumping syndrome. The most common symptoms are perspiration, desire to lie down, fatigue, and palpitations. Fat and sugar are common inducers of dumping syndrome.

MD O17 Hunger and Satiety Regulation Six Years After Roux-en-Y Gastric Bypass and Vertical Banded Gastroplasty

M. Werling¹, L. Fändriks¹, H. Lönroth¹, T. Olbers¹, C. le Roux²

¹Sahlgrenska University Hospital, Gothenburg / Department of surgery; ²Hammersmith Hospital, Imperial College, London / Department of Metabolic Medicine

Background Earlier studies have demonstrated weakened gastrointestinal hormone (GI hormone) response after food intake in obese subjects. Laparoscopic Roux-en-Y Gastric Bypass (LRYGBP) are demonstrated to have better short time postoperative results than laparoscopic Vertical Banded Gastroplasty (LVBG) regarding weight reduction, eating habits and GI hormone response after food intake.

Methods Patients were asked for participation in this study six years after being randomised for surgical obesity treatment by LRYGBP or LVBG. Blood samples, collected before and during three hours after food intake, were analysed for PYY 3–36 and GLP-1. LRYGBP: n=20 and LVBG: n=15.

Results Excess BMI loss % (EBMIL%) for the LRYGBP group was at mean 72,24% (range 23,10%–114,23%) and for the LVBG group at mean 46% (range 2,44%–103,24%). The total EBMIL% was at mean 61,1% (range 2,44%–114,23%). Postprandial maximal levels of PYY 3–36 and GLP-1 were significantly higher for LRYGBP patients than for LVBG patients. Delta value: fasting - max postprandial response: were significant comparing the two surgical techniques. Comparing responders and non-responders in the LRYGBP group gave significance but not in the LVBG group.

Conclusions Results from this study demonstrates that the early differences between LRYGBP and restrictive surgery, LVBG, according to hunger and satiety signalling and weight loss remains also six years post surgery.

MD O18 Impact of a Very Low Calorie Diet on Liver Size

S. Sanchez-Leenheer, M.F. Herrera, J.P. Pantoja, M. Sierra, E. Garcia, B. Bachmann, L. Gonzalez, G. Montejo, S. Criaes, A. Rivas, J. Vazquez (Mexico)

Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (INCMNSZ), Mexico

Background Laparoscopic gastric bypass is a technically complex surgical technique. A thick abdominal wall and increased liver volume may complicate the procedure. Very low calorie diets in the form of liquid meal replacements given 6 weeks before surgery have proven to decrease liver volume. The aim of this study was to asses the effect of a 6 week preoperative diet on liver volume and body weight and composition in morbidly obese patients.

Methods A cohort of 20 morbidly obese patients underwent a 800 calorie diet for 6 weeks. They were followed weekly to assure proper compliance. Liver volume was measured by CT scan every 2 weeks to assess the impact of the diet on liver size.

Results All subjects lost weight. Median body weight decreased from 122.5 kg (93–141.6) to 113.6 kg (82.4–129.8). Median BMI decreased from 46.1 kg/m² (38.6–54.8) to 40.4 kg/m² (34.7–51.9), P<0.0001. Median percentage of excess weight loss (%EWL) during the 6-week period was 14.3% (5.2–27.8), P<0.0001. Median liver volume decrease was 5.5 cc at 6 weeks. Decrease in liver volume and left hepatic lobe volume was not statistically significant.

Conclusions A very low calorie diet without liquid meal substitution achieved a statistically significant reduction in body weight and BMI after 6 weeks of treatment. However, changes in liver volume were not statistically significant.

MD O19 Correlation Between Eating Disorders and Morbid Obesity in Candidates for Bariatric Surgery

F. Kruschewsky, F. Aberceb, M. Vilas-Boas, H. Povoas, O. Casais, M. Magalhaes

Center for Obesity Surgery, Brazil

Background Eating disorders are defined as diversions of food behavior that can lead to extreme weight loss or to obesity, among other problems and physical disabilities. Obesity, however, is not considered a psychiatric illness or a condition for the diagnosis of eating disorder. It is a physical condition that comes from multiple causes and can carry many consequences.

Objective To evaluate the existence and incidence of eating disorders in morbid obese patients candidates for surgery.

Methods We used the following scales of assessment: EAT-26 (Eating Attitudes Test-26) to identify the symptoms associated with Nervous Anorexia. BITE (Bulimic Investigation Test of Edinburgh)and The Binge Eating Scale (BES).

Results 38 morbid obese patients of both sexes, aged between 20 and 50 years were evaluated, 71.05% of the patients did not present any

symptoms for nervous anorexia, while 28.9% showed symptoms of this disorder. As for Nervous Bulimia, 48.6% presented unusual feeding behavior pattern, 24.3% had food compulsive behavior, and 27% absence of the disorder. On the severity scale, 29.7% had high-grade, 21.6% are medically compromised and 48% without commitment. The Binge Eating Disorder (BED) was identified in only 44.7% of the sample, being 26.3% with moderate level and 18.4% serious BED. Most of the sample, 55.3% did not present the disorder in question.

Conclusions According to the data it appears that symptoms related to Nervous Bulimia are more prevalent than anorexic symptoms in morbid obese patients. That results demonstrate the importance of pre-and post-operative psychological support to patients candidates for bariatric surgery. The psychologist should establish strategies and targets for behavioral change with a cognitive restructuring.

MD O20 Proposal of a Routine Biochemical Evaluation for Bariatric Surgery Patients

S. Faria^{1,2}, M. Galvão^{1,2}, E. Kelly¹, T. Lopes¹, O. Faria²

¹Gastronutrição Nutrição Bariátrica; ²Gastrocirurgia de Brasília

Background The aim of this study was to propose a routine serum biochemical evaluation for patients submitted to Roux-en-Y Gastric Bypass (RYGB) surgery.

Methods We performed regular searches of the indexed literature (MEDLINE, LILACS). The key words used were: nutrition, nutritional evaluation, biochemical evaluation, gastropasty, bariatric surgery, morbid obesity. Fifteen articles published in the last 10 years were selected, containing experimental, observational and revisional studies.

Results According to the results of our search, a serum biochemical analysis must be made in the preoperative period and once every 3 months of the first year after the surgery. This analysis must include the following biochemical parameters: complete hemogram, serum iron, ferritin, transferrin, serum albumin, calcium, parathormone, magnesium, phosphorus, alkaline phosphatase, vitamins A, B1, B9, B12 e D. After the first year this evaluation must be done once every 6 months and after 2 years annually. Serum levels of each biochemical parameter must be above the minimum value required, and borderline values should be avoided. Ferritin and vitamin B12 should not be below 40 g/l and 400 g/l respectively. The parathormone levels must be very closely monitored, and with their increasing levels a calcium supplementation must be carefully evaluated to avoid secondary hyperparathyroidism and possible osteopenia/osteoporosis.

Conclusions Biochemical evaluation is an essential tool in the prevention and management of possible deficiencies caused by RYGB. That is why it is necessary to request a biochemical evaluation with the established frequency, and to monitor closely the parameter values and their meaning.

MD O21 Energy Expenditure and Weight Regain in Patients Submitted to Roux-en-Y Gastric Bypass

S. Faria¹, E. Kelly², M. Galvão², T. Lopes², O. Faria³

¹Gastrocirurgia de Brasília/Gastronutrição - Private Service, Brazil;

²Gastrocirurgia de Brasília/Gastronutrição Nutrição Bariátrica, Brazil;

³Gastrocirurgia de Brasília, Brazil

Background Although Roux-en-Y gastric bypass (RYGB) is a highly effective treatment for clinically severe obesity, not all patients achieve desirable weight loss and maintenance. There is some evidence that weight loss induces a disproportionate reduction in Basal Metabolic Rate (BMR). Abnormally low BMR may pre-dispose surgical patients to weight regain.

Methods Forty eight individuals were divided into 3 groups: bariatric patients with more than 2 kg of weight regain after more than 2 years of surgery; bariatric patients with successful outcomes and more than 2 years of surgery; and a preoperative patient group. Body Mass Index (BMI) and Excess Weight Loss (EWL) were evaluated. Resting energy expenditure and body fat percentage were measured. Statistic tests were used to analyze the three groups.

Results Using Student-Newman-Keuls' multiple comparisons test, we found out that the mean energy expenditure of the weight regain group was

statistically inferior to the mean energy expenditure of the preoperative group and to the mean energy expenditure of the successful bariatric group. No statistical difference was found between the pre-surgical group and the bariatric patients with no weight regain.

Conclusions This study suggests that a lower BMR may contribute to weight regain in patients submitted to RYGB. It is important to ensure ways to elevate the energy expenditure in the patient, such as increasing the percentage of fat free mass in the body and the practice of physical activity.

MD O22 Body Composition is Related to Weight Regain in Roux-en-Y Bariatric Patients

S. Faria^{1,2}, E. Kelly^{1,2}, M. Galvão^{1,2}, T. Lopes^{1,2}, O. Faria^{1,2}

¹Gastrocirurgia de Brasília, Brazil; ²Gastronutrição Nutrição Bariátrica, Brazil

Background The purpose of this study was to investigate the relationship between body composition and weight regain in patients submitted to Roux-en-Y Gastric Bypass (RYGB).

Methods Thirty patients with more than 2 years of RYGB surgery and presenting some weight regain were evaluated. The following retrospective data was collected from the medical records: weight before surgery, excess weight, minimum weight after 2 years of surgery, preoperative %body fat. Current weight and %body fat were assessed. A digital scale (Filizola) was used to assess weight and the tetrapolar bioimpedance method for assessing body composition. We calculated the current excess of weight loss (EWL) and the quantity of weight gain in Kg.

Results Eighty seven percent of the sample were women. The studied patients had an average preoperative weight gain of 8 (\pm 19)Kg. The lowest amount of weight gain was of 2 kg, and the highest of 18 kg. After weight regain, forty per cent of the patients were no longer included in the success criteria for bariatric surgery (%EWL below 50%). The mean %body fat of the sample was of 36 (\pm 9)%. We observed a negative correlation between %EWL and %body fat ($p < 0.001$). We found no relation between preoperative body fat and %EWL ($p < 0.46$).

Conclusions In the present study we found a negative correlation between percentage of body fat and %EWL. Patients that in the post-operative period maintained highest percentages of body fat were the ones with lowest %EWL. A careful monitoring of body composition is important in this population to prevent weight regain.

MD O23 Nutritional Management of Weight Regain After Bariatric Surgery

S. Faria^{1,2}, E. Kelly^{1,2}, M. Galvão^{1,2}, T. Lopes^{1,2}, O. Faria²

¹Gastronutrição Nutrição Bariátrica; ²Gastrocirurgia de Brasília

Background The aim of this study was to propose dietetic guidelines for the nutritional management of weight regain in Roux-en-Y Gastric Bypass (RYGB) patients.

Methods Thirty patients after more than 2 years of RYGB surgery were followed up once every 15 days for at least 3 months. We collected from the medical records: weight before surgery, excess weight, minimum weight reached after 2 years of surgery, % body fat before the operation. Current weight and Bioelectrical Impedance Analysis were assessed at every appointment. The prescribed diet had a low glycemic load with 45% of carbohydrates, 35% of protein (80 g for women and 100 g for men) and 20% of fat, 3 servings of dairy products and a supplement of soluble fibers (15 g/day).

Results The patients had a previous average weight regain of 8 kg (\pm 19). Forty per cent of the sample had an EWL of less than 50%. After the intervention, 86% of the patients lost weight. The mean weight lost was 1.8 kg in the first month, 1.2 kg in the second month and 1.3 kg in the third. Half of the sample with unsuccessful weight loss achieved an EWL of at least 50%. The failure rate of the group dropped from 40% to 20%. The percentage of body fat declined from 36.2% to 34% ($p < 0.001$).

Conclusions Despite the short period of time, we observed that the nutritional counselling reduced the weight of patients with previous weight regain. There was also a reduction in body fat, which improves the perspective of weight maintenance in the future.

MD O24 Prospective Impedancemetry Study of Midband® Patients Over 4 Years

P. Urbain

Polyclinique du Parc, Saint Saulve, France

Background It is our goal as bariatric surgeons to assess the results in terms of weight loss and reduction of comorbidities but also to analyze the eating and exercise behavior on long term. This paper refers to patients follow up by bioelectric impedancemetry in order to determine the effect of Midband® adjustments on eating, food selection and fat mass.

Methods The patients receiving a Midband® for morbid obesity have their weight, BMI, impedancemetry, eating habits and exercise activities recorded preoperatively and postoperatively at every band adjustment or visit (examination and questionnaire).

Results 424 procedures were carried out laparoscopically with the Midband® from July 2003 to February 2008. The operative technique is the pars flaccida route with seroserosal stitches. Adjustments are started at week 6 and every month when patients eats easily. #1950 data are available for analysis, with a median of 4,6 data per patient.

The results are shown on Table 1:

1. The impedance loss strictly correlates with the BMI loss. Some particular patient cases will be presented showing the effect of exercise at stable weight or the adverse effect of fat/sugar eating behaviour on fat mass index at stable weight.
2. The Midband® has good results with an average BMI loss of 13 at 5 years.

Conclusions The impedancemetry is useful for the follow-up of patients receiving the Midband®.

It strictly correlates with the BMI loss and may replace the weight evaluation. It is a wonderful tool in pointing those patients who are becoming sweet eaters who should be addressed to the dietetic survey and counselling.

It is a wonderful tool in encouraging the patients who are practising exercise and are following their fat/muscle mass.

MD O25 Nutritional Changes in Morbid Obesity Before and After Metabolic Surgery

V. Silvestre, M. Ruano, E. Aguirreigoicoa, L. Criado, A. Marco, G. Garcia-Blanch

Hospital of Mostoles, Spain

Background Metabolic surgery with mal absorptive and/or restrictive procedures has become the most effective therapy for morbid obesity (MO). Nevertheless, significant nutritional deficiencies have been described following surgery. The objectives of the present study are: 1) to evaluate the abnormalities in the serum levels of nutrients after surgery for MO; and 2) to analyze their long-term evolution.

Methods Retrospective evaluation of 303 patients, 240 women and 63 men with MO operated in our Hospital (gastric bypass following Capella's procedure: 240; gastroplasty: 60; Scopinaro's biliopancreatic bypass: 1 and gastric Sleep: 1). The mean age was 39 years (range: 16–62). Before surgery and 6, 12, 24, 60 and 84 months after it we have collected anthropometric measures and also determined the levels of macronutrients, including total proteins (TP), albumin (ALB), prealbumin (PBA) and retinol binding protein (RBP), and micronutrients, including iron (Fe), calcium (Ca), folate (FOL) and vitamins (B12, A, D3 and E).

Results Before surgery the mean (DS) values for BMI and WC were 49.79 (7.0) and WC 121.8 (19.5), respectively. We found a deficiency of PT, ALB, RBP, Fe, Ca, FOL and vitamins (B12, D3, A and E). These deficiencies are aggravated after surgery and require administration of mineral and polivitamin supplements.

Conclusions Reduction of the BMI and the WC confirm surgery as an efficient therapy for MO, but surgery also leads to significant deficiencies in nutrients undergoing gastrointestinal absorption that need a close clinical and biochemical control on the long term.

MD O26 Nutritional Follow up of Pregnancy After Gastric Bypass

A. Longo, A.C. Ramos, M. Galvão, A.H.F. Murakami, M. Galvão, J.C. Franzotti, A. Carlo, S.S. Maria, I. Paegle, E.G. Canseco

Gastro Obeso Center - São Paulo / Brasil - 55 11 32111200

Background According to MATIELLI et al., 2004, pregnant women who were undergone bariatric surgery must be cautiously followed before and during pregnancy due to dietary restrictions imposed by the bariatric procedure. The aim of this study was to prospective evaluate a nutritional follow-up of pregnants who had undergone Gastric Bypass.

Methods Between February, 2005 and February,2008, 26 pregnant patients who were undergone a gastric bypass for at least one year were prospectively evaluated. Data on weight, body mass index (BMI) were collected preoperatively and before and at the end of pregnancy. Laboratory examinations were evaluated bimonthly or following specific supplementation in some cases.

Results Mean age was 30 years-old (±4.7). Fertilization occurred 12–60 months after the operation, with a mean of 31.5(±13.4) months. Mean pre-operative weight and BMI were 116.4 kg (±18.1) and 42.6 kg/m² (±5.4) respectively. The average weight and BMI at the time of conception were 72.5 kg(±10.9) and 26.7 kg/m² (±4) respectively. Mean weight gain during pregnancy was 8,7±1,9 Kg, ranging from 3 to 13.8 kg, mean period of pregnancy was 35,3±5,3 weeks. 15 patients (57.7%) needed to take supplement protein as a low dietary intake. During pregnancy 19 (73.1%) women had one or more types of nutritional deficiencies detected by laboratory tests. There were 4 (15.4%) pre-term births, and 2 (7.7%) with low birth weight.

Conclusions There is a tendency to low gestational weight gain in patients who were undergone Gastric Bypass when compared to the expected for non-operated women. Continuous nutritional monitoring of pregnant women who underwent Gastric Bypass is of utmost importance to prevent and correct nutritional deficiencies so as to promote appropriate weight gain and ensure adequate gestational nutrition to the fetus.

MD O27 Do Psychological Profiles Impact Weight Loss in Patients Undergoing Roux-en-Y Gastric Bypass (RYGBP)?

M.A. Mosti^{1,2}, D. Arcila^{1,2}, A. Gonzales^{1,2}, K. Cabrera^{1,2}, M. Mosti^{1,2}, S. Sanchez-Leenheer^{1,2}, D. Velázquez^{1,2}, M.F. Herrera^{1,2}

¹The American British Cowdray Medical Center IAP, Mexico; ²Obesity Clinic, Mexico

Background Psychological profiles of morbidly obese patients may play a role on the outcome of bariatric surgery. Results may be related to the used tool. The aim of this study was to analyze differences in postoperative weight loss and adherence, according to the psychological profile assessed by a customized questionnaire in 154 patients with 1-year follow-up after RYGBP. *Patients and Methods* The study protocol at our clinic includes a routine preoperative multidisciplinary evaluation. Our customized psychological questionnaire was applied to all patients at initial consultation. Patients were classified into 9 categories. Differences between groups were assessed.

Results There were 91 females and 63 males with a mean age of 41.1± 11 years. Mean preoperative BMI was 43.6±6.7 kg/m². Results are as follows:

Table 1

Conclusions Psychological profiles determined by our customized questionnaire did not impact weight lost or adherence in our bariatric population. Other tools may have different impact, but may not be practical for the everyday practice.

Table 1

Psychological categories	N	Visits attended (%)	EBWL18± 8 months (%)	≥50% EBWL(%)
1 No Symptoms	90	64±25	83±19	89
2 Major Depressive Disorder	6	59±27	80±27	67
3 Generalized Anxiety Disorder	8	52±30	90±16	75
4 Binge Eating Disorder	6	63±32	79±12	100
5 2+3	12	57±22	82±24	91
6 2+4	2	63±05	80±08	100
7 3+4	4	71±25	89±27	100
8 2+3+4	3	79±18	83±31	100
9 Psychopharmacological treatment	23	64±28	85±19	91

MD O28 Psychological Protocol Development of Bariatric Surgery Service at Gastro Obeso Center Program for Psychological Attention

I. Paegle^{1,2}, A. Ramos¹, M.G.N. Galvão Neto¹

¹Gastro Obeso Center, São Paulo, Brazil; ²Methodist University, São Bernardo do Campo, Brazil

Background A descriptive study of educational psychology program by a multidisciplinary team, specially referring to the postoperative daily pay periods.

Objectives 1 - To describe the protocol evolution of applied psychology in bariatric surgery 2 - To improve psychological assessment protocol and to make it available for consulting by the main team.

Methods Exploratory and descriptive study of protocol data, gotten from 2005 to 2007; literature review; 1,500 protocols were observed and analyzed by the Psychology staff; they were listed in social and demographic variables, obesity levels, type of surgery, psychological and psychopathologic comorbidities, outcome expectations, weight loss, obesity representation, diet pursuing, weight loss objectives.

Results The investigation was made with half-guided interviews; after 6 months a plan of 17 sessions was presented; later, specific data were included on the psychological assessment to evaluate psychopathology, eating disorders, phobias and expectations about surgery. This protocol was used during 2 years, but it was very extensive and little productive. New modifications were introduced, specially with the inclusion of two pictorial situations about Body Image, and questions to investigate directly compulsory eating behaviors.

Conclusions After five protocols there are interesting results about clinical evidence and data qualitative analysis of patient clinical stories. Patient's interviews present intellectualized narratives, providing a collective discourse with several misinformation about bariatric surgery, and facilitating to the professionals to adequate classes to demystify some fantasies and other imaginary beliefs. The inquiry of alimentary disorders was important, as well anxiety and mood states, symbolization difficulty, and mutilation fantasies.

MD O29 Psychological Assessment of Patient Prior to Operation as a Criterion of Gastric Banding Efficiency

M. Margolin, N. Shmeleva, E. Margolina, A. Plikshs, G. Trofimovich

Baltic Obesity Research and Treatment Centre, Riga, Latvia.

Background As bariatric surgery develops and increases the amount of such operations, as more there are discussed about an efficiency of various methods, including LAGB, frequently with inconsistent rating. The purpose of research-retrospective correlation between psychological preoperational assessment and postoperational results.

Methods In years 2004–2007. were operated 31 patient with obesity and subsequent metabolic syndrome, BMI 33–63, average 45.1; 4 male, 27 female. Age – 24–66 yrs, average 41.8 yrs. Weight – 88–202 kg, average 135.3 kg. Prior to operation performed a standart psychological examination – tests Leonhard-Smisek, Liri, Lusher, MMPI. In one year after operation patients were divided into three groups: first – % EWL up to 10%, second – up to 20% and third – above to 20%, and retrospectively were evaluated their psychological tests. Average % EWL – 36.6%.

Results Brought out an incontestable differences of psychological type in three groups. Patients of the first group belongs to rigid jamming personality type. 2nd group – personalities of demonstrative type, with developed control skills. Third, the most successful group – personalities with an active position and pronounced motivation to gain a success and they are enlightened to result.

Conclusions Preoperational psychological inspection is a relevant factor of the prediction that may determine an efficiency of LAGB, as well as to indicate a necessity for consultation of psychologist in postoperative period.

MD O30 Assessment of Body Image in Female Morbid Obese Candidates for Bariatric Surgery

F. Kruschewsky, F. Aberceb, M. Vilas Boas, H. Povoas, O. Casais, M. Magalhaes

Center for Obesity Surgery, Brazil

Background The body image is defined as the figure of our own bodies that form in our mind. In obesity, the condition of overweight is highly stigmatizing, and this is an aggravating factor in the construction of body image. The dysfunctional beliefs and thoughts related to self-image and body weight have important implications for the well-being and the development of eating disorders.

Objectives To assess the level of distortion of body image in female candidates for bariatric surgery.

Methods from August 2006 to August 2007 we evaluated 57 female patients with morbid obesity and candidates for bariatric surgery. Patients between 20 and 50 years old (mean 35) answered the questionnaire on Body Image (Body Shape Questionnaire - BSQ), containing 24 questions investigating symptoms of dissatisfaction with body image, appearance and possible social damage in individual's life. The answers range from no distortion to mild, moderate and severe distortion of body image.

Results The patients had Body Mass Index (BMI) of 38 kg/m² and most common co-morbidities were hypertension, diabetes and hepatic steatosis. 15.8% of patients showed no distortion of body image, 17.5% showed mild distortion, 14%, moderate distortion and 52.6% had serious distortion of body image. These patients had low self-esteem, feelings of inadequacy and beliefs, dislike and discredit of themselves, as well as impairment of social interactions and occupational aspects.

Conclusions The study population had a high incidence (84.2%) of distortion body image. The distorted perception of body image leads to great mental suffering for these individuals and may interfere on their adaptability to changes after bariatric surgery.

MD O31 Analysis of Quality of Life in Patients with Morbid Obesity, Candidates for Bariatric Surgery

F. Kruschewsky, F. Aberceb, M. Vilas-Boas, H. Povoas, O. Casais, M. Magalhaes

Center for Obesity Surgery, Brazil

Background Morbid obesity is a serious medical condition that reduces patient's quality of life and life expectancy due to highly prevalent associated diseases.

Objectives To analyze the scores of quality of life among patients with morbid obesity during the pre-operative psychological assessment for bariatric surgery.

Methods between August 2006 and August 2007 we analyzed 124 morbid obese candidates for laparoscopic banded Roux-en-Y gastric bypass, assessed by the multidisciplinary team at the Center for Obesity Surgery in Salvador-BA-Brazil. The SF-36 was applied to patients by the psychologist. The instrument analyses the following domains: functional capacity, limitations on physical aspects, pain, general health, vitality, social aspects, limitations on emotional aspects and mental health. In a range scale score, higher scores correspond to better quality of life.

Results In the study sample, items relating to the SF-36 showed the following averages of scores: functional capacity (47.9), limitations on physical aspects (49.2), pain (53.8), general health (57.6), vitality (49.0), limitations on emotional aspects (54.3), social aspects (55.6) and mental health (59.4). The average overall score of the SF-36 was 53.3, which means a limited quality of life. The mental health area was the least compromised, the domain with higher scores, and the functional area appears with the largest negative impact, assuming lesser value

Conclusions The morbid obesity is associated with significant adverse impact on the quality of life of these patients. Since surgery leads to a significant weight loss, and resolution or attenuation of comorbidities, it causes significant improvement in the patients' quality of life (physical, social and psychological aspects).

MD O32 Quality of Life Assessment in Morbidly Obese Patients: 7-Year Results of a Randomized Clinical Trial Comparing LAGB and VBG

R. Schouten¹, D. Wiryasaputra¹, F. van Dielen², J.W. Greve¹

¹Academic Hospital Maastricht, Netherlands; ²Catharina Hospital Eindhoven, Netherlands

Background morbid obesity interferes unfavourably with general well-being and the psychological status of the patient. This study is a quality of life

assessment 7 years after laparoscopic adjustable gastric banding (LAGB) and vertical banded gastroplasty (VBG).

Methods 100 patients were included in this randomized trial. 50 patients underwent LAGB and 50 patients VBG. They were asked to complete quality of life questionnaires prior to operation and 1 year as well as 7 years after surgery. Questionnaires used were the Visual Analogue Score (VAS), the Nottingham Health Profile I and II (NHP-I and II) and the Sickness Impact Profile 68 (SIP-68).

Results follow up was 88% with a mean of 84 months. Comparing the LAGB with the VBG patients only the first group had an improved VAS-score after 7 years (6.0 to 7.0 versus 6.6 to 6.6, respectively). The decrease in BMI, which was still highly significant after 7 years in both groups, correlates positively to the NHP-I domains of physical ability, pain, energy level and social isolation (30.3/9.7, 25.8/15.8, 46.3/27.3 and 21.0/4.4 in VBG and 25.0/9.9, 19.5/14.1, 42.8/27.3 and 16.4/12.8 in LAGB). The domains emotional reaction and sleep only improved significantly after VBG (21.4/6.9 and 24.7/16.4 respectively). In addition, the NHP-II shows a significant upward trend in the score after 7 years. The SIP domains of mobility control and mobility range improved in both VBG and LAGB (29.3/12.8 and 10.1/2.8 in VBG and 22.3/14.0 and 8.0/3.4 in LAGB)

Conclusions the improvement in quality of life after LAGB and VBG is comparable and consistent after 7 years of follow up. The quality of life is related to weight loss and does not seem to have any link with neither the type of surgical procedure nor the surgical complications.

MD O33 Weight Loss, Evolution of Comorbidities and Quality of Life Following Scopinaro Biliopancreatic Diversion. Its Results at More than Five Years

J. Pujol Rafols, A.G. Ruiz de Gordejuela, C. Pujol Rafols, L. Catot Alemany, S. Bru Piquer, T. Balaño Alberdi, C. Gomez Puyés

Department of Bariatric and Metabolic Surgery UCOM, Clínica Tres Torres. Barcelona, Spain.

Background Scopinaro Biliopancreatic Diversion (BPD) has been a highly recommended bariatric procedure for more than 30 years. This study presents its effects and outcomes throughout eight years taking into account not only weight loss but also evolution of comorbidities, quality of life and morbid-mortality.

Methods 63 Scopinaro patients operated by one single surgeon, each one with a follow-up of more than 3 years, were controlled to assess any post-operative change during an eight year period. Data were collected prospectively. Their weight was recorded in Kg, BMI and %EWL. Health status, quality of life and morbid-mortality was also studied. BAROS test has been calculated.

Results BMI and %EWL at 90 months were 30,7 and 70% resp. There were significant health status benefits. 86% of comorbidities improved. More than 90% of the patients referred improvement of their quality of life, but not equally in all the parameters of the questionnaire. There were 2,5% major complications that required reintervention with a 1,2% mortality. BAROS total score was good, very good or excellent in 89% of the cases.

Conclusions Scopinaro BPD has demonstrated to be highly effective while improving not only weight loss but also comorbidities and quality of life even at long term, with a low complication risk.

MD O34 Gastric Bypass and Vertical Gastrectomy: Learning Curve, Weight Reduction and Quality of Life

W. Awad^{1,2}, A. Garay², C. Martínez², V. Oñate², I. Turu², J. Yarmuch^{1,2}

¹Hospital Clínico Universidad de Chile, Chile; ²Integramédica, Chile

Backgrounds Laparoscopic Gastric Bypass (LGBP) has a long history, with good results. Vertical sleeve gastrectomy (VG) has raised great attention in bariatric surgeons as an alternative to gastric banding and recently to LGBP. **Aim** to compare the learning curve, complications, %EWL and quality of life (QOL) in LGBP and VG.

Methods We selected the first 70 LGBP (Group A) done on 1996 and 1997, and the first 70 laparoscopic VG (Group B) done years 2006–2007. Both groups were comparable regarding age, sex, BMI and comorbidities. %EWL

and QOL using BAROS II score were evaluated in both groups. Changes in comorbidities and complications due to learning curve were analyzed.

Results % EWL at 3 month were 35 and 36, at 6 month 55 and 56, at 12 month, 73 and 71 and at 24 month 83 and 90 respectively, all non significant ($p > 0.05$). BAROS similar in both groups. Fistula were 6% and 4,5% respectively, no significant. Comorbidities, similar evolution in both groups.

Conclusions Both procedures have a good %EWL, QOL and comorbidities evolution at 2 years follow up. Complication rate and learning curve is similar in both groups even though is the same team and we already had a great experience with very few complications at the time we started the VG group. The leak in VG is usually at the high part of the stapler line, which is not in our experience what happens in GBP, even though the section and the suturing at the hiss angle is done the same way. It might be that the pilorus plays some role increasing the pressure in the VG patients. We prefer now a continuous invaginating suture to reinforce the staple line.

MD O35 Follow up of 1200 Obese Patients Treated with Laparoscopic Adjustable Gastric Band (Lagb). Valuation of Efficacy and Lifestyle Quality

G. Bottani¹, E. Gerosa¹, E. Bastaroli¹, A. Zanardi¹, P. Petrosillo¹, F. D'Abrosca¹, L. Negri², L. Sacca², F. Repetti², A. Todde¹

¹Azienda Ospedaliera of Pavia, Department of Surgery, Mortara Hospital, Obesity Surgery Center; ²Azienda Ospedaliera Of Pavia, Clinical Nutrition Center

Retrospective analysis of efficacy and complications of LAGB (MidBand® SoftRing) positioned on 1200 pz, according to IFSO criterions, from 2000 to 2008.

Post-operative check-ups also involved "Clinical Nutrition Center" of Pavia and focused on techniques to improve the efficacy and reduce complications. **Methods** LAGB was positioned "pars flaccida" according to standard technique.

Mean operatory duration: 35 mins (30–40)

Mean age: 40 yrs (18–64)

M/F ratio: 3/7

Mean pre-operative BMI: 42.8 kg/m² (31–59)

Check-ups, performed by surgeons and when needed a nutritionist, included BMI %EBW %EWL, anthropometric, nutritional, psychological and functional reconstructive plastic surgery valuation and were scheduled at 3,6,12,18,24 mts.

Results Mean BMI: 3 mts=40, 6 mts=37, 1 year=34, 18 mts=33, 2 yrs=33,3 yrs=29, 6 yrs=32 Kg/m² (77% of the pz)

%EWL: 36 mts=65% then settled at 60%

%EBW: initial=75% minimum at 36 mts=22% then settled at 30%

Mortality=0

Laparotomic conversions=0

Gastric erosion=3 pz (solved with combined endo-laparoscopic technique)

Gastric pouch dilatation=2 pz

Slippage=2 pz

Removal of LAGB=14 pz

Improvement of related pathologies:

80% in pz with essential hypertension

77% in type 2 diabetics

70% in hyperuricaemics and hypertriglyceridemics

92% of OSAS and working skills

Conclusions Obtained results were better than literature ones because in the post-operative check-ups the same physician managed either the surgical or the nutritional and psychological aspects and not only monitored weight changes, except for 31 "sweet eaters" pz which needed an additional support. Instead of WL the main target of adjustment of the band's caliper was an improvement of cardiovascular and biochemical conditions, which resulted in better lifestyle and nutritional habits.

MD O36 Lifestyle of the Post-Bariatric Surgery Obese Subject: A Study on 100 Cases

A. Murgio^{1,2,3}, P. De Cristofaro^{4,5}, E. Fernandez¹

¹Instituto de Globesidad; ²Mar del Plata; ³Argentina; ⁴Centro de Fisiopatología Nutricional, Teramo; ⁵Italia

Obesity excessive accumulation of fat exceeding physical and body standards; it represents a serious disease and is mainly caused by a combination of poor eating habits and a sedentary lifestyle. Surgery is not always the answer in morbid obesity if the patient does not make changes in his or her lifestyle.

Methods We included 100 patients with morbid obesity who were subjected to laparoscopic surgery in Mar del Plata, Argentina. They were monitored with the Metabolic Holter Monitor (Armband) pre and post-surgery, and their lifestyle changes were evaluated for 12 months. The results were analyzed by the Nutrition Physiopathology Center of Teramo, Italy. They were placed in groups according to sex: women 67 (average age: 43 years) and men 33 (average age: 37 years). The mean and relative standard deviation pre- and post-surgery were calculated for: Weight, BMI, TEE, Active Consumption Percentage (%) of active Energy Expenditure (3 METs), Time spent in Physical Activity (3 METs), Lying Down Time (TLD), Sleep Time(TA), TLD/TA rest index, Physical Activity Level <3 METs, Daily Physical Activity Level (PAL=TEE/BM).

Results The Total Energy Expenditure (TEE) in both groups were not dissimilar (pre and post-surgery). The PAL in the women was higher (p 0.0509) in relation to the men (p 0.68). Results of the remaining indexes confirmed a more widespread sedentary lifestyle among the men (p 0.43) than the women (p 0.03).

Conclusions A clear sedentary lifestyle in men who are less dependent on their body weight. Although a considerable decrease of BMI>40 (p=0.0019) was seen after surgery, it decreases to such a degree that it can be considered a real hypokinesia. We recommend, when dealing with morbid obesity, stimulating post-surgery behavioral changes in addition to motor activity.

MD O37 One Anastomosis Gastric Bypass by Laparoscopy (Bagua): An Easy Way of Evaluating Quality of Life Long Term

M. García-Caballero, J.M. Martínez-Moreno, N. Msabri, D. Osorio, J.M. Mata, A. Minguez

University Malaga

One of the major uncertainties of the healthcare systems related to bariatric surgery is cost-effectiveness and utility and its relation with the type of procedure. As obesity affects all aspects of our physical, mental, social, and emotional health, the evaluation of quality-of-life (QoL) is central when describing the effectiveness of weight-loss surgery. However due to the fact that most of the tests used until now overload patients and clinical practice, QoL assessment is not performed routinely in the follow-up.

Objective to study utility of routine use of two simple QoL tests that can be applied in 2 minutes.

Patients 50 patients operated by BAGUA 2 years before. 80% women. Mean age 37.4 years. Mean BMI 44 (35–62, initial body weight 94–180 kg).

Methods The specific questionnaire Moorehead-Ardelt II (mood, physical function, social relationships, ability to work, sexuality, and eating behaviour) scored from 1 to 10. Good results 37 and 60, medium 19 to 36 and bad 1 to 18. The generic questionnaire EuroQoL-5D (mobility, self-care, usual activities, pain, and anxiety of depression) score from 1 to 3. We considered 1 to 5 good, 6 to 10 medium and 11 to 15 bad.

Results All patients presented good results. In 3 cases were suboptimal. The patients had an initial BMI of 58, 59 and 60 and an age of 33, 57 and 32 years and 4, 3 and 3 comorbidities respectively before operation. Two years after surgery the BMI was 30, 27 and 27 and all were free of comorbidities. Hence the only common findings in these 3 cases were the initial super-obesity accompanied by several comorbidities given that age differ among them.

Conclusions Both tests are easy applicable in routine clinical practice without overload clinician nor patient and give an objective measure with good correlation with clinical and psychological findings.

MD O38 Pre-Operative Quality of Life in Laparoscopic Gastric Band Patients in Europe. Are Perceptions Changing?

M. Field, P. Cherian, S. Mitchell, A. Sigurdsson

Shropshire UGI unit

Background Obesity is increasing and so is interest in lower risk interventions such as the Lap-Band. This study investigated the pre-operative quality of life score in potential Lap-Band patients in a British population.

Methods The validated SF36 quality of life questionnaire was administered to all patients(160) requesting gastric banding for obesity in a largely rural population in England between January 2006 and April 2007. Scores were determined from returned questionnaires and results compared to previously studied populations.

Results The completed forms were returned by 52 patients of whom 48 were female; Median pre-operative BMI 41 (range 33.5–51), Median age 46 yrs (21–65). The physical health score was 67.9 and mental health 68.2, leading to an overall total of 71.1. In terms of physical function our patients had comparable scores with the US(67.6 vs 67.3) but much higher than the Australian group (46.3). In our study, physical function, general health and vitality were most affected domains (scores >70) and conversely physical and emotional roles domains least affected (scores >80). Social functioning ability appeared surprisingly intact in our cohort reflected by studies from other regions. Whilst outward appearance significantly affected QoL scores from 'body conscious' nations, in UK greater impetus appeared to be derived from general health issues.

Conclusions The high pre-operative scores in UK may represent different perceptions of obesity within different cultures. Alternatively with increasing prevalence of obesity and greater social acceptance, QoL amongst the obese maybe improving. Country specific studies to validate current influence of Lap-Band intervention with obesity specific forms is required, to ensure that we are not over treating patients on assumptions which are no longer true.

MD O39 Social Activities Before Bariatric Surgery

A. Souza, S.E. Modesto, M. Silva, C. Machado, C. Sobreira, A. Garrido

Hospital das Clínicas - HC FMUSP, Brazil

Background Western culture places high value on slimness then obese people are often stigmatized. In social situations they usually feel ashamed what makes them become isolated. Therefore the aim of this study was to identify the social activities of obese and relate them to BMI.

Methods The subjects included in this study were 108 obese patients candidates for bariatric surgery underwent pre-operative psychological assessment in 2006. The instrument used was the research protocol of the Division of Psychology, Hospital das Clínicas - FMUSP, containing questions about social activities, described as habits and behaviors in the weekends or leisure time. The results were submitted to statistical analysis.

Results Responses show that 45% of patients referred absence of social activity, 21% related activities with friends and 18.5% religious activities. None of these phenomena were related to the different classifications of BMI.

Conclusions The participation in social activities or its absence were not related to the different classes of obesity.

MD O40 Expectations and Satisfaction Related to Bariatric Surgery Outcomes

M. Silva, C. Sobreira, C. Machado, A. Garrido, Md.L. Cardoso, T. Simamoto, M.J. Cirelli, A. Souza

Hospital das Clínicas - HCFMUSP, Brazil

Background The bariatric surgery is indicated in cases which therapeutic failures and when there are comorbidities which offer risk the health of the patient. Currently some patients resort to surgery with expectations beyond the improvement of the conditions of health, like aesthetics reasons for instance. Then satisfaction is usually associated to weight loss. Therefore the aim of this study is to identify the relation between BMI and the level of satisfaction related to the outcome expected by patients underwent bariatric surgery.

Methods 83 patients who underwent RYGBP were interviewed up to 5 years following the surgery. The instrument used was the research protocol of the Division of Psychology, Hospital das Clínicas - FMUSP containing questions about expectations of bariatric surgery, weight loss and evaluation of satisfaction with the outcome of the surgery. The results were submitted to statistical analysis.

Results 53% of patients reported that they had performed the surgery expecting weight loss and improvement on appearance, 15.5% improved the health and social life 14.5%. 79.5% are satisfied and 69% have current BMI above 30, classified as obese. Among those considered obese patients after surgery, 17% have current BMI over 40, classified as class III obesity, their

initial BMI ranged from 55 to 103. The expectation and satisfaction with the outcome of surgery showed no statistically significant difference in relation to the current BMI, because the patients are satisfied with its outcome regardless of the weight reached five years following the surgery
Conclusions The bariatric surgery attend the expectations of patients and promotes satisfaction with its outcome, even with weight regain in the long term.

MD O41 Psychological Tool for Alimentary Behavior Evaluation in Obese Patients

M.T. Panzitta^{1,2}, C. Casalnuovo^{1,3}, C. Refi¹, I. Loustalet², M. Strada²

¹Centro de Cirugía de la Obesidad (CCO), Argentina; ²Hospital Durand, Argentina; ³Hospital de Clínicas - University of Buenos Aires, Argentina

Difficulties in the proceptive registry of hunger and satiety are part of the body image disorders, especially in the obesity. This problem is essential in the psychological evaluation of the patients who are going to bariatric surgery. The objective is the evaluation of concepts, ideas and impressions that patients with morbid obesity have towards hunger and satiety.

Methods Investigation: qualitative and descriptive. 100 patients. Age range: 36–60. Sex: 80% women. BMI 35–95. Instrument: "Graphic and written sequence hunger-satiety". This instrument is used to ask questions to the patients about hunger, satiety and how they feel about them in their bodies. Data evaluation: Discourse analysis technique and sheets of content analysis.
Results Confusion and overlapping between interoceptive registries and emotions.

-Hunger registry: unawareness and corporal disconnection are detected. Images and experiences such as "emptiness, pain, impulse, overwhelm, deprivation and madness" appear.

- Satiety registry: a clear perception was not found either. Associations such as "explode, fatness, guilt, heaviness and calm" were found.

Conclusions The analysis of hunger-satiety sequence expressions allows to identify that distortions are produced by emotional associations instead of registries perceptions.

-Answers obtained are multiple. Each patient has built a "bundle of emotions" which is so wide that sub-categories cannot be established. The notion of singularity prevails.

MD O42 Psychological Approach Previous and After Bariatric Surgery: the Importance of Adherence in the Follow up

M.T. Panzitta^{1,2}, C. Casalnuovo^{1,3}, C. Refi¹, M. Strada², A. Langellotti²

¹Centro de Cirugía de la Obesidad (CCO), Argentina; ²Hospital Durand - Buenos Aires, Argentina; ³Hospital de Clínicas - University of Buenos Aires, Argentina

Rapid weight loss after surgery for obesity may not be joined by emotional, psychic and social changes which in some patients lead to partial weight regain in the medium or long term, giving up treatment. Psychological changes take different times and the patient does not adapt to post-surgical requirements. Difficulties in relation to food habits appear: patients repeat pathological behavior or create new disorders such as vomiting, body image disorders, no physical activities nor changes in life style in order to maintain weight loss in the long term. The objective is to emphasize the importance of psychological approach in the pre surgical preparation and its appropriate follow up according to the patients' particular needs.

Methods Psychological and emotional patient's preparation, creating new connections with his body. This will facilitate changes in his relationship with food and his quality of life and his self-regulation.

Results and Conclusions Patients must feel that they can change their eating behavior prior to the surgery. This will help them to better adapt after surgery, especially when the gastric band is used. Negative results with this technique are consequence of problems with the patient himself, the band or the follow up team. During pre-surgery preparations adherence to treatment is worked on, and in post-surgical follow up the patients' self-confidence is addressed so that they feel part of the process, which facilitates surgery's success, avoiding weight regain.

VIDEO SESSION ABSTRACTS

V1 Adjustable Gastric Band with Jejunioleal By-pass – a Novel Procedure – Preliminary Results

B. Zilberstein, A. Brito, E. Alves, H. Joaquim

Gastromed - Instituto Zilberstein, Brazil

Background The Adjustable Gastric Band (AGB) has been the procedure with smaller morbidity and mortality in the surgical treatment of morbid obesity. However, the long-time results show smaller reduction of weight excess and BMI when compared to the mixed procedures (gastrectomy with intestinal derivation).

Objectives To combine the intestinal derivation procedure (disabsortive procedure) to the AGB.

Methods Four patients with morbid obesity and surgical indication were submitted to AGB application with video-laparoscopy associated with intestinal derivation procedure. It was realized by anastomosing the jejunum (200 cm distant to the Treitz angle) to the distal ileum (100 cm from the ileum-cecal valve), lateral-laterally, with video-laparoscopy, in the same operative act.

Results There were no post-operative complications, and the patients were discharged in the first 24 hours after surgery. With 60 days of post-operative, the medium weight loss was 12 kg, with weight excess reduction of 27,25%.

Conclusions The early results of the studied surgical procedure outpoint the possibility to associate the disabsortive technique with exclusive restrictive technique, totally reversible, to improve the long-time results of the surgical treatment for morbid obesity.

V2 The False Failure of the Gastric Banding®

G. Sassi

Clinique St Michel pl du 4 septembre 83100 toulon, France

Background For 1998 and have implanted bands in nearly 2100 patients using either gastric or oesophageal placement. In addition 348 patients, operated in others center, came in our obesity center to get a follow up. This study assesses weight loss and compares complication rates of the 3 series.
Methods 2112 patients received LAP-BANDS between 1998 and 2007. 827 using the perigastric dissection from 1998 to 2002 with follow-up to 8.5 years. We began oesophageal placement in 2002 and 1285 patients have undergone that procedure, with follow-up to 6 years. Among 348 patients of the third serie, 82 have got an oesophageal ring. Mean baseline BMI in the gastric group: 41.9 kg/m², in the oesophageal group: 42.4, in the third group: 42.1.

Results Weight loss - mean BMI in the gastric group: 31.7 kg/m² at 1 year, 30.2 at 2, 30.5 at 3, 31 at 4, 31.6 at 5, 30.9 at 6, 30.8 at 7, and 29.5 at 8.5 years. BMI in the oesophageal group: 30.9 at 1 year, 27.3 at 2, 29.7 at 3, 29.9 at 4, 29.6 at 5 and 29.8 at 6 years. Complications: In the gastric group: 152 slippages (13%), 3 In the eosophageal group (0.2%)

Conclusions In our series the oesophageal procedure has achieved effective, stable weight loss to 6 years and allowed to know that 320 cases of failure was false failure of gastric banding. We believe that most of failure of gastric banding could be avoided

V3 How to Simplify Gastric Banding After 7000 Procedures

V. Frering, E. Fontaumarad

Espace medico chirurgical de la Sauvegarde

Background Gastric banding is a very useful procedure in bariatric surgery in Europe. Rate and type of complication related to this procedure are actually well known. Most of them are related with the operative procedure. Different way of proceeding was described. As the pars flaccida is well accepted actually, different technical points are still discussed.

Methods From 1997 to 2007, the same team operated more than 7000 patients on. Last year, 1200 patients had gastric banding with midband fitted by two surgeons. Same team, including surgeon, anaesthesiologist, psychiatrist, and physician nutritionist, did all preoperative assessment. Patient was operated on according to Ifo Criteria. One-day surgery was proposed when conditions were available. Band used was Midband for the last 4500 procedures.

All procedure were done laparoscopically, even for redo after VBG. Are described installation, anaesthetic protocol, band placement, and postoperative care. Difficult technical points during surgical procedures are enhanced.

Results There was no death. Mean operative time was 15 mn. Mean hospitalisation time was 1.5 day. Most of complication was observed during learning curve. During last Five years, out of 4500 procedures, postoperative complications were: 4 acute slippage, 2 band misplaced in the fat forward the stomach. There was no gastric perforation.

Conclusions Procedure described is standardized, and can achieve safe procedure.

V4 A Typical Presentation of Gastric Band Infection

S. Ahmad

Brazil

Background Patients treated with Gastric band (LAGB) are increasing in number. LAGB has proved to be an effective operation to reduce overweight significantly. Postoperative complications are diverse and need special attention.

We report a case of infected gastric band with atypical presentation symptoms. Female, 22 Ys old presented to us with two months history of fatigability, epigastric pain, left loin pain; radiated to the left shoulder, left side of the neck, and left earache; associated with recurrent fever attacks at night, puffiness of the face and sore throat. She was treated by different doctors with multiple antibiotics as flue infection. These symptoms developed 16 months after LAGB-Surgery and she had 20 times adjustments of band since then.

Assessment of patient was done by gastroscopy and X-ray- fluoroscopy of the band was performed, The liquid which was aspirated gave the suspicion of infection; which was confirmed by microbiological examination, and revealed growth of *Pseudomonas* species, The gastric band was removed laparoscopically. Intraoperative findings revealed encapsulated abscess around the ruptured gastric band All clinical symptoms reversed with the use of proper antibiotics after the removal of the gastric band.

Conclusions Band infection is avoidable or reducable if we improve the aseptic technique intra- and postoperatively. Special care has to be taken during adjustments of the band as well. *Pseudomonas* spp. is a hospital acquired infection. This patient has acquired this infection either during first operation or more likely during the repetitive adjustments.

V5 Endoscopic Treatment for Band Erosion

I. Caro, C. Sanchez, C. Casalnuovo, P. Rodriguez, O. Brasesco, A. Grigaites, C. Cerisoli

Gedyt S.A., Argentina

Background Penetration of a band into the gastric cavity can occur (1–5%) which motivates its endoscopic extraction.

Objective To show our experience in endoscopic band extraction.

Methods We studied 16 patients with band erosion. Fifteen of the bands were extracted having had a previous cut with a steal string (bandtritor) or with Olympus scissors; one of them did not need a previous cut because it had completely migrated into the cavity.

Results 14 patients were treated with adjustable bands and two with fixed bands. We proceeded with the same technique in all the cases except for two of them.

The bands were taken out cutting in the core of them. A steel string was put surrounding the eroded band, then we took the scope out and then we again took it into the cavity to thread the end of the string into the snare. Once the end of the string was out, it was threaded to the steel shirt adjusting it to the bandtritor. Later, the endoscope was introduced again performing the cut of the band under direct vision, and then we let the port free, so we could take the band out with a polypectomy snare. In the patient who had the whole band in the gastric chamber, the catheter was pulled into the lumen of the stomach and after that it was taken through the mouth. One of the fixed band was cut with Olympus scissors, and it was taken out with a grasping forceps. The other fixed band was extracted with the previously described procedure because it was impossible to be cut by scissors. All patients were evaluated 1 month after the procedure and in the patient who required two attempts to cut the band, we found a piece of gauze partially protruded into the stomach. The gauze was removed using a polypectomy snare.

Conclusions Endoscopic treatment is safe and effective to extract eroded bands.

V6 Endoscopic Removal of Gastric Band

A. Ahmed¹, D. Menzies²

¹Charing Cross Hospital, Imperial College London, London, UK; ²Colchester Hospital, Essex, UK

Background Gastric band erosion is a known complication following laparoscopic gastric banding occurring in 1–2% of cases but has also been reported in up to 11% of cases. This video presentation illustrates a totally endoscopic approach to removing an eroded gastric band using the AMI gastric band cutting device.

Methods The AMI gastric band cutter consists of: (i) cutting wire, (ii) flexible cutting wire guide, and (iii) handle and toggle. The procedure takes place in the operating room with the patient under general anaesthesia.

Our video illustrates this technique which consists of the following steps:

(i) The cutting wire is looped around the eroded gastric band, threaded through the wire guide and assembled to the handle/toggle.

(ii) The handle/toggle assembly is tightened until the wire cuts through the band.

(iii) The band is retrieved endoscopically with a snare.

A laparoscopic leak test is performed. The port and tubing are removed through a small incision.

Results The procedure time was 48 minutes. The patient made an unremarkable recovery and was discharged home on postoperative day 1.

Conclusions Different techniques may be used to remove an eroded gastric band. These include open surgery, laparoscopic surgery and a laparoscopic transgastric technique. They all involve challenging dissection through chronically inflamed tissue planes coupled with careful adhesiolysis. The risk of inadvertent iatrogenic injury to other organs is high. Using a totally endoscopic approach to retrieve an eroded gastric band circumvents these problems as is illustrated in our video. However, more than a 1/3rd of band circumference should be visible before attempting endoscopic retrieval. An air leak test may be performed to ensure there is no communication between the gastric lumen and peritoneal cavity.

V7 Intestinal Occlusion: A Very Rare Complication of Laparoscopic Adjustable Gastric Banding

G. Perez, D. Awruch

Department of Digestive Surgery of Pontificia Universidad Catolica de Chile

A 37 years old female four years ago underwent a laparoscopic adjustable gastric band. She went to the emergency room with abdominal pain, nausea and vomiting. A CT scan was performed and intestinal occlusion was revealed. The connector of the band was seen in the right lower abdomen. Laparoscopic approach was decided. An intestinal loop was revealed next to the connector of the band. The connector involves the intestine and don't allowed to reduce it. The connector was cut and the lap band was removed because the goals of obesity therapy wasn't reached. The video shows the laparoscopic treatment of a very rare complication of laparoscopic adjustable gastric banding.

V8 Gastric Banding and Hiatus Hernia

A. Clough, L. Layani

Division of Advanced Laparoscopic and Upper GI Surgery, John Flynn-Gold Coast Private Hospital, 42 Island Drive, Tugun, Queensland 4224, Australia.

We present a video on the topic of gastric banding and hiatus hernia. The video looks at common and uncommon situations where hiatal hernias may complicate gastric banding surgery and we discuss methods of hiatal repair, the role of mesh and the challenges of redo surgery in this area. Our presentation looks at four surgical scenarios of increasing complexity:

Video 1 (primary gastric banding with simultaneous hiatus hernia repair) This video demonstrates a large hiatus hernia found at operation for gastric banding. The hernia is repaired before the band is placed.

Video 2 (hiatus hernia repair in the previously banded patient)

Fibrosis related to the banding operation gives this operation a “redo-like” quality, particularly posteriorly where the band is in close proximity to the crura. This hernia is meshed anteriorly.

Video 3 (hiatus hernia repair in a patient with a slipped band)

A large band slippage is displayed. Adhesions are taken down and the band exposed and removed. A large hiatus hernia is noted and in this example a new band is placed before the crural repair.

Video 4 (second redo hiatus hernia repair with large band slippage)

This video demonstrates a complex and difficult dissection and reduction of a large dilated proximal gastric pouch from the chest. The band is kept in situ throughout the operation and serves as a useful instrument for retraction. This hernia is meshed anteriorly and posteriorly with a mesh cut to size and shape on the table.

Series Review

We present a review of 31 patients who have had simultaneous gastric band and hiatus hernia repair. Mean operating time was 77 minutes (range 43–165) and post-op length of stay 1.4 days (range 1–3). One patient required early re-operation for slippage but otherwise there were no early or late major complications.

V9 Adjustable Gastric Band in Patients with Giant Hiatus Hernia

A. Aita, B. Zilberstein, A. Brito, H. Joaquim, F. Ramos, F. Gallucci

Gastromed - Instituto Zilberstein, Brazil

Background The Adjustable Gastric Band (AGB) for surgical treatment of morbid obesity is usually not indicated in patients with hiatus hernia and reflux esophagitis, due to the possibility of worsening the esophagitis.

Methods Among 424 patients who underwent placement of AGB, 5 patients (2 men and 3 women) had hiatus hernia of major proportions, with more than 4 cm of intra-thoracic sliding. All of them were older than 55 years, and besides the reflux esophagitis, 3 of them had systemic arterial hypertension and diabetes. The pre-operative BMI ranged from 35 to 46. The operation consisted on reducing the hiatus hernia and making the hiatoplasty. The fundoplication was not performed in any case, and in three of them, due to the weakness of the pillar arms, it was placed a prolene device on hiatus. The patients had satisfactory evolution, without complications, with an average hospitalization time of 24 hours. There were no late complaints of reflux and there was no endoscopic evidence of reflux. The video shows the steps adopted during the realization of the procedure.

Conclusions The long-term evolution of these patients demonstrates that it is possible to use the AGB technique on patients with giant hiatus hernia.

V10 Sleeve Gastrectomy: A Good Surgical Option in Adolescent's Superobesity

C. Martínez Blazquez, G. Martínez de Aragón Remírez de Esparza, J. Vitores Lopez, V. Sierra Esteban, F. Balsera Rodríguez, J. Valencia Cortejoso

Hospital Txagorritxu/Osakidetza

Obesity in adolescents is an emerging and important problem in Spain and occidental countries. In addition superobesity in adolescents is associated with increase mortality and morbidity rates in adulthood. Surgical treatment seems to be the only way to resolve this problem. The operation should be designed to obtain a good permanent weight lose minimizing risks. There are different surgical options and sleeve gastrectomy is a good one for two important reasons:

- 1- Security. Reduce surgical complications and the malabsorptive procedures side effects in this important period of person development.
- 2- Effectiveness: Optimal weight lose and keep it in the long term.

We present an sleeve gastrectomy performed on a 13 years old girl, 54 BMI, 120 Kg and 1.49 m. We describe the technique and surgical useful tricks.

V11 Laparoscopic Magenstrasse and Mill Operation

R. Allieta, P. Millo, R. Brachet Contul, G. Scozzari, M. Fabozzi, M.J. Nardi, R. Lo Russo

Department Of General Surgery - Regional Hospital “Umberto Parini”, Aosta, Italy

This procedure was performed by Davis Johnston 6 in 1987 and the technique was optimized over time. In this purely restrictive procedure a non banded vertical gastropasty is created along the lesser curvature without removal of the unused stomach remnant. From the surgical technique standpoint the difference is that after the creation of the access to the lesser sac by means of a window in the gastro-colic omentum, a circular stapler is used to create a window in the gastric antrum, just beyond the incisura angularis, 5 or 6 cm from the pylorus.

An ENDO GIA ã 60 green cartridge is used to divide the body and the fundus along the 48 Fr calibration tube up to the Hiss angle like a long VBG. The free stapled edges are oversewn with a running absorbable suture to reinforce the staple-line, to ensure hemostasis and prevent fistulization between the gastric tube and the separated body of the stomach. In alternative it is possible to buttress the staple line with Seamguard or with bovine pericardium Peristrips. In literature there are only 2 reports about this procedure and only in open surgery. We have performed some laparoscopic cases without any mortality and morbidity.

Satisfactory weight loss is seen at 1 year with 58% of EWL and 61% at 2 years. 6,29. This series describes the possibility to perform a RYGBP as a second step as we describe for SG.

V12 Sleeve Gastrectomy After Belsey IV Wrap in a Super-Super-Obese Man

A. Clough, L. Layani

Division of Advanced Laparoscopic and Upper GI Surgery, John Flynn-Gold Coast Private Hospital, Tugun, Queensland, Australia

The patient is a 35 y/o male, originally 259 kg (571 lbs), BMI 88.6 kg/m² on presentation to our clinic. Past surgical history includes a Belsey IV procedure for reflux (via left thoracotomy, incorporating a 270° wrap). After diet and Optifast regime, the patient was ready for surgery at 205 kg (452 lbs), BMI 70.1 kg/m² and we proceeded to perform a laparoscopic sleeve gastrectomy. Our video presentation begins with description of table positioning, instrumentation and initial anatomical views. Adhesions are divided and a plane established between stomach/oesophagus and the diaphragm and crura. Adhesions to the lesser curve are then dissected to define the lateral margin of the Belsey wrap. The wrap is disconnected and the fundus returned to the left side of the stomach. Further division of short gastrics and omentum on the greater curve is undertaken before proceeding to perform a sleeve gastrectomy over a 32 Fr bougie. Fibrin glue is used to reinforce the staple line.

V13 Laparoscopic Seromyotomy for Long Stenosis After Sleeve Gastrectomy

G. Dapri, I. Bouillon, D. Lipski, G.B. Cadiere, J. Himpens

European School of Laparoscopic Surgery, Saint-Pierre University Hospital, Brussels, Belgium

A 47-years-old woman submitted 2 years before to a laparoscopic duodenal switch for morbid obesity, complained of solid dysphagia. A barium swallow evidenced the presence of a 4 cm long stenosis at the middle part of the sleeve gastrectomy. The possibility of endoscopic balloon dilation was excluded because of the length of the stenosis. This movie shows a laparoscopic seromyotomy, comparable to the Heller's procedure, proposed to the patient. Five abdominal trocars were placed into the abdomen. After adhesiolysis between the upper part of the sleeve and the left liver lobe, a seromyotomy was performed with the coagulating hook. The magnified vision of the laparoscope allowed safe layer by layer transection of the gastric wall down to the mucosal tissue. A leak-test, at the end of the procedure, testified the absence of gastric perforation. An omentoplasty with reabsorbable interrupted suture was performed in order to cover the myotomy. A penrose drain was left. The procedure took 42 minutes and the estimated operative bleeding was 10 cc. The patient was able to eat a free liquid and solid diet during the postoperative course, and was discharged on 3rd postoperative day. The barium swallow at 3 months confirmed the resolution of the stenosis. After 12 months the patient is well and asymptomatic.

V14 Sleeve Gastrectomy In Situs Inversus

J.C. Gongora, H. Velez, F. Gomez

Intergastro, Colombia

Patient of 38 years old with personal antecedent of situs inversus, BMI 41, Hypertension, Osteoarthritis and Hypotrioidism. We programmed for Laparoscopic Gastric Bypass. In surgery, we found situs inversus with severe adherencial syndrome. In face of the impossibility of carrying out Gastric Bypass, we carried out Laparoscopic Sleeve Gastrectomy without complications. The surgery took 70 minutes. At the moment our patient has five months of having operated and she has lost 30 kilos.

V15 Reducing the Learning Curve in Gastric Bypass: Steps to Simplify it

J.A. Sallet, C.E. Pizani, P.C. Sallet, R. Tussi Jr.

Sallet Institute of Medicine, Brazil

In the last three decades, many forms of gastroplasty have been performed with good results. However there is some polemic about the best technical procedure, including conventional or video laparoscopic access, ring placement or not, bypass with 100 cm or more. The objective of this video is to show how possible is to simplify the steps

- Placement of the five trocars;
- Dissection of gastrophrenic ligament at Hiss angle;
- Identification of the second gastric vessel in the small curvature, which is the initial point for the retro gastric tunnel dissection, followed by a horizontal division of stomach;
- Placement of the orogastric probe to guiding gastric pouch section;
- Vertical division of the stomach with linear stapler until the area previously dissected creating a mini pouch with 30 cc;
- Opening the epiploon;
- Identified the Treitz angle, we count a jejunum distance able enough to perform a gastro jejunum anastomosis with mechanic suture in a pre-colic and isoperistaltic form;
- We check the biliopancreatic side
- Identification the jejunum ileal transition and performing side by side jejunoleo proximal anastomosis with linear stapler;
- We test with blue of methylene both anastomosis
- We perform a section of the jejunum right to the end of the gastroenteroanastomosis
- We believe by using this way, it is possible to reduce surgery time in 1/3, because it is easier to the surgeon works between the patients legs all the time, there is no mesenteric gap to close, test both anastomosis with methylene blue, and taking about 90 minutes

V16 Robotic Roux-en-Y Gastric by Pass (Rygbp) for Morbid Obesity in Super Obese Patient

R. Allieta, P. Millo, G. Scozzari, R. Brachet Contul, F. Persico, M. Roveroni, S. Cornaglia

Department of general Surgery - Regional Hospital "Umberto Parini", Aosta, Italy

The aim of this video is to show the utilisation of Da Vinci System to perform robotic laparoscopic gastro-entero anastomosis in RYGBP. The operation begins with creation of the pneumoperitoneum and six trocars are placed for grasper, operating instruments, assistant and retractor. The creation of the Roux limb is done from the first loop of jejunum 100 cm distal to the ligament of Treitz. The bowel is divided with the endoscopic linear cutting stapler (endogia 60 vascular). The alimentary limb is measured with the help of a marked device. A entero-enterotomy is performed 150 cm distal to the future gastroenterostomy using the endoscopic linear cutting stapler (endogia 60). The anastomotic incision is closed with a 2–0 non absorbable continuous suture. A windows adjacent to the lesser curvature, 6 cm far from the angle of Hiss, is made by dissecting the gastro-hepatic ligament to allow the passage of an endoscopic linear cutting stapler for gastric division (endo gia 45). The armonicon scalpel can be useful for emostatically clearing the area through the

lesser curvature mesentery. The stomach is divided towards the angle of Hiss with multiple applications of linear cutting stapler (endogia 60) to perform a vertical calibrated pouch. The end of the Roux limb is placed near the pouch and the Da Vinci system is placed on the patient and the arms positioned. A robotic hand sewn termino-lateral anastomosis is performed with 2 continous resorbables sutures. A drain is placed near the anastomosis.

V17 Laparoscopic Placement of a Fobi Ring for Weight Regain After Antecolic Antegastric Roux-en-Y Gastric Bypass

G. Dapri, I. Bouillon, D. Lipski, G.B. Cadriere, J. Himpens

European School of Laparoscopic Surgery, Saint-Pierre University Hospital, Brussels, Belgium

A 48-years-old man, "sweet eater" with a weight of 136 kg and BMI of 45,4 kg/m² was submitted to a laparoscopic Roux-en-Y gastric bypass on August 2003. The patient obtained a weight loss of 52 kg (BMI:28 kg/m²) in the following 31 months. However, a problem of weight regain reappeared after 39 months, with an increase of the BMI of 7 points (weight: 106 Kg). Gastroscopy ruled out for dilation of the gastrojejunostomy. Laparoscopic placement of a 7-cm circumferencial plastic ring around the gastric pouch was proposed to the patient, as described by Dr. Fobi. Five abdominal trocars were placed into the abdomen. The procedure started with the adhesiolysis between the left liver lobe, the proximal alimentary limb and the gastric pouch. The latter was freed by adhesions between its vertical part and greater omentum with the coagulating hook. The left crus was freed from the gastric pouch as well. After identification of the level of the gastrojejunostomy, a retrogastric tunnel was created at that level. A plastic ring was introduced into the abdomen through a 12-mm trocar. The ring was snapped by a grasping forceps emerging through the restrogastric tunnel and locked around the gastric pouch. An anti-slippage stitch was realized. The procedure took 38 minutes. The patient had an uneventful postoperative course and was discharged on 2nd postoperative day. After 6 months the weight and the BMI of the patient were 97 kg and 32 kg/m² respectively.

V18 Laparoscopic Management of Anastomotic Leak After Gastric Bypass.

S. Husain¹, A. Ahmed², T. Boss³, J. Johnson³, W. O'Malley³

Brown University, Providence, Rhode Island; ²Charing Cross Hospital, Imperial College London; ³University of Rochester, Rochester, New York

Gastrojejunostomy leak is the leading cause of death after gastric bypass. The reported incidence varies amongst different series with an overall figure of about 2%. This video demonstrates laparoscopic drainage of gastrojejunostomy leak after laparoscopic gastric bypass. The patient presented with abdominal pain and fever. An UGI study revealed a leak at gastrojejunostomy site. The patient was taken to the operating room emergently and the area was copiously irrigated and drained. Patient was maintained NPO with parenteral nutrition and intravenous antibiotics. A follow-up UGI study confirmed resolution of leak and the patient had an uneventful recovery. This video demonstrates that selected gastrojejunostomy leaks can be managed with laparoscopic drainage with favorable outcome.

V19 Managing Internal Hernia During Pregnancy After Gastric Bypass Surgery

A. Ahmed¹, W. O'Malley²

¹Charing Cross Hospital, Imperial College London, London, UK; ²Highland Hospital, University of Rochester Medical Center, New York, USA

Background Gastric bypass surgery is rapidly becoming one of the most commonly performed operations in the West.. The majority of patients undergoing this surgery are female of child bearing age. Furthermore, following weight loss, there is likely to be an increased rate of pregnancy from reduced infertility and increased sexual activity.

Methods & Results We present a video demonstrating the rare case of a pregnant patient (who underwent Roux en Y retrocolic gastric bypass eight

months previously) presenting with subacute small bowel obstruction secondary to an internal herniation of some of the proximal Roux limb into the lesser sac space through the transverse mesocolon rent, which was widely spread apart. The internal herniation was reduced and the defect repaired at laparoscopy. The patient made a good recovery.

Conclusions Because of the changes associated with pregnancy, gastric bypass patients may be at an increased risk of internal herniation. It is particularly important not to delay surgical exploration, even in the absence of a positive finding on imaging, as doing so may lead to potentially devastating bowel strangulation and sepsis culminating in loss of both fetus and mother.

V20 One Anastomosis Gastric Bypass as Treatment of Giant Paraesophageal Hernia in Morbid Obese Patient

M. García-Caballero, D. Osorio, J.M. Mata, J.M. Martínez-Moreno, N. Msabri, A. Mínguez

University Malaga, Spain

There are few data in the literature on the joint treatment of paraesophageal hernia and anti morbid obesity procedure.

We present the case of a woman 41 years old, 1.60 m and 110 kg (BMI=43) that come to us asking for Laparoscopic One Anastomosis Gastric Bypass (BAGUA) surgery.

The preoperative study pointed out a patient without comorbidities but with a giant paraesophageal hernia and Ig G and Ig M positive for Helicobacter Pylori.

After treating the Helicobacter Pylori infection, we indicated the surgery. Due to the technical characteristics of BAGUA, we consider preoperatively that it was not necessary to perform a specific treatment for the paraesophageal hernia.

We proceed dissecting the hernia sac. Then we perform a standard BAGUA without treating the paraesophageal hernia in a specific way.

The postoperative results demonstrate the total efficacy of the procedure for solving both pathologies: morbid obesity and paraesophageal hernia.

V21 Laparoscopic Repair of Perforated Marginal Ulcer and Gastrogastric Fistula After Roux-en-Y Gastric Bypass

S. Wyles, A. Ahmed

Charing Cross Hospital, Imperial College London, London, UK

Background We present the case of a 42 year old female, with BMI 42, who met the NIH criteria for bariatric surgery. She underwent an uncomplicated laparoscopic retrocolic Roux-en-y gastric bypass in October 2007. Unfortunately she stopped taking her Proton Pump Inhibitor one week after discharge. Three months later she presented to the outpatient department with vague upper abdominal pain, and a barium study revealed a gastrogastric fistula. Two weeks later she developed a sudden onset of severe abdominal pain and presented to the emergency department with symptoms and signs of perforation. She was taken to the operating room.

Methods A pneumoperitoneum was created and peritoneal contamination with free gastric juice was confirmed. A large marginal ulcer on the lateral side of the pouch was found and noted to have fistulated through to the gastric remnant, and also involved the gastrojejunal anastomosis. The Roux limb and its mesentery were completely mobilised from its retrocolic attachments. The gastric remnant fistula opening was sutured closed. The marginal ulcer on the gastric pouch and proximal end of the Roux limb were stapled off and excised and a new gastrojejunal anastomosis was created.

Results She made an uneventful recovery and went home on day 5 post-op. A contrast study performed before discharge showed no evidence of any leak or recurrence of the gastrogastric fistula.

Conclusions We conclude, therefore, that a perforated marginal ulcer and gastrogastric fistula may be safely repaired laparoscopically.

V22 Post Operative Complications on Bypass Procedure: our Personal Experience

J.A.V. Carim, A.Nd. Oliveira, Fd.B.Carim, M. Horwacz

Day Hospital N. S. do Líbano, Brazil

This procedure for morbid obesity is in a well advanced stage performed at major surgical centers throughout the world, with Roux-en-Y Gastric Bypass (RYGBP), the most widely performed mainly in the US. In Brazil alone over 20.000 were conducted on year 2004.

This work aims to show, by means of this video, our personal experience in dealing with complications and measures adopted to adequately conduct corrections in advance.

We have conducted this technique in 272 patients using RYGBP with band, without band or applying gastrostomy in a preventive fashion to avoid future fistule or intestinal obstruction as seen in conventional surgery, draining, feeding in accordance with most conservative principles providing longer periods of liquid feeding trying to provide the patient with safer means during post-operative period. We will show our experience with such technique emphasizing our approach on fistules that occurred in 3 patients (1,5%), stomach perforation in one patient (0,5%) two small intestinal perforation (1%), intestinal obstruction in 1 patient and one hernia at trocar orifice (0,5) totaling 4%.

In conclusion, we are led to believe that gastropalstic surgery is an efficient procedure as attested by medical facilities throughout the world, however with some complications that if dealt with in due time, have presented satisfactory results.

V23 A Case of Jejunó-Jejunostomy Stenosis Causing Blind Loop Obstruction of the Afferent Limb After Laparoscopic Roux-in-Y Gastric Bypass

V. D'Andrea^{1,2}, G. Pinto^{1,2}, J. Pestana^{1,2}, J. Gutierrez^{1,2}

¹Unidad de Cirugía Bariátrica y Metabólica. Hospital Universitario de Caracas, Venezuela; ²Centro Integral de Tratamiento de la Obesidad, Venezuela

This is a 41 years old female who had laparoscopic Roux-in-Y gastric bypass 9 month ago. After that period had 100% of EWL, but started to complain of severe intermittent abdominal pain which had been refractory to medical treatment. X Rays studies included upper gastrointestinal series and small bowel series did not disclose any pathology. Endoscopy of the upper GI tract was normal. Because of the persistent abdominal pain, an exploratory laparoscopy was performed. During the exploration, a marked distention of the afferent limb and the excluded stomach was observed. Despite of potent intermesenteric and Petersen's spaces, no internal hernia was observed; the efferent and common limbs were normal. The diagnosis of stenosis of the jejunó-jejunosotomy was made and an anastomosis between the afferent limb and common limb was constructed using lineal stapler. A gastrotomy was made to decompress the afferent limb. The patient did well and was discharged on the second day. Has remained asymptomatic for the last five months.

V24 Laparoscopic Technique of Banded Gastric Bypass

M. Fobi

Tri-City Regional Medical Center, USA

A video of the laparoscopic technique of the banded gastric bypass using the GaBP Ring is presented. The rational of using a band are presented and discussed.

V25 Lap Duodenal Switch

A. Baltasar, M. Bengochea, R. Bou, C. Serra

Alcoy Hospital, Spain

Background Lap BPD/DS (LDS) is the most complex elective bariatric operation with restrictive and mal-absorptive components.

Methods We use 4 trocars of 5 mm, un 10 mm for the camera on the midline and a Working Trocar (WT) on the paramedian right upper quadrant all of them Termanian-type non-disposable at almost zero cost. The Sleeve Gastrectomy (SG) starts at the pylorus after complete devascularization of the whole greater curvature and 3 cm of the duodenum. A tunnel is created in between the posterior wall of the duodenum and the pyloric artery and a white loaded 6 cm stapler used to divide it. A Lambert running suture covers the stapes of the duodenum stump. A 12 mm bougie is used and 2 green firings are done at the antrum and the rest of the stomach divided with blue staplers.

A running suture covers the stapler-line. Mean volume of the sleeve is 50 cc. The team changes position at the head of the table. The greater omentum is divided, the small bowel is measured from the ileo-cecal valve (ICV) for 65 cm Common Limb (CL) and then up to 300 cm the mesentery is divided with ultrasound. The Bilio-Pancreatic Limb (BPL) is open and anastomosed end-to-side hand-sewn to the CL with two running sutures.

The team changes position again and the Alimentary Limb (AL) is brought retro or antero colic and a end-to end Duodeno-Ileal Anastomosis (DIA) performed in two layers with PDS running sutures. Two drains and extraction of the stomach without bag plus closure of the WT opening are done. OR time runs 128–140 minutes.

Results Patients are discharged on the 2–3 day. 580 DS were open and 400 LDS with 0.85 and 0.5% mortality.

Conclusions LDS can be done at lower mortality than the Open and slightly higher cost.

V26 Alternative Method of Dissection of Duodenum in Duodenal Switch

K.R. Mannur

Homerton University Hospital, London, UK

In Duodenal Switch operation as a weight reduction surgery, Duodenum is dissected in different ways before dividing and performing Duodeno-Ileal Anastomosis. I am showing an alternative method of performing this task. This describes a method where Duodenum is directly dissected without dividing any major vessels of blood supply. This is similar to what we are familiar with in performing Gastrectomy. It is a fairly simple technique.

V27 Bowel Lengthening for Protein Malnutrition

A. Baltasar, M. Bengochea, R. Bou, C. Serra

Alcoy Hospital, Spain

Background Protein Malnutrition (PM) is the most serious long-term complication of the malabsorptive type of weight loss operations. Early diagnosis and medical treatment may change the natural history of the condition, but some patients may require a Common Channel (CC) lengthening procedure to correct the condition.

Methods 12 patients (among 917 patients with Open or Lap DS) have required some type of bowel lengthening procedure. Two of them had total small bowel restoration due to very poor medical condition and calcium and iron deficits beside the PM. Five had a side-to-side (“Kissing-X”) Bilio-Pancreatic Limb (BPL) to Alimentary Limb (AL) 60 cm above the RNY. Another five patients had AL disconnection and the AL end was moved 125 cm, as a end-to-side, above the BPL. Two operations are presented in video: One with the Kissing-X procedure and the second by moving the AL up on the BPL. All the Anastomosis were hand-sewn. Careful marking, with clips, should be made before any division of the bowel to prevent mistakes

Results One patient died due to undetected iatrogenic BPL injury while measuring the whole bowel with inadequate forceps. One patient has to be re-operated in 24 hours due to malrotation of the loops. One patient had a poorly planned and done Kissing-X at another institution and the extra CC has to be resected. The rest of the patients had uneventful recovery of the operation and PM.

Conclusions Both type of procedures are indicated and useful. The Kissing-X is indicated in old patients. The end-to-side on the younger ones since further shortening and lengthening of the CC may be possible later on in life.

V28 Laparoscopic Removal of Adjustable Gastric Banding and Immediate Conversion into Sleeve Gastrectomy

G. Dapri, I. Bouillon, D. Lipski, G.B. Cadiere, J. Himpens

European School of Laparoscopic Surgery, Department of Gastrointestinal Surgery, Saint-Pierre University Hospital, Brussels, Belgium

A 44-years-old woman with a weight of 107 kg and BMI of 40 Kg/m² was consulted for insufficient weight loss after have been submitted to a laparoscopic adjustable gastric banding 2 years before. The weight and BMI

at the time were 112 kg and 42 kg/m² respectively. The patient was diagnosed as “volume eater”, and the preoperative gastroscopy ruled out for hiatal hernia and gastroesophageal reflux. The movie shows the laparoscopic removal of the band and immediate conversion into sleeve gastrectomy proposed to the patient. The procedure started with the adhesiolysis between the left liver lobe, the band and the gastroesophageal junction. The band was completely freed around the stomach on its entire circumference with section of the gastro-gastric tunnel covering the band. The part of the stomach to be resected was scored vertically from the crow’s foot with a spared antrum of 6–8 cm proximal to the pylorus. The greater curve of the stomach was freed from the greater omentum, until the left crus was reached. The stomach was sectioned by multiple firings of linear stapler green loads. During this manoeuvre the band was used as a landmark for stapling, and the firing of stapler at the level of the band was done pushing this latter upwards along the bougie. The band was finally opened and retrieved after the last firing of stapler. The fibrotic band induced perigastric capsule was opened vertically. Resorbable running sutures were placed in order to buttress the staple line. Leak-test testified the absence of leak. A penrose drain was left, and the band-port was removed. The procedure took 65 minutes and estimated operative bleeding was 20 cc. Postoperative course was uneventful and the patient was discharged home on 4th postoperative day. After 10 months the patient is well, weight loss is 27 kg and the BMI is 30 Kg/m².

V29 Laparoscopic Conversion of Laparoscopic Adjustable Gastric Banding to Laparoscopic Roux-en-Y Gastric Bypass

D. Awruch, A. Escalona, G. Perez, C. Boza, L. Ibañez

Department of Digestive Surgery. Faculty of Medicine. Pontificia Universidad Católica de Chile, Chile

Revisional bariatric surgery is becoming common because of the increase of bariatric surgery. Inadequate weight loss is one of the indications for revision after laparoscopic adjustable gastric banding (LAGB). In this video conversion of LAGB to laparoscopic Roux-en-Y gastric bypass (LRYGBP) is presented. A 35 years old female with BMI 35 and comorbidities underwent a LAGB. After 2 years she didn’t reach the goals of the obesity treatment maintaining a BMI of 35 with an unacceptable quality of life. Laparoscopic conversion to LRYGBP was performed. Operative time was 135 minutes and patient was discharged at 4th postoperative day. After one year of follow-up BMI decrease to 24 with complete resolution of comorbidities. Conversion of a LAGB to a LRYGBP as a feasible procedure and is an excellent alternative of treatment for patients with inadequate weight loss.

V30 Conversion of the Gastric Band into Gastric Bypass with Videolaparoscopic Access

J.A. Sallet¹, C.E. Pizani¹, A. Leal², L.P.F.F. Leal², P.C. Sallet¹, R. Tussi Jr.¹

¹Sallet Institute of Medicine, Brazil; ²Clileal Santos-SP, Brazil

In the last 6 years, we have performed 408 Lap-Band with a mean EWL of 61%. Forty two of these patients (12%) had EWL lower than 40%, in some of them we have converted Lap-Band in another kind of surgery (GB or BPD) with laparoscopic approach.

Placement of trocars in the upper abdominal wall;

Dissection, isolation, and resection of the gastric band;

Section of stomach wall covering the gastric band, using a linear stapler;

—Identification of the second gastric vessel in the small curvature, which is the initial point for the retro gastric tunnel dissection, followed by a horizontal division of stomach;

—Placement of the orogastric probe to guiding gastric pouch section;

—Vertical division of the stomach with linear stapler until the area previously dissected creating a mini pouch with 30 cc;

—Opening the epiploon;

—Identified the Treitz angle, we count a jejunal distance able enough to perform a gastrojejunum anastomosis with mechanic suture in a pre-colic and isoperistaltic form;

—We check the biliopancreatic side

—Identification the jejuno ileal transition and performing latero-lateral jejuno-ileo proximal anastomosis with linear stapler;

—We test with methylene blue both anastomosis
 —We perform a section of the jejunum right to the end of the gastroenteroanastomosis
 *::*ID:444 Video*::*

V31 Laparoscopic Banded Gastric Bypass as a Revisional Surgery for Failed Bariatric Procedures

G. Pinto, J. Pestana, V. D'Andrea, J. Gutierrez

Hospital Universitario de Caracas. UNIBAROS, Venezuela

In our nine year, 1500 patient experience with the Roux en Y banded gastric bypass, we have observed it produces excellent (80%) excess weight loss in patients with more than five year follow up. For patients with failed restrictive bariatric procedures or failed non banded roux en y gastric bypass, we also propose laparoscopic conversion to Banded roux en Y gastric bypass. In this video we present a compilation of this experience by describing the laparoscopic technique of conversion in four cases. One adjustable gastric band, one non adjustable gastric band, and a vertical banded gastroplasty converted to a banded gastric bypass. We also show a laparoscopic banding of a non banded gastric bypass.

V32 Laparoscopic Management of Bezoar After Roux-en-Y Gastric Bypass

S. Husain¹, A. Ahmed², T. Boss³, J. Johnson³, W. O'Malley³

¹Brown University, Providence, Rhode Island; ²Charing Cross Hospital, Imperial College London; ³University of Rochester, Highland Hospital, Rochester, New York

Impaction of bezoar in the terminal ileum resulting in small bowel obstruction is an unusual occurrence. This video demonstrates laparoscopic management of small bowel obstruction after Roux-en-Y gastric bypass caused by a bezoar. The patient presented with typical signs and symptoms suggestive of bowel obstruction and radiological studies confirmed the diagnosis. Upon laparoscopic exploration, an intra-luminal mass was noted in the terminal ileum with dilated bowel loops proximally. We proceeded with a longitudinal enterotomy and the contents were extruded by gentle milking action. The enterotomy was then closed transversely using linear stapling device. We surmise that the inadequate mastication accompanied with the lack of stomach's churning action may have resulted in small bowel obstruction observed in this patient.

V33 Laparoscopic Transgastric Access to the Common Bile Duct After Roux-en-Y Gastric Bypass

G. Dapri, J. Himpens, G.B. Cadiere

European School of Laparoscopic Surgery, Saint-Pierre University Hospital, Brussels, Belgium

Rapid weight loss following Roux-en-Y gastric bypass (RYGBP) is often associated with gallstones formation which can lead to cholecystitis and/or choledocholithiasis. Difficult access to the biliary tract is one of the disadvantages after RYGBP. We report a useful technique of laparoscopic transgastric access to the remnant stomach for an endoscopic retrograde cholangiopancreatography (ERCP). A 40-years-old woman with a BMI of 48 kg/m², was submitted to a laparoscopic RYGBP in December 2003. At that time the abdominal ultrasound was negative for gallbladder lithiasis. On April 2007 she was admitted to the Emergency for an upper right side abdominal pain, vomiting episodes, fever and jaundice. Biochemical exams showed leucocytosis, altered liver function tests with a total bilirubin of 4.1 mg/dL and direct bilirubin of 3.3 mg/dL. Hepatic ultrasound showed lithiasis of the common bile duct with intra and extrahepatic bile duct dilation, and gallbladder lithiasis. The patient was submitted to laparoscopy. After dissection of the remnant stomach from the Roux-en-Y limb, a purse string suture was performed on the greater curvature of the excluded stomach, and

a gastrotomy was realized. A 18-mm trocar was inserted into the remnant stomach and the endoscope was directly passed through the port into the duodenum. The gastroenterologist performed the ERCP under fluoroscopic guidance, and thanks to sphincterotomy the stone was retrieved. The endoscope was removed and the gastrotomy was closed by tying the purse string. Cholecystectomy was performed at the same time. The procedure lasted 98 minutes. Liver function tests returned normal on 2nd postoperative day and patient was discharged home on 4th day. After 12 months the patient is well and asymptomatic.

V34 Implantation Technique of a Rechargeable Vagal Blocking System for Treatment of Obesity

M.F. Herrera¹, J.P. Pantoja¹, D.M. Frey², K.S. Tweden³, M.D. Bierk³

¹Instituto Nacional de la Nutricion; ²University Hospital; ³EnteroMedics Inc

VBLOC™ vagal blocking therapy is undergoing clinical investigation to assess its ability to induce weight loss in patients with morbid obesity. A laparoscopically implanted medical system developed to deliver this therapy consists of the following: one lead placed around each vagal trunk just above the gastroesophageal junction and a neuroregulator connected to the leads and placed subcutaneously.

The first generation vagal blocking system required that users wear external components that transcutaneously powered the neuroregulator using radio-frequency (RF) energy. A rechargeable implant has now been developed such that therapy energy is provided by a rechargeable battery housed within the implantable neuroregulator, rather than from the external components that were required in the earlier generation RF systems. Recharging energy is transcutaneously delivered to the implant enabling therapy delivery without the encumbrance of external components.

The aim of the present video is to show the surgical placement of the rechargeable neuroregulator and the use of laparoscopic surgery for lead placement. Five trocars are placed in the standard position for gastric surgery. The lesser omentum is divided and the gastroesophageal membrane is dissected circumferentially in 180°. The anterior and right aspects of the esophagus are exposed to visualize both vagal trunks. One lead is placed around each vagi and is secured to the esophagus with non-absorbable sutures. A strain-relief tab from each lead is sutured to the stomach. A left lateral subcutaneous pocket above the costal margin is developed and the neuroregulator is sutured to the underlying fascia. Leads are connected to the neuroregulator through the left lateral trocar hole. After an impedance test is performed, the wounds are closed.

V35 A Standard and Reproducible Technique of Mastopexy and Reduction Breast After Massive Weight Loss

C. Bouteille¹, P. Espalieu²

¹Service Gynécologie CHU Hopital Nord France 42055; ²Centre hospitalier Privé de la Loire Boulevard de la Palle 42100, France

After massive weight loss, there is variation in size of the breast with disproportionate excess of the breast envelope in relation to its content and ptosis appears.

The authors describe a modified technique of reduction mammoplasty using a superior pedicle which is likely to be convenient in most cases of ptosis associated with still large breast after massive weight loss.

This technique combines:

- a preoperative design which predetermines only the size and position of the areola,
 - a nipple-bearing flap with a superior pedicle,
 - extensive de-epithelialisation, helping to secure the blood supply,
 - a uniform glandular resection, without any topographic limitations,
 - clamp control of the skin resection, allowing reduction of the breast base as required, together with the final inverted T resection, allows adaptation of the skin envelope to the residual breast size at will.
- This technique without cutaneo glandular cleavage and with a superior pedicle guarantees vascular security and morphologic stability and allows quite easily the correction of asymmetry of breast size and position of the areola.

POSTERS

P1 Laparoscopic Gastric Banding – Is It Safe Not To Suture?

A. Bond, K. Gallagher, S. Modi, J. Horner

Department of Surgery, Ashford and St Peters Hospitals NHS Trust, Ashford, Middlesex, UK

Background ‘Slippage’, or prolapse of the stomach through the band has been reported as a potentially life threatening complication of Laparoscopic Adjustable Gastric Banding (LAGB). The most significant reduction in slippage rate to 2% was reported after inserting the gastric band via the ‘Pars Flacida’ route, as opposed to the previous perigastric position (20%).

It is proposed that placement of an adjustable gastric band via the ‘pars flacida’ approach, does not require the previously recommended suture/fixation, whilst still giving excellent outcomes with respect to slippage.

Methods Between July 2004 and December 2007, 98 consecutive LAGB’s were inserted by a single surgeon. All were Midbands, and inserted using the pars flacida approach. In no patients were the bands sutured.

Median age 42 (range 23–63), Median BMI 49 (range 34–70), Median length of stay <12 hours (range 0–2 nights)

Results No slippages have occurred to date.

Mean % EWL at 6, 12, 18, 24, 30, 36 months are 23, 35, 42, 52, 45, 40.

There were no occurrences of gastric erosions or gastric injuries.

Complications: 5 bands have been removed, 1 for misplacement, 3 for intolerance (patient factors) and 1 for dysphagia secondary to fibrosis at the band site.

Conclusions Using the Midband, we do not feel that it is necessary to suture or fixate the band in place following insertion. This does not increase the rate of slippage, nor does it affect the results of weight loss.

P2 Comparison of Three Band Types - Surgical Technique, Complications, Effects.

T. Szewczyk, B. Modzelewski, P. Janczak

Department of Gastrointestinal Surgery, Medical University of Lodz, Poland

In the years 2005–2006 we implanted 347 bands. At that time, we used three band types: Hospimedical, Johnson & Johnson, Midband.

Technical aspects of the procedures, complications and body weight loss were compared.

The Midband group consisted of 56 women (mean BMI 43.36) and 44 men (BMI 45.95), the MiniMizer group – of 60 women (BMI 42.27) and 40 men (BMI 46.99), the Obtech group – of 70 women (BMI 44.73) and 30 men (BMI 48.35).

The same surgical technique was used for all band types. Midband and Obtech bands require no additional instrumentarium, whereas the MiniMizer requires an instrument for fastening of the band. The Midband and Obtech types offer standard band diameter, while the MiniMizer makes it possible to choose 21 mm or 26 mm. The mean time of the procedure was 43 minutes in the Obtech group, 41 in the MiniMizer group and 42 in the Midband group. Thirty patients from the MiniMizer group had the band fastened at lo (26 mm), 70 at llo – (21 mm).

Slippage was observed in 2 patients from the Midband group, 3 from the MiniMizer group and 3 from the Obtech group.

%EWL after 2 years was 52% in the Midband group, 57% in the MiniMizer group and 55% in the Obtech group.

There are no significant differences between the bands, so the band choice is dependent on availability on the market and on the surgeon’s experience.

P3 Prospective Randomized Study Comparing the Mid-Band and the Swedish Adjustable Gastric Band in Laparoscopic Adjustable Gastric Banding.

P. Espalieu, G. Poncet, M. Robert, A. Hallaj, J. Boulez

Hopital Edouard Herriot. Service de chirurgie digestive, pavillon D4. Place d’Arsonval, Lyon, France

Background Long-term complications such as erosion or pouch dilatation may vary according to the type of adjustable band used, as well as weight loss. The purpose of this study was to compare morbidity and weight loss induced by the Mid band and the Swedish adjustable gastric band (SAGB).

Methods 200 laparoscopic adjustable gastric banding (LAGB) were done by the same surgeon between 01/2002 and 10/2006, 100 LAGB using the mid band (group 1), and 100 using the SAGB (group 2). Data entered prospectively in the database were age, sex, BMI, sweet eating, duration of surgery, hospital stay, complications, reinterventions and weight loss. Learning curve was excluded for both bands. Redo surgery was excluded.

Results Statistical analysis found no significant differences between the 2 groups in terms of age, sex, BMI, previous surgery, and associated procedures. Sweet-eaters were 18% in group 1, 23% in group 2. Mean operative time was 57 min in group 1, 63 min in group 2. There was no conversion. Early complication rate was 1% in both groups. Hospital stay was 1,76 day in group 1, 1,68 in group 2. 163 patients were available for follow-up at 2 years (86,5%), 106 at 4 years (79%). Mean BMI was reduced from 41,3 to 29,1 in group 1 at 2 years, from 40,7 to 31,3 in group 2. Mean number of band adjustments was 1,77 in-group 1 and 1,94 in group2.

Conclusions Satisfactory weight loss was achieved in both groups with no statistical significant difference in term of long-term complications rates.

P4 Initial Experience of 100 Sagb Cases in IndiaJ. Todkar¹, S. Shah¹, P. Shah²¹Department of Laparoscopy and Bariatric surgery, Ruby Hall Clinic, Pune, India; ²Ruby Hall Clinic, Pune, India

Background Gastric banding is an accepted modality of treatment for morbid obesity with variable results in different continents of the world. Bariatric surgery including Gastric banding in India is a few years old and needs own guidelines from the experience.

Methods 100 patients underwent SAGB from 2004 to 2007 in our center. The selection of patient was as per the NIH consensus. Male to female ratio was 3:1. Age was between 20 to 67 yrs (mean=43.5). BMI range was 35 to 59 (mean=47). The follow up was 98%.

Results 74% patients had approximately 70% EWL at end of 2 yrs. 20 had 58% EWL at the end of 2 yrs. There was no peri operative mortality or complications. 2 patients needed band removal at 18 and 24 months: 1 for infection and 1 for slippage. One was converted to LGBP for unsatisfactory weight loss.

Discussion Male patients had better weight loss. Patients with pre-op education did better. The selection of the right candidate for the procedure played a vital role in the outcome.

Conclusions SAGB is a safe and effective option in the treatment of morbid obesity in suitable candidates in Indian set up

P5 Adjustable Gastric Band in Patients with Giant Hiatus Hernia

A. Aita, B. Zilberstein, A.C.Gd. Brito, E. Alves, F. Ramos, D.C. Rocha, F.P. Gallucci, H.D.G. Joaquim

Gastromed - Zilberstein Institute, São Paulo, Brazil

Background The Adjustable Gastric Band (AGB) for surgical treatment of morbid obesity is usually not indicated in patients with hiatus hernia and reflux esophagitis, due to the possibility of worsening the esophagitis.

Methods Among 424 patients who underwent placement of AGB, 5 patients (2 men and 3 women) had hiatus hernia of major proportions, with more than 4 cm of intra-thoracic sliding. All of them were older than 55 years, and besides the reflux esophagitis, 3 of them had systemic arterial hypertension and diabetes. The pre-operative BMI ranged from 35 to 46. The operation consisted on reducing the hiatus hernia and making the hiatoplasty. The fundoplication was not performed in any case, and in three of them, due to the weakness of the pillar arms, it was placed a prolene device on hiatus. The patients had satisfactory evolution, without complications, with an average hospitalization time of 24 hours. There were no late complaints of reflux and there was no endoscopic evidence of reflux. The video shows the steps adopted during the realization of the procedure.

Conclusions The long-term evolution of these patients demonstrates that it is possible to use the AGB technique on patients with giant hiatus hernia.

P6 Echoendoscopic Analysis of Adjustable Gastric Band with Anti-erosive Mechanism

H.D.G. Joaquim, B. Zilberstein, A.C.Gd. Brito, E. Alves, A. Aita, F. Ramos, F. Brasileiro

Gastromed - Zilberstein Institute, São Paulo, Brazil

Background Erosion and slippage are the most feared complications on long term follow-up after Adjustable Gastric Banding procedure for the treatment of morbid obesity. In order to avoid or decrease these complications a new low compression Adjustable Gastric Band device was developed, with a protective polyurethane membrane.

Methods 62 patients underwent this procedure. 20 of them were performed between November 2003 and July 2004, and followed up by periodic echoendoscopy at the end of the 1st month without inflation and after the 4th month with a 3 ml iodinated contrast substance inflation. These patients were prospectively paired with 20 other patients who underwent the same procedure but using the Swedish Band-Obtech®.

Results The echoendoscopy exam was normal in all cases. It was possible to analyze the different gastric wall layers and the perfect band attachment to the stomach. There was neither different tissue nor other changes between the gastric band and the gastric wall in both devices used.

Conclusions The Echoendoscopic follow-up of both Bands, in a short period of time, showed a good adjustment of the Band to the gastric wall. This study intends to continue in order to evaluate this adaptability in a long term follow up.

P7 Intra-gastric Band Erosion in Adjustable Silicone Gastric Banding: Clinical Spectrum and Hypotheses

E. Meir, F. Sirbu

St. Jozef Hospital Mortsels, Belgium

Intra-gastric band erosion (IBE) is one of the possible complications of Adjustable Silicone Gastric Banding (ASGB).

Between January 1993 and January 2008 the authors performed 643 ASGB. Eleven cases of IBE occurred (1.7%). The clinical manifestations were sudden weight gain in 6 (5.5%), band system leak in 4 (3.6%), chronic port-cutaneous fistula in 3 cases (2.7%) and dysphagia with gastric outlet obstruction in 1 patient (0.9%).

Treatment always consisted of removal of the band: in 10 cases (91.1%) this was performed laparoscopically with suture repair of the stomach wall and in 1 patient (0.9%) the band was removed by means of upper endoscopy. In 10 cases this intervention was uneventful, but in 1 patient a subphrenic abscess needed to be drained during a second intervention.

Hypotheses concerning the mechanism of IBE are: peroperative damage to the gastric wall resulting in early IBE, chronic ischemia of the stomach wall caused by excessive pressure of the band (inflation of the band too much and too fast), port site infection resulting in infection of the band, intra-gastric damage or irritation due to ulcers, drugs or alcohol.

Prevention of IBE consist mainly of atraumatic dissection ("pars flaccida-dissection") and the use of a soft band that is large enough and not too much inflated.

After band removal a second ASGB can be performed if the interval is at least 3 to 4 months. Other surgical options are gastric bypass surgery or sleeve gastrectomy, if indicated.

P8 Re-do's After Adjustable Gastric Banding

K. Dittrich^{1,2}, C. Fenz^{1,2}, D. Al-Khaffaf^{1,2}

¹Lkneon Weinviertel Hollabrunn, Austria; ²Dep. of surgery, Austria

Background Regarding morbid obesity as a long-life disease we analyzed the relationship between the number of Re-do's after adjustable gastric banding and the discipline of patients undergoing postoperative treatments and controls.

Patients and Methods During a period of 6 years (2000–2006) 180 patients were operated on morbid obesity with an adjustable gastric banding (173 laparoscopically), 144 female patients (BMI>45: n=52, BMI<45: n=92), 36 male patients (BMI>45: n=15, BMI<45: n=25).

Preoperatively patients underwent a psychological assessment, perioperatively they were advised to a dietary and sportive program during the hospital stay (between 2–6 days). After discharge the band was adjusted 3 weeks later, afterwards all patients were controlled all 3 months during a period of 1 1/2 years, after that half-yearly. Dietary controls and sportive activity programs could be arranged for the surrounding area.

Late results The most effective results were gained by patients who followed the strict dietary and sportive rules with an excessive weight loss of 78% during a period of 48 months (reduction of BMI of 15). 16 patients underwent Re-do's (gastric bypass n=15, sleeve resection n=1) because of oesophagus dilatation (n=13) or failure of weight loss (n=3). Two thirds (n=11) of them were from other regions in Austria only 1 of 16 followed dietary and sportive rules.

Conclusions Failure of adjustable gastric banding in morbid obesity is obviously caused by the lack of discipline concerning habits, dietary and sportive rules and surgical controls. The method of choice in Re-do-operations is gastric bypass.

P9 Roux-en-Y Gastric Bypass (RYGB) After Failed Adjustable Gastric Banding (AGB)

J. Salinas, C. Boza, D. Awruch, A. Escalona, G. Pérez, D. Pulgar, L. Ibáñez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background Several reports have questioned the long-term results of AGB. Currently, RYGB has become the gold-standard procedure for morbid obesity. The aim of our study is to analyze fifteen cases of failed AGB who underwent a RYGB procedure as a revisional procedure.

Methods We review our prospective electronic database for all patients undergoing RYGB who had a previous LAGB from January 2000 to October 2007.

Results Fifteen patients (7 females) with a previous AGB were converted to RYGB in this period. Laparoscopic RYGB was performed in 8 patients. Preoperative age was an average of 38.1±10.9 years, preoperative weight and body mass index was 119.1±28.9 kg and 40.3±7.6 kg/m². RYGB was indicated because of unsuccessful weight loss in all cases, and in 2 patients also because of band-related complications (band slippage and intolerance). Seven cases were performed in two steps, band removal first and then RYGB in a second time. Hospital stay was 3.9±1.6 days. No conversion to open surgery was required in the 8 laparoscopic patients. There was only one complication due to an ileus 3 weeks after surgery. Mortality was not reported. Follow up was a mean of 23.8±18 months. Excess weight loss (EWL) at follow-up was 102.7±56.49%. Only one patient did not achieve EWL 50%. Patients with comorbidities either resolved or improved it after RYGB.

Conclusions Laparoscopic or open RYGB seems to be a safe and effective option for failed AGB with minimal complication rate.

P10 An Audit of Radiologically Guided Band Fills and Upper Gi Series in Patients Post Gastric Banding

D. Leff, B. Timmis, K. McDougall, E. Segaran, J. Hassell, P. Sufi, D. Heath

North London Obesity Surgery Service, The Whittington Hospital, London, UK

Background In our institution, band fills are performed under radiological control in order to optimise the degree of inflation, reduce the risk of over-inflation and to ensure rapid early weight loss. It may also allow the early recognition of band complications. In this study, we examined the number and volume of band fills as well as pouch size, band and port position and any complications of banding.

Methods A retrospective analysis revealed a total of 59 patients (101 procedures, M:F=9:50, median age 45 years (range 26 to 68 years) undergoing radiological gastric band assessment between January 2007 and April 2008.

Results Each patient underwent a median of 1.78 band inflations (range 1 to 7) with a median fill volume of 1.67 ml (range 11 to 6 ml). The median pouch size was 28.2 mm (range 0 to 41) in the transverse plane and 31.4 mm (range 0 to 50) in the longitudinal plane. In 6 patients port rotation was identified, although band inflation was successful. One patient with no pouch developed band erosion. Five patients with persistent vomiting and reflux, had normal barium swallows. Four demonstrated pouch dilatation. In one of these cases, the band was unbuckled. In one patient the band was placed through the fat anterior to the stomach. It was subsequently repositioned. A significant inverse correlation was detected ($p < 0.001$) between transverse pouch diameter and band fill volume ($R^2 = 0.39$), but not for longitudinal diameter ($p = 0.155$, $R^2 = 0.17$).

Conclusions Radiologically controlled inflations facilitate the recognition of band problems and enables appropriate management. In general, band fill volume correlates poorly with pouch diameter. The overall complication rate of 13.8% (14/101) is inline with reported series from other bariatric centres.

P11 Obesity and Management with Laparoscopic Gastric Banding in Family Related Patients

N. Sikas, I. Goulimaris, G. Kavvadias

Interbalkan Medical Center, Thessaloniki, Greece

Background Obesity can spread among family members. Laparoscopic adjustable gastric banding is an effective weight loss operation and in some cases it is required to be placed in two or more members of the same family. In this study we wanted to examine how frequently this occurs, the pattern of presentation and outcome of weight loss.

Methods We retrospectively reviewed the records of 1145 patients who underwent laparoscopic gastric banding between April 2004 and April 2008. Three groups of patients were identified: Group A brothers or sisters, Group B parent and child, Group C husband and wife. The related patients had the operation either together or apart. We assessed their BMI, comorbidities and %EWL.

Results 178 patients (15.5%) were members of 85 families. In 8 cases, 3 members of the same family had the operation. In 49% of the cases the relationship was between a parent and a child, in 36% between brothers or sisters and in 15% between husband and wife. 25 families (30%) chose to have the operation together and this was most frequently seen between husband and wife. In the remaining 60 families (70%) the operations were performed after a 10 month interval (± 6.7 months). The patients who were operated first had greater BMI (50 vs. 43), comorbidities were similar and % EWL was not significantly different between those who were operated first and their relatives who were operated later.

Conclusions Obesity running in families is not an infrequent phenomenon. Obese patients undergoing successful laparoscopic gastric banding are shortly followed by their relatives who also suffer from obesity while most couples choose to have the operation together.

P12 Adjustability: Key to Success in Adjustable Gastric Banding

J.A. Lopez-Corvala, C. Hermosillo-Valdez, C. Calleja-Enriquez, F.J. Haro-Valdez, R. Merino-Arellano

Obesity Control Clinic, Hospital Angeles Tijuana, Mexico

Background Adjustable gastric banding has shown to be safe and effective in the surgical treatment of morbid obesity. Its success, though, depends on patient compliance and knowledge and management of its adjustability.

Methods From January 2004 to April 2006, a total of 511 patients underwent laparoscopic AGB placement, we selected patients with a 12-month follow up. Mean time from surgery to the first adjustment, volume required, and mean number of adjustments were recorded, as well as % excess weight loss (%EWL) and body mass index (BMI) in the first adjustment and at the end of the study. We considered indicators for adjustment: loss of restriction, hunger between meals and weight loss interruption. All adjustments were made under fluoroscopic guidance.

Results Four hundred and seventy nine patients completed follow-up: 192 men and 287 women. Mean age was 42 years (14–74). Initial mean weight was 129 kg (86–172), and BMI 43.4 kg/m² (33–50). Mean time from surgery to first adjustment was 3.6 months (0–7), with a mean volume of 1.9 cc (0.6–3.4). The mean EWL was 23.5% (15.2–27.1) and mean BMI was

38.1 kg/m² (30.5–47) by the first adjustment. The mean EWL was 44.5% (31.9–54) and the mean BMI was 33.2 kg/m² (28–41.4) at the end of the study. The total number of adjustments in one year was in average 2.9 (1–5), with a total volume of 2.8 cc (1.2–4).

Conclusions Due to the wide variability among patients, there is no specific timing nor fluid volume to use as a strict guideline to adjust gastric bands. The best guide, therefore, is the use of the suggested indicators and compliance to adjustment recommendations.

P13 Complications Following Bariatric Surgery – Laparoscopic Adjustable Gastric Banding (LAGB)

A. Ferreira, J. Preto, A. Gouveia, M. Baptista, J.A. Barbosa, S. Carneiro, J. Oliveira Alves, C. Teixeira, J. Rodrigues Sousa, A. Pimenta

Hospital São João - Porto, Portugal / Department of Surgery, Portugal

Background In bariatric surgery, just as in other type of pathologies, referral centers are being created due to the high volume of surgery and complexity of the cases treated, especially in the resolution of complications. Our surgical center began the surgical treatment of morbid obesity in 1999. From then on, a high number of bariatric patients have been operated at our institution, with a present number of about 150 LAGB cases per year. This has allowed us to achieve a certain degree of differentiation in this area and has contributed to the referral of patients from other services.

Bariatric surgery complications, namely related to LAGB, are very specific of this type of surgery, demanding an adequate assessment and treatment management, either endoscopic or surgical.

With this paper, the authors present the most common complications following LAGB and the available treatment options for their resolution, with greater emphasis on our center's options.

P14 Adjustable Gastric Banding, Our Experience on 200 Pacientes, 4 Year After the Surgery

J.A.V. Carim, A.Nd. Oliveira, Fd.B. Carim, H. Mario, S. Peralva

Day Hospital N. S. do Líbano, Brazil

The aim of the work is to show and analyse 200 pacientes underwent the laparoscopic surgery with adjustable gastric band, and to show the results of BMI evolution and late complications.

All 200 patients were operated by the same surgeon and multidisciplinary team, being used two kinds of gastric band, 168 Alergan's Bands and 32 band Heliogastric. In all procedures were used the same surgical technique, with sutures gastro gastro from 3 to 6 points leaving one pouch of 15/20 ml.

We had 53(26,5%) patients that abandoned the treatment during the 4 years, we will consider only the other 147 (73,5%) patients. 17(8,5%) exchanged the procedure for failure to treatment, being replaced for gastrojejunal Bypass.

In 19(9,5%) occurred band slippage that evolved for replaced the band in 5, in 12 patients the band was removed and another bariatric operation was performed (Gastrojejunal Bypass) and in 2 cases, remove the band. Two patients evolved for gastric necrosis, one was submitted for subtotal gastrectomy, leaving 3 cm of stomach and Bypass gastrojejunal, and the other did subtotal gastrectomy and remove the band.

Silicone band migration was observed in 5 (2,5%) patients, that removed the band in 4 cases and in other case, stay with the band migration.

The BMI varied from 33 Kg/m² to 69,82 Kg/m² and measured of 45,48 Kg/m², having at the end of 4 years a BMI who varied from 17,54 Kg/m² to 49,52 Kg/m² with an average of 31,56 Kg/m², having a percentage of weight loss 65,28 at the end of 4 years.

We concluded that LAGB is effective, however in our ambient, after observing a dismissal of 26,5% of the patients with the team, we opt today for a procedure less dependent on our team and more dependent of the surgical procedure, that is bypass gastrojejunal kind Fobi Capella.

P15 Adjustable Gastric Band in Very Obese Patients. Long-Term Evolution and Results

F. Ramos, A.C.Gd. Brito, E. Alves, A. Aita, D.G. Grassi, H.D.G. Joaquim, F.P. Gallucci, F. Matheus

Gastromed - Zilberstein Institute, São Paulo, Brazil

Objective To study the very obese patients therapeutic response to the application of Adjustable Gastric Band (AGB).

Patients and Methods Between 424 patients who underwent bariatric surgery with ABG placement, 52 patients with body mass index (BMI) over 45 (classified as very obese) who had a follow-up period longer than 12 months were analyzed. In this group, 21 were men and 31 women, with mean age of 35 years (15–61) and mean BMI of 49.94 (45.5–62.0). There were no surgical complications or death, with a mean time hospitalization of 16 hours. The follow-up average time was 20.5 months (12–41).

Results There was, on average, a BMI reduction of 19.64% (9.83), weight loss of 27.31 kilograms and loss of excess weight of 36.58%. Furthermore, there was significant hyperglycemia and hypertension reduction in all patients.

Conclusions From results obtained in this study, it can be concluded that the Adjustable Gastric Band is an excellent option as part of the multidisciplinary treatment for morbid obesity.

P16 Laparoscopic Adjustable Gastric Banding with the Soft Gastric Band Premium (A.M.I.) — Preliminary Results from 155 Patients with an Average Followup of 34,9 Months

M. Werner^{1,2}

¹LKH Bregenz, Austria; ²Department of General Surgery, Austria

Patients This is a prospective observation study of 155 consecutive morbid obese patients (80% female, 20%) running from march 2003 to december 2007. The average BMI preoperatively was 41,4 sq. m. Data were collected in a database including primary operation, all follow up visits and reoperations. **Methods** The gastric band was implanted at the esophagogastric junction, entering the small omentum through the flaccid part of the minor omentum and aiming at the angel of his. The anterior fundoplication stitches (3 to 4) caught the mobile parts of anterior wall of the stomach and fixed them to the connective tissue of the hiatus. The injection port was implanted pre- or infrasternally. The gastric band used was the Soft Gastric Band Premium by A.M.I. / Austria.

Results The Follow up time was from 3,5 to 60 months with an average of 34,9 months. Complete follow up data were obtained from 93% of patients. In summary 1174 follow up events were documented. Average excess weight loss at 1 year was 35,6%, at 2 years 46,8% and at 3 years 71,8%. There were no perioperative or early reoperations because of intraoperative or postoperative complications. Minor reoperations at the portsite were performed in 10 patients (6,5%), reoperations because of slipping in 5 (3,2%), band explantations in 3 (1,9%) and band exchange for closure defect in 1 (0,6%). No leakage or bandmigration was detected so far. The total reoperation rate was 12,3%.

P17 Intra gastric Band Migration After Laparoscopic Gastric Banding- a Proposal for a Classification System

P. Cherian, A. Sigurdsson

Shropshire UGI & Bariatric Surgery Unit, UK

Aim Band erosion (BE) is a dreaded but rare complication after gastric banding (GB). Our recent attempt, to reach consensus on its management was hindered by the lack of international conformity on the stages or type of BE, leading to difficulty in suggesting appropriate management strategies or indeed assessment of outcomes. We aimed to rectify this deficit.

Methods We retrospectively reviewed our databases to find all operations performed on LAGB patients for erosion from 2003–07. Medical record review and telephonic interview of each patient was systematically conducted to find patterns of disease occurrence and progression. Using this information gathered, we designed a system detailed below.

Results From 2002–07 there were 865 GBs performed in our unit. We identified 18 patients (some referred from elsewhere) with operations for erosions, who formed our final study cohort (Median pre-operative BMI 46; 14 Females). Based on timing, imaging and endoscopy findings we classified these BE into 4 groups: Type 1 (early, within 6 months of band insertion) and Type 2 (late, after 6 months). Each of these 2 types was further classified based on degree of migration into partial (A) and complete (B). The 5 'Type 1A' patients (early partial BE) were treated with band removal and

omental plugging. Two 'Type 1B' patients were treated with anterior gastro-tomy, band removal and closure as were the five 'Type 2A'. The 4 Type 2B patients were the ones suitable for endoscopic removal.

Conclusions Our logical system of classification of intragastric band migration into 4 groups with distinct clinical management protocols if internationally adopted, will allow an easier, more standardised approach to BE management and assessment of outcomes from this management. Further validation of this system in a prospective study is required

P18 Evolution of Complications Conservatively and Surgically Treated After Silastic Ring Vertical Gastroplasty in Morbidly Obese

R.F. Galea¹, A.F. Catoi Galea², A. Ciule, D. Miricioiu, D. Pinteau, B. Stancu

¹Iuliu Hatieganu University of Medicine and Pharmacy Cluj Napoca Romania;

²Iuliu Hatieganu University of Medicine and Pharmacy, Romania

Background Silastic ring vertical gastroplasty (SRVG) has been practicing in Romania since 1997. Eckhout method is simple, efficient, non mutilating, reversible with few complications easy to resolve, and with acceptable costs. **Methods** SRVG was performed by the same surgeon in 600 patients between March 1997 and March 2008. Patients weight ranged between 95 kg and 270 kg and body mass index (BMI) between 36 and 80 kg/m². The open technique was used on the xifosupraumbilical line with a silastic ring of 5, 2–5,3 cm.

Results We had excellent results in 82,6% cases, satisfactory in 15%, and unsatisfied in 5% cases because of weight regain after surgery. Intraoperative complications (0,2–1,8%) were gastric, large intestine and small intestine perforation, endogastric tube suture, traumatic bleeding of the spleen and liver, situations which were intraoperatively resolved. Early complications (0,2–2,29%) were seroma and skin infections, stoma edema, intestinal occlusion, evisceration, gastric fistula with peritonitis, intestinal fistula, pulmonary embolism. Late major complications (0,4–4,37%) were: incisional hernia, stoma edema, stoma stenosis, enlargement of the stoma through migration of the ring, intestinal occlusion, parietal chronic infections. Minor complications were associated with thiaminic deficiency. We had reinterventions in 0,2–1,4% cases for stenosis and enlargement of the stoma and they were corrected with other rings or Gore-Tex bands. Evolution of these reinterventions are discussed and evaluated.

Conclusions SRVG is an efficient technique, with good results, low costs and few complications. These situations can be corrected with other methods with good results in time.

P19 Adjustable Totally Implantable Intra gastric Prosthesis (ATIIP)

G. Gaggiotti

Dipartimento di Chirurgia INRCA –IRCCS Università Politecnica delle Marche, Ancona, Italy

Background Super-obese patients (BMI>50) with co-morbidities present a challenge in bariatric surgery. Adjustable Totally Implantable Intra gastric Prosthesis (ATIIP) - Endogast[®] is a mini-invasive low risk surgical - endoscopic technique for the treatment of Morbid Obesity.

The permanent presence of an air inflated prosthesis, inside the gastric corpus-fundus area induces an early satiety interfering with the satiety control process related to this area.

The prosthesis is connected to a subcutaneous totally implantable system. Main ATIIP features: minimum trauma on the gastric mucosa, no risk of prosthesis dislodgment, easy volume calibration, good clinical tolerance (no nausea, vomiting or abdominal pain).

The aim of this study is to evaluate efficacy of ATIIP in reducing weight and consequent perioperative risk in super obese patients for a length of at least 1 year of treatment before performing a definitive surgical procedure in a selected group of super-obese patients.

Methods 27 super obese patients have been treated with ATIIP. 14 males - 13 Females. Mean age: 43,8 (23–69). Mean BMI: 57,2 (50–81,2). Co-morbidity : sleep apnea 18 (66,6%). Hypertension: 12 (44,4%). Diabetes : 8 (29,6).

Results Mean % EWL: – 22 (3^o month, 22 pts) – 27,6 (6^o month, 20 pts) – 30,7 (12^o month, 18 pts). Mean BMI: 57,2 (pre-operatively , 27 pts) 49,6 (3^o month, 22 pts), 48 (6^o month, 20 pts) 47,3 (12^o month, 18 pts). After 1 year

of treatment (18pts) : 8 pts (44,4%) had Laparoscopic Gastric Bypass, 10 (55,6%) Laparoscopic Sleeve Gastrectomy.

Conclusions In selected super- obese patients ATIIP seems useful in leading to satisfactory weight loss, and consequent reduction of the peri operative mortality and morbidity associated with surgery.

P20 “Minimally Invasive” Open Bariatric Surgery, an Oxymoron?: The Efficacy and Effectiveness of the Left Subcostal Incision

K. Jones, Jr.^{1,2,3}

¹Christus Schumpert Health System - Shreveport, Louisiana, USA; ²LSU-HSC - Shreveport, Louisiana - Clinical Assistant Professor of Surgery, USA; ³Willis-Knighton Health System - Shreveport, Louisiana, USA

Background “Minimally invasive” has become synonymous with laparoscopic surgery. Patients are interested in the easiest, safest, most effective, and least painful operation. Therefore, they view “minimally invasive” as “minimally traumatic”.

Methods In this bariatric surgery center, a left subcostal incision (LSI) was used in all gastroplasties, Roux-en-Y gastric bypasses (RYGBP-LSI), distal conversions, and bilio-pancreatic diversions (BPD), over a 27 year period. From postoperative patients, 4 weeks to November 2003 through February 2008, 1,561 1 12 years postop, were examined one or more times in the clinic. This incision transects the left rectus muscle, approximately 3 cm below the left subcostal margin, 20–25 cm in length. The two layer fascial closure is further fascia staples in all cases, and deep retention[®]strengthened with Autosuture sutures are added when indicated, particularly in large males.

Results 7 hernias were found, 4 being in males, 7/1,561 (0.45%). An earlier published series revealed similar results of 3/1,840 (0.16%). This 3,424 patient sampling reveals an incisional hernia rate of 0.29%, well below the reported midline incisional hernia rate of at least 6% ($p < 0.001$).

Conclusions This LSI experience indicates that wound morbidity alone is a poor argument to choose laparoscopic over open RYGBP or BPD. However, patients and their surgeons overwhelmingly embrace the former, but it is not always the best approach in large men, BMI's over 60, and revisional procedures. Based on this experience, the LSI has proven to be an excellent tool for the more difficult cases, and a legitimate option for all bariatric surgery.

P21 Complications Of Open Gastric Bypass

D.O. Caiña, F.M. Torres Marini, A. Schneider, G.J. Gonzalez, M.J. Contardi Baca, A. Cormillot

Clinica Santa María, Argentina

Background Obesity is a major health problem approaching an epidemic proportions. The bariatric surgery is actually de surgical method most used for de treatment of obesity. At present, Roux en Y Gastric Bypass (RYGB) may be the only bariatric operation that has produced durable long-term weight loss at an acceptable level of risk. Complications, either peri-operative or delayed occur frequently. Early recognition of these complications and meticulous attention to details are thus of paramount importance in this group of high-risk patients.

Methods 530 patients with morbid obesity (BMI: 40,09–75,43 kg/m²) were subjected to bariatric open surgery (gastric bypass), between september-2001 to march-2008. There were female 54,7%(290 patients)and male 45,2%(240 patients). Media age: 43 years old(15–65). There were 18% of complications (121 patients).

Design Prospective research

Results There were 18% of complications (121 patients). Chronic eventration 7%(37), acute eventration 0,5%(3), HTA crisis 2,4%(13), atelectasis 1,5%(8), splenic injury and splenectomy 1,5%(8), stenosis 1,5% (8), bleeding 2,2%(12), TVP 1,3%(7), fistula 1,5%(8), Wernicke sindome 5,3%(1), lung clot 0,9%(5), infection of softs parts 8%(42), and others less frequently. Mortality 0,3%(2).

Conclusions - The open gastric bypass is an effective technique for the long-term treatment of morbid obesity, with a low number of complications, low mortality, excellent weight loss and recovery or improvement of the comorbidities associated with these patients.

- The incidence of these complications have a inversely proportional relation to surgeon experience.

- The results of these analysis are comparable with the mundial bibliography.

P22 Initial Experience of Laparoscopic Roux-en-Y Gastric Bypass for the Treatment of Morbid Obesity

A. Ferreira, J. Preto, A. Gouveia, M. Baptista, E. Costa, C. Teixeira, J. Sousa Rodrigues, A. Pimenta

Hospital São João - Porto, Portugal / Department of Surgery, Portugal

Background At our institution, laparoscopic adjustable gastric banding (LAGB) is the most performed bariatric procedure since 1999. We presently do an average of about 150 LAGB operations per year. In Setember 2005, due to some unsuccessful LAGB cases, we began to perform LRYGB in selected patients. We present our initial experience in the treatment of morbid obesity with LRYGB.

Methods We reviewed the clinical files of the patients treated in our surgical bariatric unit by LRYGB during the period of Setember 2005 and April 2008.

Results The study includes 36 patients: 35 female/1 male. The average age was 38 (20–53). The average BMI was 46.8 kg/m² (40–53). The average weight was 123.2 kg (100–153). Patients re-began oral intake on PO day 3 or 4. The majority of the patients were discharged on PO day 4 or 5. Average operative time was 150 min (95–225 min.). In 2 cases, cholecystectomy was simultaneously performed. In one case, the patient had a previous unsuccessful sleeve gastrectomy that was converted to a RYGB. Early morbidity (11.1%): gastric pouch fistula (1); intestinal obstruction (1); digestive hemorrhage (1); periferic catheter infection (1). There were two reoperations due to the first 2 complications. No cases of surgical conversion. No cases of mortality. At an average follow-up of 12.8 months, the average %EWL is 65.4%.

Comments Keeping in mind that we are in a region with a high incidence of gastric cancer, we have been highly selective in proposing patients for LRYGB, reflecting the small number of cases operated in our series. Even though we present a limited initial experience, the low morbidity and no mortality reveals a tendency for LRYGB to be a safe surgical procedure. Weight reduction outcomes also confirm its efficacy as one of the leading bariatric procedures.

P23 Experience in Bariatric Surgery in Public Assistance Hospital

M. Torres, J.P. Torres, J. Baca

Hospital Eugenio Espejo, Ecuador

Background Obesity is considered a worldwide epidemic. That is why it is called “the epidemic of the XXI century” and this goes together with the development of comorbidities that predispose the patients to an early death.. Patients that unsuccessfully tried to low their weight after multiple attempts, they found that the solution is the bariatric surgery.

Methods Review of 35 cases of laparoscopic bariatric surgery, (vertical gastrectomy, gastric bypass-one anastomosis, and gastric bypass in Roux Y) in patients from Hospital Eugenio Espejo, during the period 2005 through 2008.

Results Review of 35 patients with morbid obesity, with comorbidities, who underwent bariatric surgery during 2005–2008. Ages between 18–65. With IMC >40 with and without comorbidities: and IMC 35–40 with comorbidities such as high blood pressure, hipertrigliceridemy, diabetes, etc. The surgical procedures performed were: vertical, gastrectomy, gastric bypass-one anastomosis and Roux Y. The loss of exeso weight percentage in the first year was of 80% for gastric bypass and 65% for vertical gastrectomy. The surgical time average was of 90 min for the vertical gastrectomy and 180 min for the gastric bypass-one anastomosis or Roux Y.El . Hospital stay average was of 48 hours for the vertical gastrectomy and 96 for the bypass. Post operative morbidity was: Bleeding in one bypass in Roux, and long term desnutrition in one bypass case. Desnutrition.. Mortality was null.

Conclusions Laparoscopic Bariatric Surgery for the resolution of Obesity and its comorbidities is an effective and safe method, without important morbidity and null mortality.

P24 Laparoscopic Rygbp, “Symplified Technique”: Early Experience

F. Bellini^{1,2}, M. Tarantini³, E. Deho³

¹Gastrointestinal and Obesity Surgery; ²Desenzano Hospital (BS)

³Gastrointestinal and Obesity Surgery, Desenzano Hospital, Italy

Background Laparoscopic bariatric surgery is the standard primary surgical treatment for morbid obesity and the Laparoscopic Gastric By Pass has become one of the major operations. Although the principal configuration of the operation is well established, many technical aspects vary between surgeons according to the surgical school, experience etc.

The aim of this study is to give an account of our early experience with LRYGBP performed not in a simple but in a simplified way.

Methods From January 2004 to April 2008 we have performed 83 RYGBP “simplified technique” and results are analyzed in a retrospective manner.

Preoperative mean BMI : 48.7

All the anastomosis are performed in the supra-mesocolic floor: antecolic, antegastric, anastomosis on the posterior wall of the gastric pouch with GIA+ “running suture”, jejunum-jejunostomy LL, jejunal division at the end of the procedure therefore with the possibility to test with blue both the anastomosis. No closure of the defects.

Results No mortality. No intraoperative complications, 2 minute gastro-jejunostomy leaks treated conservatively, 1 early jejunal leak due to intra-operative manipulation treated laparoscopically, 3 postoperative late anastomotic ulcers.

%EWL at 2 years:73.

Conclusions Laparoscopic RYGBP is an advanced surgical procedure that requires skill and laparoscopic advanced experience. Nevertheless the choice of a “simplified” way to reach our target is mandatory. We consider this technique, simple, reproducible and with low rate of complication.

P25 250 Laparoscopic Gastric Bypasses in a New Regional Centre in the UK: Negotiating the Learning Curve

D. Pournaras, S. Narang, J. Edmond, D. Mahon, R. Welbourn

Musgrove Park Hospital, Taunton, Somerset, UK

Background Bariatric surgery is expanding and the increasing workload needs to be undertaken safely in new surgical centres with no previous bariatric experience. The laparoscopic Roux-en-Y gastric bypass (LRYGB) has a steep learning curve with documented high risk. Published international mortality rates of 0.5% for the LRYGB therefore present a great challenge. We present the results for the first 250 cases of LRYGB in a new centre.

Methods Two hundred and fifty consecutive patients underwent LRYGB performed by a single surgeon. Four external surgeons mentored 8 cases in the first 50. From patient no. 12 a standard retrocolic, antegastric linear staple technique was used (modified Higa). Demographics, weight, body mass index (BMI) and operative time were collected prospectively. All conversions, intra- and post-operative complications were recorded and results for the first 100 patients were compared to those from the next 100.

Results The mean BMI was for the first group 48.8 and 49.7 for the second group. The mean operative time decreased from 163 mins for the first 100 patients to 116 mins for the last 100 ($p < 0.0001$). In the first group there were two conversions to open surgery and 9 complications, compared to one conversion and two complications in the last group ($p < 0.05$). In the whole series there were three conversions to open surgery, 12 early complications requiring re-operation, four complications treated conservatively and one mortality (patient no. 110, heart failure within 24 h).

Conclusions The operative time as well as the complication rate for LRYGB reduces markedly after the learning curve. A mentoring process ensures that LRYGB can be done safely in a newly established bariatric centre.

P26 Learning Curve of the Laparoscopic Roux-en-Y Gastric Bypass

P. Espalieu, J. Pinto Goncalves

Hopital Edouard Herriot. Service de chirurgie digestive, pavillon D4. Lyon

Background The purpose of this study was to compare the first 100 cases of laparoscopic Roux-en-Y gastric bypass (LRYGBP) performed by an experienced laparoscopic surgeon in a hospital with an established infra-structure for obesity surgery, with statistical analysis of factors that may affect the learning curve. The study took place in Europe, where LRYGP was not the procedure of choice in most centers during the five years period of the study (2002=>2006).

Methods Data recorded were conversion rate, operating time, peri-operative outcomes and hospital stay in 100 LRYGBP. 2 groups of 50 consecutive patients were created for data and statistical analysis.

Results Patients of both groups were similar in BMI, sex, and previous obesity surgery rate. Mean age was 48 years in group 1, 39,5 years in group 2 ($p = 0.023$). Conversion rate was 6% in group 1, 0% in group 2. Duration of surgery decreased from a mean of 224,6 min in group 1 to 149,8 min in group 2 ($p = 0.0001$). Complication rate was 32% in group 1, 8% in group 2. Mortality was 0%.

Conclusions LRYGBP is a technically challenging operation, which learning curve may be reduced to 50 cases by previous laparoscopic experience, adequate training, and use of experienced nursing and anesthesia teams within a center dealing regularly with obese patients.

P27 Improvements in Mallampati Airway Classification and ASA Classification After Roux-en-Y Gastric Bypass

S. Husain¹, D. Coniglio², A. Ahmed³, T. Boss², J. Johnson², W. O'Malley²

¹Brown University, Providence, Rhode Island; ²Highland Hospital, University of Rochester, New York; ³Charing Cross Hospital, Imperial College, London.

Background Obesity has been linked with difficult endotracheal intubation. Mallampati score is a widely used tool to predict difficult airway and American Society of Anesthesiologists (ASA) classification is commonly used to estimate peri-operative risk for post-operative mortality and morbidity. We assessed the changes in Mallampati and ASA classifications after gastric bypass. Also, we compared the number of difficult intubations before and after surgically induced weight loss.

Methods Patients with history of gastric bypass undergoing a subsequent surgery were included in the study. Mallampati and ASA classifications recorded at the time of gastric bypass were compared to the ones recorded at the time of subsequent surgeries. Similarly, number of difficult intubations were also compared. Fisher's exact test was used to compare values.

Results During the study period, a total of 166 procedures were performed on patients with history of gastric bypass. The average interval between gastric bypasses and subsequent surgeries was 337 days and the average %EBWL was 49.9%. There were statistically significant differences between both pre and post-gastric bypass Mallampati and ASA scores. Difficult intubations were encountered in 8/166 cases at the time of gastric bypass and 2/153 cases at subsequent surgery.

Conclusions Gastric bypass induced weight reduction results in significant improvement in ASA classification and easier endotracheal intubation reflected by improved Mallampati classification. The improvements are more pronounced in patients with a high ASA class and Mallampati score at the time of bypass.

P28 Serum Hyperamylasemia Used as an Indicator for Internal Hernia

S. Shah^{1,2}, D. Abeles¹, S. Shikora¹, J. Kim¹

¹Tuft Medical Center, USA; ²Boston, MA, USA

Background Obstruction from an internal hernia is a significant and increasingly recognized complication after open and laparoscopic gastric bypass. Unfortunately there are no reliable clinical or radiological indicators in making this diagnosis. The purpose of this study is to evaluate the presence of hyperamylasemia as a possible indicator or tool in the diagnosis of an internal hernia.

Methods The medical records of 2,350 patients who had undergone either open or laparoscopic (retrocolic, retrogastric) Roux-en-Y gastric bypass were reviewed. A retrospective analysis of patients who were reoperated for symptoms or signs suggestive of an internal hernia with special emphasis on laboratory data and radiological findings was performed.

Results Of the 2350 patients, 72 patients were reoperated for an internal hernia including Peterson, Lesser sac and mesenteric hernias with an incidence of 3%. Amylase levels were available and recorded for 42 out of the 72 patients. All hernias had elevated amylase in 42% of the patients. In patients with a Peterson hernia the amylase was elevated 53% of the time, lesser sac 42% and mesenteric 6%.

Conclusions In our experience we feel that patients with gastric bypass surgery who present with acute abdominal pain and laboratory evidence of hyperamylsemia should be evaluated for an internal hernia of Peterson type.

P29 Bioabsorbable Glycolide Copolymer Staple-Line Reinforcement Decreases Internal Hernia Rate After Laparoscopic Roux-en-Y Gastric Bypass

A. Ahmed¹, G. Rickards², S. Husain², J. Johnson², W. O'Malley², T. Boss²

¹Charing Cross Hospital, Imperial College London, London, UK; ²University of Rochester Medical Center, New York, USA

Background Internal hernias (IHs) can occur after laparoscopic Roux-en-Y gastric bypass (LRYGBP), perhaps because of a lack of adhesion formation at the cut edges of the mesentery and a cutting through of sutures with a decrease in fat from weight loss. In patients undergoing reoperation after LRYGBP, we observed that bioabsorbable glycolide copolymer staple-line reinforcement (SLR) placed to mitigate staple-line bleeding had evoked adhesiogenesis and tissue fusion at the mesentery edges; therefore, we investigated whether use of this material decreases post-LRYGBP IH rates. **Methods** The records of the 43 patients (3%) in whom an IH developed during a mean follow-up time of 2 years in a series of 1704 LRYGBP procedures were reviewed retrospectively.

Results The IHs were in Peterson's space (n=4), the enteroenterostomy (n=17), or the transverse mesocolon (n=22). The IH rate was significantly higher in patients who had suture closure of the mesenteric defects at LRYGBP than in those without formal closure of the defects but in whom SLR was applied to the edges of the cut mesentery (P=0.01). The suture-closure and SLR groups had similar demographic, operative, and follow-up characteristics. When transverse mesocolic IHs were excluded from analysis, patients given SLR remained less likely to have an IH (P=0.05).

Conclusions Use of bioabsorbable polymer SLR may decrease the occurrence of IHs after LRYGBP. Additional studies of the effect of mesentery closure method on IH incidence after LRYGBP are warranted.

P30 Laparoscopic Gastric Bypass is Safe in Patients with BMI<35

L. Angrisani¹, P.P. Cutolo¹, M. Lorenzo¹, F. Persico¹, M. Battaglini Ciciello¹, G. Vitolo¹, P. Scarano¹, G. Saldalamacchia²

¹General and Endoscopic Surgery, S.Giovanni Bosco Hospital, ASL NA1, Naples - Italy; ²Dipartimento di Medicina Clinica e Sperimentale, A.U.P. Federico II, Napoli, Italy

Background Laparoscopic Gastric Bypass (LGBP) has recently been proposed for the treatment of diabetes mellitus type II in patients with BMI<35. Aim of this study is to evaluate LGBP effects in terms of weight, BMI, nutritional deficiencies at one and two years after surgery in patients with BMI<35, suffering from co-morbidities with a 5-years history of "weight cycling".

Methods From 2000 to 2007, 319 obese patients were submitted to LGBP. 10 (3.1%) patients with BMI<35 (5M/5F, mean age 34.2±7.2 yr) entered the study. Each patient suffered one or more co-morbidities: diabetes (n=2); hypertension (n=2); dyslipidemia (n=3); sleep apnea (n=2); hiatus hernia (n=2); arthropathy (n=2). Mean pre-operative weight, BMI and % excess weight (%EW) were: 101.9±9.1 kg, 34.3±1.8 kg/m² and 37.2±6.9 respectively. LGBP was performed with an ante-gastric and ante-colic anastomosis by circular stapler introduced transabdominally. Alimentary limb length was 150 cm and bilio-pancreatic limb length was 50 cm from Treitz ligament. Postoperative follow-up included a nutrition planning and vitamin supplementation.

Results Mean weight at one year of follow-up (10/10, F.U.100%) was 71±7.6 Kg; mean weight loss (WL) was 27.5±9.4 kg; mean percentage excess weight loss (%EWL) was 104.5±29.8; and a mean BMI 24.5±2.4 kg/m². 4 out of 10 patients have a two years follow-up with a mean weight of 67.8±8.2 Kg, WL 33.5±4.8 Kg, mean BMI 22.9±1.6 kg/m², %EWL 123.4±12.2. Each patient had resolution of its co-morbidity and stopped drug therapy.

Conclusions LGBP is safe and effective in Pts with BMI<35. One year after surgery patients weight was normal, with resolution of co-morbidities without any nutritional deficiency.

P31 Gastric Bypass- Access to Distal Stomach Device

A. Catona

Hospital San Giuseppe, Via San Vittore 12, Milano, Italy

Background distal stomach access using gastric by-pass. Many patients are affected by displasia of gastric mucosa no more explorable after the operation, furthermore neoplastic pathologies of distal stomach are reported . Other authors use clips or rings made with radiopaque material on the stomach wall in order to highlight these by x-ray.

Methods we have developed a specific device to have access to the distal stomach. The access to the stomach allows the following advantages:

1. Introduce by needle gastrograffin in order to make a radiologic exploration
2. Take, by the use of needle, gastric secretion
3. Establish an enteric nutrition with an intragastric drainage catheter in case of leakage of gastro digiunal anastomosis.

4. Carry out endoscopic exploration through trocar put into the distal stomach. The most important part of this device consists of a central button (diameter of 12 mm - thickness of 10 mm with a radiopaque wire at edges) positioned in the middle of polypropylene mesh with a diameter of 30 mm. This system is put by VL with a 15 mm trocar and allows to stick the gastric wall to the parietal peritoneum. An accurate and long study has been successfully developed on pigs, including an histological study on the prosthesis used.

Results since now 5 prosthesis have been positioned on patients and results are satisfying and without complication. We believe that this technique could be important when the use of gastric by-pass will be adopted on diabetic's patients under the value of 35 BMI.

Conclusions the device developed allows to overcome the most important limit of gastric by-pass, however considered the "Gold Standard" in bariatric surgery. The experimental study and the application on patients address to a spread use of this method.

P32 Endoscopic Treatment of Gastrojejunal Anastomotic Leaks in Gastric Bypass Using the Polyflex Stent in a Porcine Model

E. Sporn, B.W. Miedema, J.A. Astudillo, K. Thaler

University of Missouri - Columbia/Department of Surgery, USA

Background Anastomotic leaks after Roux en Y gastric bypass (RYGB) cause significant morbidity and mortality. Placement of enteral stents would be an alternative to the current practice, which involves withholding of oral intake and total parenteral nutrition.

Methods In eight pigs, open RYGB was performed and a one cm leak created at the gastrojejunal anastomosis. In five pigs, Polyflex stents were placed across the anastomosis (treatment group) and fixed at the end with transmural sutures to the Roux limb, while three pigs were left without stents (control group). After two weeks, endoscopy, fluoroscopy and necropsy were performed.

Results Stents were placed in all five treated pigs. One pig died on post-operative day (POD) three due to a perforation at the posterior gastric wall likely caused by the rigid delivery system. One pig died on POD five from gastrojejunal leakage. The leaks were healed in the remaining three pigs after two weeks. In one pig a perforation of the jejunum 4 cm distal the anastomosis was found. In the control group, one pig died POD two due to a non leak-related volvulus. In the other two pigs, leaks connected with large abscesses were found at necropsy. Stent migration was seen in all pigs.

Discussion Polyflex stents may seal acute gastrojejunal leak and avoid abscess in RYGB. With the current delivery system, stent placement was feasible in the porcine model. New stents or techniques are needed to improve stent delivery and to prevent stent migration.

P33 Ultra-Short Hospital Stay for Gastric Bypass: A Comparative Study Between Open and Laparoscopic Approaches

Id.S. Moraes Jr¹, C.A.S. Madalosso², L.A. Palma³, A.Cd.S. Fornari⁴, R.R. Gurski⁵, F. Fornari³

¹Gastrobese, Passo Fundo-RS, Brazil; Hospital Universitário São Vicente de Paulo, Passo Fundo; ²Gastrobese, Passo Fundo-RS, Brazil; Hospital

Universitário São Vicente de Paulo, Passo Fundo; Post-Graduate Program in Surgery, School of Medicine, Department of Digestive Surgery, Universidade Federal do Rio Grande do Sul, Porto Alegre-RS, Brazil; ³Gastrobese, Passo Fundo-RS, Brazil; Hospital Universitário São Vicente de Paulo, Passo Fundo; Faculdade de Medicina, Universidade de Passo Fundo; ⁴Gastrobese, Passo Fundo-RS, Brazil; ⁵Post-Graduate Program in Surgery, School of Medicine, Department of Digestive Surgery, Universidade Federal do Rio Grande do Sul, Porto Alegre-RS, Brazil.

Background Gastric bypass (GBP) either laparoscopic or open has been increasingly employed in the treatment of patients with morbid obesity. Laparoscopic approach is believed to be superior over open approach in terms of shorter hospital stay and easier recovery. We aimed to assess the feasibility of ultra-short hospital stay following open GBP and to compare this approach with laparoscopic surgery regarding procedure length, hospital stay and post-operative morbidity.

Methods One hundred and ninety consecutive patients were assigned to open (n=103) or laparoscopic (n=87) GBP. The first 20 patients of the laparoscopic arm were excluded due to procedure learning curve. Patients were treated by a multidisciplinary team focused on ultra-short hospital stay (1 day), with mobilization within 6 hours of recovery from anesthesia. Procedure length (min), hospital stay and readmission in the first 30 days were compared between groups.

Results Data are shown in table. Patients in both groups had similar demographic and clinical characteristics with the exception of higher BMI and more diabetes in open approach group. Procedure length was significantly higher in patients operated by laparoscopy, whereas ultra-short hospital stay and readmission rate were similar between groups.

Conclusions Ultra-short hospital stay (1 day) following open gastric bypass seems to be as feasible and safe as laparoscopic approach.

Table 1 Comparison of laparoscopic and open bypass regarding patient's characteristics and procedure outcomes

	Laparoscopy (n=67)	Open (n=103)	P
Age, mean (range)	36 (16–67)	37 (17–61)	0.280
Female, n (%)	49 (73)	74 (72)	0.854
BMI, mean±SD	41.2±5.2	44.3±6.7	0.001
Comorbidity, n (%)			
Diabetes	8 (12)	25 (24)	0.047
Hypertension	30 (45)	53 (51)	0.394
Sleep apnea	19 (28)	5 (38)	0.201
Length (min), mean (range)	169 (105–248)	103 (70–180)	<0.0001
Ultra-short stay, n (%)	54 (81)	93 (90)	0.070
Readmission, n (%)	5 (7)	3 (3)	0.266

P34 Biliopancreatic Diversion with Gastric Preservation

M.E. Valdez

Centro de cirugía de la obesidad clínica El Golf, Peru

Background Biliopancreatic diversion Scopinaro type is a very effective and well study technique, in the era of pump inhibitors and H. Pilory therapy, distal gastrectomy is unnecessary.

Patients and Methods From December 2005 to December 2006 we perform 25 biliopancreatic Diversion with gastric preservation in the antecolic-restrogastric way.

Initial BMI average was 44.80 kg/mt² (38–65 kg/mt²), initial weigh average was 135 kg (101–226), 18 males (72%) 7 females (28%) age 35.83 years (22–67).

Co-morbidities: Diabetes 5 (20%) Hypertension 5 (20%) sleep apnea 6 (24%) Disnea 6 (24%), Hiperlipidemia 4 (16%) depression with medication 4 (16%). The average of operating time was 225 minutes (180–300).

Results Acute complications: bleeding 1 (4%). Late complications: Malnutrition 2 (8%), one of there because a surgical damage in the biliary duct after a colclap in other center.

EBMI % loose or EBL %: 60.4%.

100% diabetic patients stop his medication.

80%(4) of the Hiperlipidemia group stop medical therapy.

80% (4) Hypertension stop medication

No mortality.

Discussion BPD with gastric presentation is safe, more simply and very effective bariatric surgery and his comorbilitis , malnutrition is a real possibility particularly the first 36 months, we could prevent, have a slow presentation and it is easy to treat.

P35 Laparoscopic Sleeve Gastrectomy: Results from our Experience in Superobese Patients

S. Blanco, M. Hernandez, F. Sabench, J. Sánchez Pérez, A. Morandeira, M. Vives, D. Del Castillo

¹Hospital Universitario de Sant Joan. Facultad de Medicina. Universitat "Rovira i Virgili", Spain

Background Patients with superobesity (BMI>50) are not only at greater surgical risk but are also more prone to post-operative complications than obese patients with a lower BMI. Our protocol includes a laparoscopic sleeve gastrectomy at BMIs above 50.

Patients and Methods A total of 75 patients with a mean BMI of 63 kg/m² (56 women and 19 men) were operated in our hospital. Laparoscopic sleeve gastrectomy was performed in all patients.

Results The mean operation time was 75 minutes (range from 60 to 140). Three leaks were detected at the staple line (4%), which were resolved by conservative treatment. There were no other greater technical complications. One of the patients died because extubation was impossible after an extremely severe chronic respiratory insufficiency developed into bilateral pneumonia 36 days after the intervention. The patient had been on an enteral diet through nasogastric tube throughout that time. The yearly weight excess loss is 68%.

Conclusions Sleeve gastrectomy in super obese patients is a technique that has a very low prevalence of complications, leads to excellent weight loss and allows patients a good quality of life. If weight excess loss is insufficient, a second intervention can complete the process with a duodenal switch.

P36 Sleeve Gastrectomy in Ecuador. One Year Follow Up

M. Perez de la Puente, Y. Valcarcel, M. Cortez

Hospital Metropolitano, Ecuador

Background Sleeve gastrectomy constitutes a recent restrictive surgical procedure for obesity. The objective was to know the efficiency of this technique in weight reduction during a year of continuous follow-up, as well as the improvement of co-morbidities.

Methods From a population of 94 patients operated of sleeve gastrectomy during November 2005 to March 2007, a sample of 13 obese patients was selected (BMI 38,67 Kg/m²±6,03), composed of 7 men and 6 women, between the ages of 22 and 76 years (42,2 years±14,7) with a post-operation follow up of a year or more and with periodic controls.

Results The average WL % (weight loss percentage) was 12,32%±2,87 (p<0.001), 20,56%±4,16 (p<0.001), 25,16%±2,80 (p<0.001), 26,92%±7,25 (p<0.001) and 27,82%±6,63 (p<0.001) with an EWL % (excess weight loss percentage) of 31,61%±7,23 (p<0.001), 55,20%±14,4 (p<0.001), 66,56%±10,6 (p<0.001), 71,54%±19,58 (p<0.001) and 73,12%±17,51 (p<0.001) for the first month, the third month, the sixth month, a year and at the end of the follow-up, accordingly. The BMI average at the end of the study was 27,77 kg/m²±4,17 (p<0.001). The co-morbidity/patient index before the surgery was of 1,76 which decreased to 0,46 at the end of the follow-up with a global reduction of 73,9%. The frequency of complications in the follow-up was cholelithiasis in three patients, anemia in two patients (one year after surgery) and a patient with a mild depression. No complications related to the procedure were registered during hospitalization.

Conclusions In our evaluation of the sample, we found that sleeve gastrectomy was an effective surgical procedure in the treatment of moderately to morbid obesity, as well as in the reduction of co-morbidities, without significant complications.

P37 Short-Term Outcome After Laparoscopic Sleeve Gastrectomy as Treatment of Morbid Obesity in Private Practice

M.A. Dorantes Lagos, J. Guerrero Alarcón, J.E. Pérez Figueroa, H. Cervantes Morales, F. Castro Salas, J.M. Remes Troche

Centro de Cirugía Laparoscópica para la Obesidad de Veracruz, Mexico

Background Laparoscopic sleeve gastrectomy (LSG) was recently introduced into the surgical options for morbid obesity. It is a procedure that has shown several benefits over other restrictive techniques. We present here a preliminary experience with 66 patients.

Methods From December 2005 to September 2007 we performed LSG in 66 patients. Data includes: patient demographics, preoperative body mass index (BMI), preoperative associated co-morbidities, operative time, length of hospital stay, complications, and postoperative surgical weight loss at 1, 3 and 6 months.

Results The mean age was 39.3 (16–59), the mean BMI was 48.3 kg/m² (35–73), the associated co-morbidities included: type 2 diabetes (24–36.6%), high blood pressure (5–7.5%), sleep apnea (11–16.6%). 8 (12.1%) patients had a previous failed gastric band that was removed and at the time of LSG. Mean operative time was 91 min (65–150). LSG was performed using 5 or 6 trocars over a 36 Fr. Bougie. The division of the antrum was started at 5 cm distal from the pylorus. All procedures were completed laparoscopically. The mean hospital stay was 1.38 (range 1–4) days. There were 5 (7.5%) postoperative complications: 2 (3%) patients had a leak at the stapler line and were reoperated by open approach, 1(1.5%) developed an intra-abdominal bleeding after a blood pressure rise event that was controlled without surgery, 1 (1.5%) had an infection at the umbilical trocar site. There was no mortality. Patients were reviewed every month during the first 6 months and %EWL was at 3 months 36.7% and at 6 months 56.8%.

Conclusions In the Short term, LSG is a safe and effective treatment option for morbid obesity.

P38 Sleeve Gastrectomy Versus Vertical Banded Gastroplasty and Gastric Bypass: One Year Follow-Up

G. Martínez de Aragón Remírez de Esparza^{1,2}, C. Martínez Blazquez¹, J. Vitores Lopez¹, V. Sierra Esteban¹, F. Balsera Rodríguez¹, J. Valencia Crtejoso¹, K. Latorre García¹

¹Hospital Txagorritxu Osakidetza, Spain; ²Hospital San José, Spain

Background Sleeve mastectomy is an original bariatric procedure emerging with strength because it is secure and effective. As a new procedure we have some doubts about long term weight lose. We compare 6 months and one year weight lose effectiveness with VBG and YRGB.

Methods We study 3 homogeneous groups operated in our hospital.

I: VBG: 22 patients.

II: YRGB: 38 patients.

III: Sleeve gastrectomy: 21 patients.

We recorded age, sex, weight, preoperative BMI, 6 months BMI and one year BMI. The quantitative variables are expressed as median and intercuartile range (P25–P75).

Results RYGB has better results in one year BMI measure ($p < 0.028$), in one year %EWL ($p < 0.002$) and "BMI < 35" and "%EWL > 50" combined ($p < 0.041$). There is not significal differences in 6 months control.

Conclusions Although we have a short number of cases with one year follow-up in sleeve gastrectomy procedure nowadays, sleeve gastrectomy results are better than VBG but don't reach the YRGB. It will be needed more patients and a longer follow-up to clarify what we can expect from sleeve gastrectomy in long term.

P39 Effect of Sleeve Gastrectomy on Type 2 Diabetes Evolution in Eleven Obese Patients

C. Boza, N. Quezada, J.I. Torrealba, J. Salinas, D. Arbulo, A. Escalona, G. Pérez, F. Pimentel, L. Ibáñez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background To evaluate Type 2 Diabetes (T2D) evolution in eleven patients undergoing laparoscopic sleeve gastrectomy (LSG).

Methods We conducted a review of our prospective electronic database of the first 142 patients who underwent LSG from Nov 2005 to Jun 2007. Demographic, surgical results, complications, weight, %EWL and comorbidities were assessed.

Results Eleven patients were identified, 7 were female. Mean age was 44 ± 11.3 years. Median follow up was 12 months (8–25). There were no conversions to open surgery. There was 1 early complication (RBC count-down) and there were no late complications. Preoperative BMI was 36.6 ± 3.6 kg/m² and percent excess weight loss was as follow: Month1 33.6 ± 16.6%; Month3 58.4 ± 19.3%; Month6 87.8 ± 20.8% and Month12 96.8 ± 19.9%. Seven patients had Arterial Hypertension and Insuline resistance, of them, 5 were cured for each disease. Five patients had dyslipidemia, 2 resolved hypertrigliceridemia. Of the 11 diabetic patients, 9 patients resolved diabetes (normal fasting glicemia, normal HbA1c and no medication) and 2 achieved better control of the disease.

Conclusions In this small series of patients, LSG has achieved similar results to those achieved by laparoscopic Roux-en-Y gastric bypass in terms of weigh control and T2D resolution with a low complication rate. A prospective randomized trial is urgent to confirm these findings.

P40 Short Term Resolution of Insulin Resistance After Laparoscopic Sleeve Gastrectomy

J.I. Fernández, C. Boza, N. Quezada, A. Escalona, F. Pimentel, L. Ibáñez, G. Perez

Department of Digestive Surgery, Pontificia Universidad Católica de Chile, Chile

Background Approximately half of morbidly obese patients have abnormal glycemic control. Insulin resistance (IR) is one of the earliest defects on the course of diabetes mellitus type 2 (T2DM). Weight loss after bariatric surgery has proved to be an effective method to improve glucose metabolism. The rate of success varies with each type of procedure. The purpose of this study was to evaluate short term resolution of insulin resistance after laparoscopic sleeve gastrectomy (LSG).

Methods and Patients with a preoperative HOMAIR 2.3 and that met the NIH criteria for bariatric surgery, were included in the study. A greater curve gastrectomy along a 60 fr bougie was performed with gastrointestinal staplers, with sutured reinforcement of the stapler line. Fasting glucose and HOMAIR was measured between the third and sixth postoperative month. Paired student t test was calculated for significative difference.

Results Between december 2005 and April 2008, 368 LSG were performed at our center. Thirty patients with IR were followed prospectively with early postoperative fasting glucose and HOMAIR controls. There were 17 male (23%) and 23 female (77%) patients, with a mean age of 34,4 years (range = 17–52). Mean BMI was 35,9 ± 3,6 Kg/m². %EWL at six months was 90%. Mean preoperative and postoperative fasting glucose was 92,5 ± 12,6 mg/dl and 82,4 ± 9,1 mg/dl respectively ($p = 0,001$). Mean preoperative and postoperative HOMAIR was 4,2 ± 1,4 and 1,6 ± 0,7 respectively ($p < 0,001$). 87% of patients achieved a normal HOMAIR control six months after surgery.

Conclusions LSG achieves an excellent %EWL and early resolution of IR in the majority of obese patients in the present series. We believe this surgical technique appears to be a good alternative for morbidly obese patients with IR.

P41 Sleeve Gastrectomy, Early Results

M. Berry, P. Lamoza, L. Urrutia, H. Coñoman, A. Cuevas, I. Errandonea, V. Alvarez, A. Molina, D. Ghiardo, S. Reyes

Center for Nutrition and Obesity Surgery, Clinica Las Condes, Santiago, Chile

Background Sleeve Gastrectomy (SG), is a restrictive surgical technique developed originally as a 2 step technique for super obese, however over the last few years, several bariatric centers have been doing it for lower BMI patients as a lonely procedure for the resolution of the Morbid or Severe Obesity.

Objectives To analyze the data from the first series of patients who were operated on with this technique since 2006 in our center.

Methods We analyzed gender, age, preoperative BMI, operating time, excess weight loss (EWL%) at 6 months, surgical complications and perioperative morbidity and mortality of 95 patients.

Results N=95, 6 month follow-up N=43. Our series highlights a 1:2 relationship between men and women (35%/65%); with a mean age of 36.5 years old (20–58) and preoperative BMI 39.3 (33–63). Average operating room time 92(50–250) min, EWL was 64% at 6 month, incidence of complications: 3 patients underwent minor intraperitoneal bleeding treated medically and 1 case of rhabdomyolysis. Mortality: 0%. Conversion was not required in any case.

Conclusions SG is a safe and reproducible technique with a low morbidity and mortality. Our results in terms of weight loss in the short term are very encouraging, but longer follow-up is needed.

P42 Complications After Open and Laparoscopic Sleeve Gastrectomy

N. Sosa Gallardo, C. Sosa Gallardo, C. Simon, M. Herrero, M.J. Almada, M. Sanchez

Hospital Cordoba y Centro de tratamiento de la obesidad

Background Sleeve Gastrectomy (SG) was developed as a first stage of the more complex Duodenal Switch operation in super obese patients. Although SG seems to be a secure procedure, potentially postoperative complications may occur.

Methods between december 2005 and march 2008, 89 patients underwent SG. We performed open sleeve gastrectomy (OSG) in 59 patients(66%), and laparoscopic sleeve gastrectomy (LSG) in 30 patients(34%).

Results complications developed in 15 patients after OSG(25,4%) and 1 patient after LSG (3,33%). the following complications occurred after OSG: leakage(2), bleeding of the staple-line(2), Epiploon inflammation (3), pneumopathy(5), evisceration(1), stenosis(1) and splenectomy(1). after LSG 1 dehiscence of the staple-line occurred. only dehiscence of the staple-line, evisceration, bleeding of the staple-line were treated surgically. most complications occurred during the learning curve within the first 40 operations.

Conclusions in our serie, the majority of the complications occurred during the learning curve and in the OSG.

P43 Two Bougies Technique to Prevent Gastric Sleeve Leaks

J. Montoya Ramírez, O. Aguilar, R. Alvarez-Cordero

Hospital Angeles del Pedregal, Mexico

Leaks are cause of concern in Sleeve Gastrectomy; Baker (*) has stressed the dangers of oversewing the staple line and the benefits of buttressing the staples without tension. In order to achieve this, a Two bougies technique was developed as follows: For the staple placement, a 60 Fr. Bougie is inserted within the stomach, and a linear sleeve is formed with three to five staple firings. As the sleeve is completed, the bougie is extracted and a 18–20 Levine tube is inserted, therefore, there is no tension at the staple line; then buttressing was done by non absorbable material in a row. Hermeticity is tested the usual way with methylene blue, and the remaining stomach is removed. 34 patients were operated with this technique; 21 females and 13 males, BMI were from 40 to 58. Operating time was from 80 to 195 minutes. **Results** No leaks were observed, one patient had a bleeding point at the esophago-gastric junction which was resolved by endoscopy.

Conclusions Two bougies technique seems to be a safe technique to avoid tension at the sutures and diminish the risk of leaks in Sleeve Gastrectomy. (*) Obes. Surg., 2004; 14: 1290–8

P44 Sleeve Gastrectomy and Consumption: Experimental Study in Obese and Non Obese Rats

F. Sabench, M. Hernandez, A. Morandeira, S. Blanco, A. Sanchez Marín, A. Cabrera, D. Del Castillo

University Hospital of Sant Joan, Faculty of Medicine, Rovira i Virgili University, Reus, Spain

Aim Recently sleeve gastrectomy has yielded excellent surgical results in several different series. However, the hormonal changes resulting and the increasing number of peptides that are seen to be involved mean that study of the relationship between surgery and intake is constantly evolving. Ghrelin and GLP-1, two of these peptides, are antagonistic (they are orexigenic and anorexigenic, respectively). In this study we evaluate the effect of sleeve gastrectomy on intake and its relationship with the hormones, ghrelin and GLP-1.

Methods Three experimental models: Sprague-Dawley rats (Group 1) SD rats fattened on a cafeteria diet and on which surgery was performed (Group 2); rats on which surgery was not performed (Group 3); Sleeve gastrectomy: mid-laparotomy; dissection of the greater curve and longitudinal linear gastrectomy with exeresis of the rumen and the gastric fundus; Weight and consumption levels were measured every day for two weeks. Ghrelin and GLP-1 levels were determined by RIA before and after surgery.

Results The group of obese rats on which surgery was performed significantly decreased their caloric intake. Ghrelin levels normalized significantly and GLP-1 levels decreased as a result of lower consumption. The weight of group 2 rats, normalised. Basal hormonal changes due to obesity are modified by surgical intervention.

Conclusions Bariatric surgical techniques have an effect both on weight levels and on the gastrointestinal axis. The various hormones attempt to offset a pathological hormonal state when an individual is subjected to weight loss. Surgery may largely be considered an etiological treatment for these changes.

P45 Metabolic Surgery: Results in an Experimental Model of Diabetes and Obesity

F. Sabench, M. Hernandez, S. Blanco, M. Antonio, J. Domènech, A. Cabrera, D. Del Castillo

University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain

Aim The continual advances in our knowledge of the pathogeny and hormonal disorders of morbid obesity lead to new studies in experimental animals and the development of new technical options. The objective is to asses whether ileal transposition can be a good treatment of morbid obesity associated with diabetes mellitus due to action of intestinal peptide Glp-1 (enteroglucagon) in relation to gastric by pass and to vertical gastroplasty (VGB).

Methods Experimental animals ZDF rats (Zucker Diabetic Fatty rats) Subjects of the study: Three groups of 10 animals each one divided as: Group 1: ileal tranposition. Group 2: gastro-jejunal bypass. Group 3: vertical gastroplasty. Parameters to determine: Weight loss, levels of glicaeamia, enteroglucagon, insulin and ghrelin in blood, one week before the operation as a basal control, and 15 days after the surgical procedure.

Results Gastrojejunal bypass produces the most important weight loss. There is a significative decrease in intake in all groups. Hyperinsulinism and hyperglycaemia tend to decrease after surgery in all groups, but in ileal transposition there is a major control of a ketosis situation. Ghrelin and GLP-1 levels decrease after a vertical gastroplasty. After Gastrojejunal bypass and ileal transposition, we observe an increase in GLP-1 levels but only significantly in ileal transposition.

Conclusions Bariatric surgery is constantly evolving not only in its technical aspects, but also in the metabolic changes that it involves. Ileal transposition brings a decrease in plasmatic glucose and greater control of Diabetes Mellitus, and this could benefit patients affected by morbid obesity and poor metabolic control.

P46 The Use of Optical Access Trocar for Rapid and Safe Entry in Laparoscopic Bariatric Surgery

D. Tran, D. Halmi, E. Kolesnikov, R. Rafi, H. Pourshojae

Virginia Weight Loss Surgery Center

Background The inherent risks of the primary abdominal access in laparoscopic surgery are well known. The authors review published literature and report their experience using the Visiport optical trocar system without prior pneumoperitoneum in the performance of laparoscopic bariatric surgery.

Methods From March 2003 to March 2008, 585 laparoscopic bariatric procedures were performed with initial entry using the 11-mm, Visiport optical trocar. There were 274 laparoscopic Roux-en-Y gastric bypass (RYGBP) and 311 gastric banding procedures. Midline, supraumbilical entry was used in the RYGBP and mid-left upper quadrant entry was used in the gastric banding procedures. Pneumoperitoneum was not initiated prior to the trocar insertion. The entry time was measured in the last 50 patients. Published literature reviewed from 1990 to the present.

Results Of the 585 patients, 363 (62%) had previous abdominal surgeries ranging from appendectomy to open gastric bypass. The patients' average body mass index (BMI) was 47 kg/m². The median follow-up period was 2 years. There was a single vascular injury among the first 30 patients. There was no other trocar-related injury. The average trocar placement time was 26 seconds.

Conclusions Every technique for the primary trocar entry into the abdomen has advantages and drawbacks. If unanimity defines the correct initial entry technique, clearly there is no single right method of entry. Our data compares favorably with the published data. We believe that the Visiport optical trocar provides a rapid and safe entry without prior pneumoperitoneum in the morbidly obese patients. Furthermore, the direct visualization of tissue layers affords the surgeon the ability to promptly detect and manage potential injuries that may otherwise be delayed in a "blind" trocar system.

P47 Incidental Findings of Incisional Hernias by Videolaparoscopy in Post-Bariatric Plastic Surgeries

M. Zardo¹, M.P. Oliveira¹, A.S. Barhouch², M. Nalepinski², M. Moretto², A.V. Padoin², C.C. Mottin²

¹Cirurgia Plástica - Centro da Obesidade Mórbida, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil; ²Centro da Obesidade Mórbida, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil

Background Plastic surgery is a procedure that has become increasingly common after extensive weight loss in the bariatric patient, with the abdomen being the most common complaint of loose skin after great losses of weight. Concomitantly, the number of bariatric procedures by videolaparoscopy has increased greatly. At the time of abdominal plastic surgery, after videolaparoscopic bariatric surgery, there has been a considerable number of incidental findings of incisional hernias, not detected preoperatively whether by physical examination or by ultrasound.

Methods Retrospective observational study to determine the prevalence of incidental finding of videolaparoscopic incisional hernias in patients submitted to abdominal plastic surgery following videolaparoscopic bariatric surgery. The study included 19 patients who underwent abdominal plastic surgery between July 2004 and February 2008, with a mean age of 41.92 years (range of 27 to 58), where 6 were men and 13 women.

Results The prevalence of incidental findings of videolaparoscopic incisional hernias in patients submitted to abdominal plastic surgery following bariatric surgery was 42.1%, with 46.15% among women and 33.33% among men.

Conclusions With the increase in the frequency of bariatric procedures by videolaparoscopy and given the difficulty of aponeurotic suturing in these patients, it is extremely important then, at the time of abdominal plastic surgery, to identify incidental incisional hernias not detected previously by physical examination or imaging. This justifies a cautious surgical procedure, making some procedures commonly performed in plastic surgery contraindicated, such as liposuction and infiltrations of anesthetic and vasoconstricting solutions in subcutaneous tissue close to videolaparoscopic incisions.

P48 Obesity and Human Gut Microbiome - Is There Any Association?

S. Shah¹, J. Todkar¹, P. Shah¹, D. Patil², Y. Shouche², D. Jain³

¹Ruby Hall clinic, India; ²National Center For Cell science, India; ³Institute of Biotechnology and Bioinformatics, University of Pune, India

Background In a normal healthy adult, there are around 1023 microbes in the gut; i.e. about 10 times the total number of cells in human body. Major functions of human gut microflora include metabolic activities resulting in salvage of energy and absorbable nutrients, important trophic effects on intestinal

epithelia, on immune structure, function, protection of the colonized host against invasion by alien microbes. A recent report on a biased distribution of a particular class of bacterial group, bacteroidetes in obese individuals among Americans demonstrate the impact of microflora on human health. Similarly we are interested to look into the kind of microbial community existing in obese individuals as compared to normal ones with Indian perspectives.

Methods We collected early morning fecal samples from obese (7) BMI > 24 kg/m², treated obese (Total:6, BMI drastically decreasing to normal), normal healthy individuals (Total:3, BMI 24 kg/m²). Total microbial DNA was isolated from each group and 16S rRNA gene fragment was amplified using universal primers. After gel elution of the PCR product of appropriate size a representative 16S rRNA gene library was constructed using pGEM-T vector. Transformants screened by colony PCR, purified PCR product sequenced. All sequences were processed and subjected to a homology based tool, BLAST for identification, using an in-house bioinformatics pipeline including modules to comparatively analyze distribution of different type of bacteria among selected groups.

Results We identified real difference in gut microbiota of obese vs normal individual.

Conclusions Further analysis is in progress, leading to identification of the association of obese person's metabolism and bacteria at molecular level.

P49 Benefits of Early Detection of Staple Line Leakage in Bariatric Surgery

S. Blanco, M. Hernandez, A. Morandeira, F. Sabench, J. Sánchez Pérez, M.L. Piñana, D. Del Castillo

Hospital Universitario de Sant Joan, Facultad de Medicina, Universidad "Rovira i Virgili", Spain

Background Leakage from the staple line in gastric and intestinal sutures is the most serious technical complication in bariatric surgery. Early detection by systematically using hydrosoluble radiological contrast after 24–48 hours will enable therapeutic measures to be taken to solve the problem, often with no need for further surgical intervention.

Methods A retrospective study was made of 194 patients who have had surgery in the last five years (by-pass gastrojejunal and sleeve gastrectomy). Of these 147 were women and 47 were men, with a mean BMI of 58.5 kg/m². During surgery, the tightness of the closure was checked with methylene blue or air and water, and after 24–28 hours with an esophagography with hydrosoluble contrast.

Results Only one patient was positive with the methylene blue test (0.5%) and the leakage was located and closed. The radiological study was negative. In six patients (3%) the radiological contrast was seen to leak, oral intake was not initiated and the problem was resolved by conservative treatment.

Conclusions Early detection of leakage at the gastric and gastrointestinal suture lines is of vital importance if conservative treatment is to be most effective. Systematic checking of the tightness of the peroperative closure and routine postoperative radiology with contrast are fundamental for diagnosing this serious complication.

P50 Is it Possible to Achieve a Shorter Learning Curve for Laparoscopic Bariatric Surgery?

J.M. Ramon, M. Pera, J. Gimeno, A. Goday, L. Trillo, M. Ros, E. Menbrilla, L. Grande

Hospital del Mar, Spain

Background The literature reports that the learning curve for laparoscopic Roux-en-Y gastric bypass (LRYGBP) is approximately 75–100 cases. The aim of the present study was to evaluate the safety and feasibility of shortening the learning curve for performing LRYGBP and laparoscopic sleeve gastrectomy (SG) by an experienced laparoscopic surgeon.

Methods We analyzed retrospectively the first 100 consecutive cases performed between January 2004 and December 2007. We compared the first 35 LRYGBP and 10 SG with the subsequent cases (41 and 14 respectively) for each group. Early surgical results, weight loss, and improvement of quality of life were evaluated using the bariatric analysis and reporting outcome system (BAROS). Outcome variables included operative time, complications, conversion, and mortality.

Results The mean age in our series was 45 years and mean body mass index 4.9. 13% of patients were male. Overall excess weight \pm (BMI) was 45.2 kg/m² loss (%EWL) for LRYGBP patients was 43 \pm 10 and 72 \pm 15% at 3 and 18 months, respectively; and SG patients were 51 \pm 12 and 80 \pm 26% for de same period. At 1 year, the BAROS score was excellent or very good in 78.1 per cent and good in 21.9 per cent. There was a significant reduction in mean operative time between the second and the first period for each procedure (LRYGBP, 151 \pm 22 vs. 214 \pm 94 minutes; P<0,01; SG, 96 \pm 17 vs. 123 \pm 23 minutes; P<0,01).

There was no mortality and overall complication rate was 14%. Table 1 shows the complications for each technique and period. One case was converted to an open technique and 7% patients needed reoperation.

Conclusions A bariatric surgical practice incorporating LRYGBP can be safely done by an experienced laparoscopic surgeon. With appropriate advanced laparoscopic skills, the learning curve for performing LRYGBP can be reduced.

Table 1

Complication	LRYGBP			SG		
	1 st period	2 nd period	p	1 st period	2 nd period	p
Trocar bleeding	1 ^{&}	0	ns	1 ^{&}	2 ^{&}	ns
Abdominal bleeding	1 ^{&}	0	ns	0	0	ns
Staple-line leak	0	1	ns	2 ^{1&}	0	ns
Marginal ulcer	1	1	ns	0	0	ns
Pneumonia	1	0	ns	0	0	ns
Wound infection	1	0	ns	0	0	ns
Intraabdominal abscess	1	0	ns	0	0	ns
Small bowel obstructio*	0	1 ^{&}	ns	0	0	ns
Total (n=14)	6	3	ns	3	2	ns

[&]reoperation required; ¹umbilical hernia

P51 Bariatric Surgery for Patients with a Body Mass Index (BMI) Below or Equal than 35 kg/m²

C. Boza, J. Salinas, G. Pérez, A. Escalona, J. Torrealba, N. Quezada, K. Linn, J. Sepúlveda, L. Ibáñez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background Traditional eligibility for bariatric surgery stands for patients with a BMI>40 or BMI>35 with comorbidities. The aim of this study is to analyze our experience in 291 patients with a BMI 35 kg/m² who underwent bariatric surgery.

Methods We review our prospective electronic database for all patients with a BMI 35 kg/m² undergoing laparoscopic Roux-en-Y gastric bypass (LRYGB) or laparoscopic sleeve gastrectomy (LSG) from February 2002 to November 2007.

Results During this period 291 patients (82.8% females) underwent either a LRYGB (56.7%) or a LSG (43.3%). Mean age was 37.0 \pm 10.8 years, pre-operative weight and BMI was 90.8 \pm 10.5 kg and 33.4 \pm 1.2 kg/m² (28.6–35). Preoperative comorbidities were arterial hypertension (HTN) 17.9%, type 2 diabetes (T2D) 5.8%, insuline resistance (IR) 43.3% and dyslipidemia (DLP) 44%. No onversion to open surgery was needed. Early complication was 3.8%, mainly due to gastrojejunal stenosis (1.4%). Late complication was 11.7%, mainly due to cholelithiasis (4.1%) and gastrojejunal stenosis (3.4%). Mean follow-up was 13.4 \pm 16 months, excess weight loss (EWL) was 35.9 \pm 19.3% at month1, 97.7 \pm 28.2% at month6, 111.8 \pm 28.6% at year1 and 116.2 \pm 32.6 at year2. Resolution or improvement of comorbidities at follow-up was 80% for HTN, 100% for T2D, 98% for IR and 98% for DLP. We also follow 30 patients who underwent a 3 months medical program for weight reduction at our institution with a pre-program BMI of 32.3 \pm 2.2 (27.5–35). EWL 1 year after the beginning of the medical program was 25.3 \pm 26.5%, and resolution of comorbidities was 2/3 for HTN, 0/1 for T2D, 14/17 for IR and 8/10 for DLP. **Conclusions** Bariatric surgery seems to be as effective and safe for patients with a BMI<35 kg/m² as it is for the morbidly obese. In our series it is even more effective than medical treatment.

P52 Diminution of BMI and Weight Loss After Bariatric Surgery

M.J. Almada^{1,2}, L.E. González¹, S.A. Carosio¹, C.J. Sosa Gallardo^{1,2}, M. Herrero²

¹Hospital Córdoba, Argentina; ²Centro de Tratamiento de la Obesidad. Bariátrica Córdoba, Argentina

Record The objective of the surgical treatment of the morbid obesity has the purpose of improving the comorbidities and quality of life, by means of the reduction of the excess of weight and its maintenance in the long term.

The evaluation of the patient with morbid obesity must be contemplated from a multidiscipline scope, oriented towards the suitable selection of patients, to his/her organic and psychological preparation, the election of the most convenient surgical technique to each case and to the individual pursuit. This requires a special commitment of the obesity team to help the patient throughout his/her life and to stimulate him/her to change in a permanent form his/her quality of life.

Methods 174 patients (men and women) with a medium age of 42.8 (minimum 21 years – maximum 68 years) to whom Bariatric Surgery was practiced were studied retrospectively (98 Gastric Bypass and 76 Sleeve Gastrectomy). Proceeding, the control of anthropometric parameters was carried out: BMI and calculation of %EWL, that were performed to the patients before the Surgery and to the 1, 3, 6, 12 and 24 months post surgical.

Results A loss of excess of weight lost of 59.4–60.9% was obtained after two years of Gastric Bypass and Sleeve Gastrectomy and a diminution of the BMI from 50.3 to 33.8, 51.1 to 36.1 in average for both sexes respectively.

Conclusions With Bariatric Surgery a % of EWL greater than 50% is obtained and an improvement of the Nutritional Diagnosis of Super Obesity to Obesity of class I, two years post surgical with difference according to the technique employed. Gastric Bypass offers better results in relation to diminution of the BMI after two years subsequent to the Surgery.

P53 Overview on Endolumenal Therapy and N.O.T.E.S. in Obesity and Metabolic Disease Treatment. What will be the Future?

J.A. Sallet, P. Miguel, C.E. Pizani, P.C. Sallet, R. Tussi Jr.

Sallet Institute of Medicine, Brazil

Background Intra-gastric balloon has been used in obese patients as a restrictive gastric procedure inducing early satiety and weight loss. Endoscopic Sleeve Gastroplasty was showed at SAGES Las Vegas Meeting by Roberto Fogel (apr/07). Endoscopic Duodenum–Jejunum By-Pass was introduced at ASBS Boston Meeting (jun/07) by Europe – USA – Latin American Multicentric Study.

Methods From November 2000 to March 2007, 1492 overweight and obese patients were treated with the intra-gastric balloon. 1242 of them completed a 6-month follow-up: 410 male (BMI=42.8 \pm 10.7 Kg/m²) and 832 female patients (BMI=35.5 \pm 7.8 Kg/ m²) mean (BMI=38.5 \pm 9.8 Kg/m²). Endoscopic Sleeve Gastroplasty n=31, with 3 months follow-up. Endoscopic Obesity Treatment in Chile, Netherlands and USA with 12 patients (7 female) BIM=43. **Results** After a 6-month follow-up subjects showed significant reductions in percent excess weight (%EWL=44.8 \pm 30.5%) and percent of total weight loss (%TWL=12.5 \pm 6.7%). The main side effects were nausea/vomiting (521 cases, 42%), epigastric pain (260 cases, 21%), requiring prothesis removal in 25 patients (2,01%). Endoscopic Sleeve Gastroplasty 3 months follow-up showed: 86% reduction glucose intolerance, 58% reduction hypertension and 46% reduction EWL. Endoscopic Obesity Treatment showed mean percent excess weight loss=24%.

Conclusions The intra-gastric balloon (BIB[®]) is effective to temporarily control obesity, inducing a %EWL of approximately 45%. N.O.T.E.S in Bariatric Surgery are complex, needs development of expansive devices, possibility of more complications than laparoscopic approach. What will be the Future: the production by pharmaceutical industry of Hormones secreted by Gut like Syntetic GLP-1 and Oxyntomodulin associate with an endolumenal therapy will be the future for treatment of obesity and metabolic disease.

P54 Late Laparoscopic Bariatric Reoperations – Three Years Experience in a New Bariatric Center

P. Holeczy, M. Bolek

Vitkovice Hospital, Ostrava, Czech Republic

Background Late laparoscopic bariatric reoperations is a challenge for surgeon. Authors experience from new bariatric center is presented.

Methods The retrospective analysis of late reoperations from July 2005 to April 2008 after bariatric procedures was done. Waist majority of primary operation were done in other institutions (9:5).

Results Together 14 reoperations in 13 patients were performed. Two were classified as small, done in local anesthesia (port rotation). Another 12 were done in general anesthesia, classified as great. After failed nonadjustable banding there were 5 adjustable band inserted. In one case failed adjustable band, too. Roux-Y bypass was definitive solution. Once sleeve resection was performed, once band removal for gastric pouch and oesophageal dilatation. Three complications of adjustable banding were solved: 2 band migration (removal), 1 pouch dilatation (replacement). In one case after sleeve gastrectomy modified Toupet fundoplication and hiatoplasty was performed. All operations dealing with great complications were completed laparoscopically.

Conclusions laparoscopic revisional bariatric surgery is feasible in the majority of cases. The solution of complications deserve an individual judgement. Experience of surgical team plays important role in this field of surgery.

P55 A Challenging Presentation: The Case of Inferior Vena Cava Syndrome and Supersupersuperobesity

N.G. Meinhardt, K.E. Souto, A.V. Knebel, A.T. Stein

Brazil

We present a case of a young male with extreme obesity (BMI > 70 kg/m²) treated in a public hospital. Due to the presence of leg ulcer and recurrent bouts of thrombophlebitis of lower limbs, it was decided to insert a percutaneous inferior vena cava filter to the prevention of pulmonary thromboembolism. The attempt was unsuccessful and led to the clinical diagnosis of inferior vena cava syndrome, as the patient has shown large cutaneous veins, from legs to thorax. After hepatic scintigraphy, femoral venography and celiac trunk arteriography, the diagnosis was confirmed. The patient was submitted to a Biliopancreatic Diversion–Duodenal Switch and had lost weight. Another venography, seven months after surgery did not show any evidence of inferior vena cava rechanneling.

P56 Foregut Mass and Neuroendocrine Signals: Many Sources of Evidence Pointing to a Lack of Adaptation to Modern Diet

S. Santoro

Hospital Israelita Albert Einstein, São Paulo, Brazil

Background The Digestive System of the mammals varies according to the diet. Profound and fast changes in the characteristics of the diet, not followed by digestive adaptations, may be a cause of physiological disturbances, especially in terms of neuroendocrine signaling.

Methods A vast review in the literature of different areas of knowledge was made, searching for the kind of interference that could be caused by a modified richer diet.

Results Biological, Anthropological, Physiological, Epidemiological data, confirmed by Comparative Anatomy, were reunited pointing to a constant evolutionary movement that happens in face of an enrichment of diet in mammals: the diminution of proximal gut length and mass. Fast and intense enrichment demands adaptation. Lack of adaptation is the most probable cause for attenuated distal gut neuroendocrine signals. Clinical data also reinforces this observation: the longer is the amount of proximal bowel excluded in the different bariatric techniques, the better are the metabolic results. Conditions related to the attenuation of distal gut signals like Obesity and Type II Diabetes Mellitus are becoming increasingly frequent, as the diet is artificially enriched. Obesity and metabolic syndrome are related to voluminous abdomens and higher mortality. Phenotypes that include small abdomens are being selected in an evident evolutionary action.

Conclusions Considering the modern refined diet consumed in the last decades, there is great evidence that the interferences in enteropancreatic-hypothalamic axis might be caused by excessive proximal bowel mass.

P57 Bariatric Surgery: Initial Experience in 25 Cases

V. De Angeli^{1,2}, J. Picardo^{1,2}, D. Mezzanote^{1,2}

¹CILAP, Argentina; ²Obesidad, Argentina

Background Bariatric surgery has been recognised as the paradigm for the treatment of morbid obesity not only for losing weight but also for the comorbidities that it carries, Type II DBT, Hypertension and dyslipidemias.

In our Bariatric Surgery Center we have evaluated the results obtained at 6 months after the surgery was performed.

Methods 25 patients undergone 2 different procedures of Bariatric Surgery were evaluated, checking the obtained 6-months-post-surgery results.

The performed procedures were: adjustable gastric band and sleeve gastrectomy. The evaluated parameters were:

- Weight Loss: %EWL; %BMIL
- Glycemic controls and required medication for it to be under 150 mg%
- Lipids profiles and need of statins or fibrates
- Control of arterial pressure and required medication for its correct management

Results It underwent surgery 25 patients, 50% of which with Adjustable Gastric Band, and 50% with Sleeve Gastrectomy.

There was a 60% of female patients and 40% of male patients. They were between 19 and 63 years old, with a media of 44.

BMI media was 50.79 and Ideal Weight Percentage was 220.96%.

The media %EWL was 40.24% 6 months after surgery, and %BMIL was 22.48%.

95% of the patients did not need medication for controlling blood glycemia neither insulin resistance. 90% of the patients diminished more than 50% the requirements for arterial blood control medication. The need of statins and fibrates decreased above 65%.

Weight loss was greater and faster in patients underneath Sleeve Gastrectomy practice than the LABG one.

Conclusions We concluded that both surgical procedures were efficient for loss of weight, but with significant differences between each other, more efficiency with Sleeve Gastrectomy. It can be achieved an adequate control of all comorbidities associated with Morbid Obesity with both procedures.

P58 Consensus on Bariatric & Metabolic Surgery in India

S. Borude

Jaslok Hospital and Research Centre, Mumbai, India

Background Bariatric surgery evolved in India by 1999. It started with open vbg, slowly within one year went on to lapg. Then it was the era of open and then lap roux-en-y gastric bypass. Off late since 2006 sleeve gastrectomies. Vbg's slowly were replaced by lapg's as purely restrictive procedure. This was primarily because of simplicity and lap advantages. Because of the long term complaints, strict follow-up and slow weight loss by band, sg gained momentum. Sg has shown quicker weight loss, less intense follow-up.

Methods consecutive 100 patients underwent strict pre-op, intra-op and post-op norms. Investigations included were haematology, biochemistry, vitamin studies, leptin analysis, lipid, renal, liver profiles, upper gi, lung and cardiac evaluations.

Results 50 were with igt and dm. 23 were with abnormal lipid and liver function abnormalities. 9 with osa with abnormal pft. Levels of leptin were significantly high in obese subjects as compared to lean (p < 0.01). Genetic analysis of leptin in these subjects did not show any variations. The untranslated exon 1 showed a variation (a > g), which is located at 19 bp site. A higher frequency of the g allele compared to a allele was found in the study subjects (p < 0.01) which is in contrast with that reported in western population. G allele was found to be significantly associated with higher levels of leptin (p = 0.05).

44 patients underwent gastric bypass, 32 underwent lapg and 34 sleeve gastrectomy.

Conclusions by enlarge Asians are seen to have co-morbidities in smaller BMI's than western population. Asians have more of a truncal obesity and hence igt and dm being developing country, it would also pose resistance in acceptance to the newer procedures. Complete resolution in all 3 procedures in dm except in one patient who underwent bypass.

P59 EEA OrVil Stapler – Easier Gastro-Intestinal Anastomosis in LRYGB

T. Szewczyk, B. Modzelewski, P. Janczak,

Department of Gastrointestinal Surgery, Medical University of Lodz, Poland

Gastro-intestinal anastomoses in LRYGB are usually performed using a round or linear stapler, or manually. Introduction of EEA OrVil staplers has facilitated and accelerated the anastomosis procedure. The paper compares the aspects of technique, duration of the procedures, complications in two groups of patients. In group I, n=60, the anastomosis was performed using a classic round Tyco stapler (Covidien), in group II, n=10 an EEA OrVil stapler was used. All the patients underwent LRYGB performed with side-to-side intestino-intestinal anastomosis, the aperture after stapler insertion was closed manually. A 150 cm long alimentary loop, a small stomach of 25–30 ml was formed. The use of a classic stapler required its previous preparation. The spring was removed, the head was broken, its positioning was secured with a suture and sutured with the gastric tube. After introduction of the stapler a white bar was protruding, which had to be removed. After connecting both parts of the stapler, the head could not assume the position parallel to the anvil in some cases. Attention should be paid here to the legal aspect of work with broken equipment. During the procedures performed with EEA OrVil the problems mentioned above do not occur. The mean operation time was 147 vs 103 minutes; the difference was significant. No conversion was performed. No leaks were observed during the procedure. The EEA OrVil stapler is not only a technical novelty, but also a solution reducing the duration of the procedure.

P60 Weight Loss Outcome After Bariatric Surgery

J. Malta, S. Pereira, G. Ferreira

Centro Hospitalar Lisboa Norte - Hospital Pulido Valente, Portugal

Background Obesity is an endemic health problem in most developed countries, requiring serious public health attention. Bariatric surgery for morbid obesity has increased over the last years. Continued and long-term follow-up care at a bariatric surgery clinic might be a factor affecting long-term excess weight loss.

Methods A population of 191 patients was evaluated during first year after bariatric surgery. This study was performed at a university hospital. Information on social, demographic, behavioural and clinical characteristics was obtained by a structured questionnaire. Anthropometric evaluation included weight and BMI.

Patients were evaluated until three months, six months and one year after surgery.

Results Until three months after surgery the weight loss was 13.1 ± 6.6 Kg (123.5 ± 22.1 Kg vs 110.4 ± 20.3 Kg); between three and six months was 15.3 ± 8.5 Kg (121.6 ± 21.8 Kg vs 106.6 ± 17.7 Kg); between six and twelve months was 17.3 ± 6.6 Kg (118.9 ± 21.4 Kg vs 101.6 ± 21.7 Kg). The weight loss was reached statistical significance at the evaluated points. All statistical analyses were performed using SPSS for Microsoft Windows (version 10.0) and includes Paired-sample T test for means comparison. The considered level of significance was $p < 0.05$.

All groups were similar in age, parity, birth weight and preoperative weight. The prevalence of women was 84%. All patients were followed by a multidisciplinary group with surgeon, nutritionist and psychologist. These values are the result of a nutritional care, which includes a detailed nutritional evaluation, quantified food plan and education to the patient and his companion.

Conclusions Multidisciplinary care is a critical component in maintaining the benefit after surgery for weight loss.

P61 Prompt Treatment of Intestinal Obstruction After Biliopancreatic Diversion Can Save the Intestinal Loop

M. Bekavac-Beslin¹, I. Kirac¹, A. Ibukic¹, T. Kulis², M. Nikolic¹

¹University hospital Sisters of charity, Zagreb, Croatia; ²Clinical hospital centre Zagreb, Zagreb, Croatia

Bariatric surgery is becoming an accepted method for weight reduction. Biliopancreatic diversion is reserved for high initial BMI. With increased

number of these procedures the reports of complications gain more weight and prepare a wider range of specialties to deal with them. We report a case of 62 year old woman who developed a volvulus of biliopancreatic loop after a biliary diversion operation with sleeve gastrectomy and antroileal anastomosis. Symptoms of biliopancreatic loop obstruction are rare, presenting with atypical abdominal pain, nausea, sometimes vomiting, preserved bowel motility, stool and gas passing with normal upper GI x-ray. Due to patients prompt reaction and straight referral to a bariatric surgeon, freeing of the loop was enough to maintain its viability. Patient's further recovery and follow up were uneventful. With this case we would like to stress the importance of expert in such cases and a need to consider familiarising doctors with these patients and with peculiarities of their treatment. **Keywords:** biliopancreatic diversion, bariatric surgery, surgical complications, late complications, morbid obesity.

P62 Hypoglycemic Effect Due to Intestinal Bypass-Fistula in Type II Diabetics. A 20 Year Report

E. Morales, F. Magallanes, M. Segura

Mexican Institute of Social Security, Mexico

Background The hormonal effects of the so called "incretins", their digestive and metabolic actions are well known at this time. This surgical procedure is based on these data.

Methods This report includes non obese and obese type 2 diabetics, on regular medical treatment with poor metabolic control. Also includes patients with morbid obesity. The surgical procedure is jejunum ileal bypass, 40 cm of jejunum from the Trietz ligament, connected to the last 20 cm of terminal ileum, with a regular terminal lateral anastomosis. The second anastomosis, a latero lateral jejunum jejunum anastomosis of 4–5 mm of diameter, located at 10 cm distal to the Trietz ligament. An anterior longitudinal gastropasty, from 5 cm of the angularis incision of lesser gastric curvature, up to 3 cm before the pyloric valve. Hepatic biopsy and cholecystectomy in all patients.

Results Diabetic patients obtained normal glucose levels since the first week after surgery, without medication. Operated patients eat a normal diet with 30 grs. of any protein meal, to induce the hypoglycemic reaction. This effect is sustained for up to 22 years. These patients have normal HbA1c in 85% of patients, 6.5% or less, and up to 7% in the rest of diabetic patients.

Obese patients lose up to 80% of EW the first year and some of them up to 100% of EW in 18 months, and maintained for up to 20 years in 85% of patients. The minimum weight loss is 65%. A total of 120 patients.

Conclusions This surgical procedure offers a good possible treatment for patients with poor diabetic control, with or without overweight. This procedure can also be used to treat patients with obesity.

P63 Management of a Gastric Pouch Fistula After Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) for Morbid Obesity

A. Ferreira, J. Preto, A. Gouveia, C. Teixeira, J. Sousa Rodrigues, A. Pimenta

Hospital São João - Porto, Portugal / Department of Surgery, Portugal

Background An anastomotic leak is one of the most serious complications after LRYGB surgery. Early diagnosis and proper management are important factors for a favourable outcome. The authors present a case of a gastric pouch fistula following a LRYGB.

Case Report A 42-year old female patient with morbid obesity (BMI of 44.7) was submitted to an uneventful LRYGB. The patient began oral intake (liquids) on post operative day 4. On post operative day 6, a drain placed in the left abdominal quadrant was removed. During the same day, the patient began abdominal pain and fever. The next day, the patient suddenly developed septic shock. A thoraco-abdominal CT scan raised the suspicion of an anastomotic leak, reason why the patient was submitted to an exploratory laparoscopy that was inconclusive. A new left drain was surgically placed and the patient was transferred to the ICU. Seven days later, the drain content became different and an upper GI x-ray revealed the presence of a fistula from the gastric pouch suture line. From here on, the patient was managed with conservative treatment (TPN and antibiotics) and revealed a favourable outcome, being discharged from the ICU 12 days after admission and from the hospital, 46 days after the primary surgery. Twelve months after her initial bariatric surgery, the patient is doing well, with a %EBL of 62.1%.

Comments Diagnosing anastomotic leaks can be challenging due to lack of specificity in clinical presentation and of imaging studies. Early diagnosis is very important for a favourable outcome and operative exploration should be part of the diagnostic management in the presence of clinical deterioration. In a subset of patients, clinically stable and with controlled drained leaks, conservative treatment seems to be safe and effective.

P64 The Effect of Gastric Bypass on Gastroesophageal Reflux Disease in Morbidly Obese Patients

C.A.S. Madalosso¹, F. Fornari², Md.S. Dourado³, C.I. Risson⁴, J.C. Tomiozzo Jr.⁴, R.R. Gurski⁵

¹Gastrobese, Passo Fundo-RS, Brazil; Hospital Universitário São Vicente de Paulo, Passo Fundo; Post-Graduate Program in Surgery, School of Medicine, Department of Digestive Surgery, Universidade Federal do Rio Grande do Sul, Porto Alegre-RS, Brazil; ²Gastrobese, Passo Fundo-RS, Brazil; Endopasso, Passo Fundo; Liga de Gastroenterologia da Universidade de Passo Fundo; Hospital Universitário São Vicente de Paulo, Passo Fundo; ³Gastrobese, Passo Fundo-RS, Brazil; Hospital Universitário São Vicente de Paulo, Passo Fundo; ⁴Liga de Gastroenterologia da Universidade de Passo Fundo, Passo Fundo-RS, Brazil; ⁵Post-Graduate Program in Surgery, School of Medicine, Department of Digestive Surgery, Universidade Federal do Rio Grande do Sul, Porto Alegre-RS, Brazil

Background Gastric bypass (GBP) has been increasingly employed to treat patients with morbid obesity. Its effect on gastroesophageal reflux disease (GERD) is not well understood. The aim of this study was to assess the effect of gastric bypass on GERD in morbidly obese patients.

Methods Seventy-one morbidly obese patients [30% male; 38±11.6 years; BMI 45.2 (35.3–64.5 kg/m²)] were investigated for GERD preoperatively to GBP and six months later. GERD was assessed by a validated symptom's questionnaire and 24 h esophageal pH monitoring off acid suppressive medications. Heartburn was scored between 0 (no symptom) and 5 (worst) with the question "How bad is your heartburn?", whereas objective GERD was defined at the presence of increased acid contact time (ACT) at pH monitoring. *Results* All patients completed the study. There was a significant decrease in both BMI (45.2±7.2 vs. 33±6.2; P<0.0001) and heartburn score [2 (0–4) vs. 0 (0–0); P<0.0001] six month after GBP. A significant decrease was also observed for total ACT [5.2% (2.3–9.4%) vs. 1.1% (0.2–5%); P=0.001]. Out of 29 patients with normal ACT pre GBP, 4 (14%) showed increased ACT six months later. Out of 42 patients with increased ACT pre GBP, 27 (64%) had their ACT normalized (P<0.0001).

Conclusions In morbidly obese patients, the net effect of gastric bypass was beneficial for both subjective and objective GERD parameters six months after the procedure.

P65 Incisional Trocar Site Hernia with Intestinal Obstruction After Laparoscopic Cholecystectomy and Roux-en-Y Gastric Bypass (RYGB)

J. Preto, A. Ferreira, A. Gouveia, C. Teixeira, J. Sousa Rodrigues, A. Pimenta

Hospital São João - Porto, Portugal / Department of Surgery, Portugal

Background Laparoscopy has become the access of choice for bariatric surgery, and specific complications related to this approach have been noted. Incisional trocar site hernia is a potential one that, even though rare, can occur during the post operative period and be associated with intestinal obstruction.

Case Report A 24-y-old female patient with super-obesity (BMI of 50.9) and cholelithiasis was submitted to an uneventful laparoscopic cholecystectomy and RYGB. The gallbladder was removed through a 12 mm trocar incision in the right upper quadrant with the need of dilatation of the fascia. The patient began oral in-take on PO day 4. On PO day 5, she began to refer occasional delayed episodes of vomiting, with no abdominal pain, no alterations of bowel habits, or signs of infection. With persistence of this occasional vomiting, a contrasted x-ray was performed, that revealed signs of obstruction of the upper Roux-en-Y limb (20 cm below the gastro-jejunal anastomosis). A CT scan confirmed the diagnosis of an incisional hernia through the incision of which the gallbladder was removed. Reduction was possible through a local surgical approach. There were no signs of small bowel ischemia. Six months post operative, the patient is doing well, with an %EBL of 44.7%.

Comments Post laparoscopy incisional hernia reported is variable with an incidence ranging from 0.02 to 3%. Many factors have been implicated. We believe that in our case, the removal of the gallbladder through the affected trocar incision and the morbid obesity condition of the patient contributed to this complication. CT scan is a decisive diagnostic tool for these situations. Early recognition of this condition, especially when occurring during the post operative period, is important in order to avoid more serious morbidity, namely bowel ischemia.

P66 An Unusual Complication of Gastric Bypass

R. Mittermair, O. Renz

University Hospital Innsbruck, Dep. of Innsbruck, Austria

Peptic ulcer in the excluded segment of a gastric bypass has been reported in the literature in only 17 cases. We report a 54-year-old woman with a perforated duodenal ulcer, who underwent laparoscopic Roux-en-Y gastric bypass surgery for morbid obesity 15 months ago. She was successfully treated by a laparoscopic repair of the perforated duodenal ulcer.

P67 What Makes a Gastric Bypass a Good Gastric Bypass

R. Stubbs

Wakefield Hospital, Wellington School of Medicine & Health Sciences, Wellington, New Zealand

Gastric bypass is the gold standard operation for severe obesity. But are all gastric bypasses the same? The surgical technique has evolved over 40 years, and many lessons have been learned. Some of these are being ignored or overlooked with the current emphasis on a laparoscopic approach. The systematic review of medium term outcomes from a variety of bariatric surgical procedures, by O'Brien and Dixon, highlighted that the results of gastric bypass, as currently widely performed, slowly deteriorate with time, to the extent that the substantial superiority of the technique over laparoscopic banding, seen in the first 1–3 years, has dwindled to a much less convincing advantage by 5–8 years. The same review highlighted the superiority of the banded gastric bypass over other forms of gastric bypass, both in the short and medium term. The author has been involved in performing bariatric surgery by a variety of techniques for 21 years, and has now been performing an open banded gastric bypass for 10 years. Our published results are included in the systematic review by O'Brien and Dixon, along with those of others. These are markedly superior to those of the other gastric bypass operations reviewed. The key lessons learned over the years, form the basis of the banded gastric bypass and include:

- the size and shape of the lesser curve pouch
- oversewing of the divided stomach staple lines
- interposition of the divided staple lines by jejunum
- inclusion of a silastic ring to establish outlet size

These features require emphasis and are the major reason for the superiority of the banded gastric bypass over other forms of gastric bypass. Those undertaking gastric bypass surgery are urged to think about these features, in order to preserve the early excellent results of gastric bypass into the medium and long term.

P68 Vertical Degastrectomy and Omentectomy: Surgical Technique Proposal for Treating Weight Regain in Patients with Biliopancreatic Diversion

R. Carbajal, N. Palacios, J. Orrego, V. Mena, E. Lombardi, F. Vargas, M. Portanova

Gastric surgery . General Surgery Department. National Hospital Edgardo Rebagliati Martins. Health Social Security. Lima, Perú

With the aim to report on the preliminary results from a surgical technique for treating regain weight in patients with biliopancreatic diversion for morbid obesity. We present 22 patients who underwent BPD and completed more than 18 months of follow-up with regain weight and reappearance of comorbidities during the lapse october 2005 to april of the 2008. The results have been analyzed in terms of weight loss and improvement in comorbidity.

Results 80% were women. Mean age was 38 ± 11 years (38–61) initial body mass index (BMI) varying from 35 to 41; follow-up: 1 to 2 years; average EBML% was 79.7% in the first year. There was an average maximum weight loss of 80% excess weight by 24 months. Patients with Diabetes have discontinued medication following the surgery, cholesterol, triglyceride levels and blood pressure improved at each visit. Postoperative stay was 5 to 8 days. 3–6 months after operative, triglyceride levels decreased appreciably. At 2 years, high blood pressure had resolved in 90% of patients. Local Seromas site was the most common local complication. Patients present early satiety and major improvement in presurgical comorbidities ($P < 0.05$). All parameters have significant differences from the basal values no clinical findings of malnutrition. There was minor dysphagia (40%) constipation (60%). There was no mortality. Minor complications were found in almost 10% of the cases. None revisions were performed to correct excess weight loss and low protein levels. The procedure was tolerated well and patients are quite satisfied
Conclusions the technical modifications proposed could be a very safe procedure and has vastly improved the lives of seriously obese patients with regain of weight and reappearance of comorbidities.

P69 Co-relation Between 'Complications' as Seen on Post Gastric Banding [GB] Imaging, and Clinical Findings / Outcome

P. Cherian, S. Noorahmed, R. Mann, F. Ashori, A. Sigurdsson

Shropshire UGI & Bariatric Surgery Unit

Aim GB is a relatively low morbidity operation with well recognised but rare set of complications. As experience in our bariatric center increased, we aimed to find disease patterns from patients with GB associated complications and present our findings.

Methods We retrospectively reviewed our records to find imaging on all patients post GB. An GI radiologist and surgeon reviewed the images and split patients with complications into 5 cohorts [slippage; obstruction; erosion; 'Variations in lie'; and pouch dilatation]. These patients and their medical notes were then retrospectively assessed, for clinical correlation and the data analyzed.

Results Of 1900 UGI contrast studies over 5 years, we identified 82 post GB patients of whom, after review 26 with abnormal imaging were isolated. Of 10 patients with slippage (Median Age 46; BMI 43), 70% had a Vanguard band and presented at a median of 91 weeks post banding with pain, dysphagia (or both) in 70%. 3 had severe reflux. The band was repositioned in 7(3 had >25%EWL), replaced in 2(reached ideal weight) and removed in 1. Both pouch dilatations suffered reflux and needed repositioning. The 3 band obstructions presented with dysphagia at 43 weeks median duration. Of 5 erosions (Median Age 47; BMI 46), 80% had a LAPBAND and all presented (median 36 weeks) with pain and dysphagia. All underwent band removal. The 6 with 'variations of lie' were largely asymptomatic and achieved ideal weight loss in 4 of 6.

Conclusions Most patients with slippage present with pain or dysphagia, and can be treated with band repositioning to achieve good weight loss. The erosions present with pain and dysphagia too, but need band removal in most cases. Certain bands have propensity to slippage and others to cause erosions. No one complication appears specific to a certain post-operative phase.

P70 Modern Bariatric Laparoscopic Operations in Treatment of Morbid Obesity

M. Fishman, V. Sedov

Pavlov's State Medical University, Russia

Methods Since November, 2007 11 operations are executed. At 9 patients the LSG and at 2 - LDS by technique Hess-Marseau-Baltasar. As the basic treatment morbid obesity operation LSG is executed at 6 patients and as the first stage of operation LDS at 3 patients. The average age of patients 34 years (26–42), 8 women and 3 men. BMI was within the limits of 44–56 kg/m². Features of operation LSG was resection of a stomach along small curvature for width of a probe 34 French. To LSG we considered as indications morbid obesity with BMI up to 50 kg/m² without significant metabolic infringements. To patients with BMI 50–60 kg/m² and more, with the expressed accompanying pathology - as the first stage of operation LDS. All patients after LDS had the diagnosis the metabolic syndrome including morbid obesity, arterial hypertension, diabetes 2 types and dislipoproteinemia.

The essence of operation LDS consist to performance LSG, to formation alimentary, bilopancreatic and general loop (70 cm) and imposing of two intracorporative "manual" anastomosis.

Results Duration of operation LSG was 115 (70–130) minutes. Operation LDS in one case lasts 210, in other – 265 minutes. Complications didn't noted. All patients in some hours after operation rose. Patients have left clinic after operation LSG for 3–4 day, and after LDS – on 5–7 day. Within first two months after operation patients lost 20–28 kg, with good positive dynamics concerning an accompanying pathology.

Conclusions LSG in some cases can be alternative LAGB. LDS is complex, hi-tech operative intervention. Both operations have all advantages of miniinvasive technologies.

P71 Our Experience on Weight Loss Surgery Using SAGB

V. Pejic, S. Jovanovic, T. Bojic, D. Bogdanovic, A. Pavlovic, B. Jovanovic

Center for Minimally Invasive Surgery, Clinical Center Nis, Serbia

Background Between January 2007 and February 2007, after full preoperative evaluation by a multidisciplinary team specialized in the management of morbid obesity, 10 the patients scheduled for laparoscopic GB. The aim of this study is to assess feasibility of laparoscopic SAGB in obese patients in Center for Minimally Invasive Surgery, Clinical Center Nis, Serbia.

Methods 8 female and 2 male patients (ASA I, II, III and ASA IV in selected cases) were underwent laparoscopic SAGB. Median age was 43 year (26–56). BMI preoperatively was 32.2 to 54.7. Weight range before operation was from 95 kg to 160 kg. We analyzed operating time, intraoperative and post-operative complications, hospitalization time and the time before returning to work.

Results Average operating time was 100 minutes (60–120 minutes). There was no intraoperative complications. All patients went home after 6 days (from 4 to 8 days). All patients returned to work after 17 days. One patient postoperatively had the nausea, and we exclude SAGB after two days. In follow up period for 1 year, we had 5 controls with our patients. In access port we added average 4 ml solution. Weight loss range was 30 kg to 15 kg new BMI range was from 27 to 40.

Conclusions The primary end point was excess weight loss, because this is the first goal of any bariatric procedure. SAGB is the effective operative procedure and can still be considered as an option for the treatment of morbid obesity and it can be performed safely.

P72 Slippage Findings with Mid Band

S. Verboonen, J. Ponce de Leon

Obesity Good Bye Center, Mexico

Working with the Mid Band and compared with other bands we found that the Mid band has a lesser inflammatory reaction, being this the case we were able to reposition a band to its proper location as well as open the band with no complication. This procedure was done on a 27 year old female. She has had the Mid band for 2 years. Shortly after this the patient became pregnant and due to morning sickness and other medication the patient had to take caused the band to slip. We diagnosed the patient with a chronic band slippage. We unfilled the patients band to see if this would relieve her of some of her symptoms that where caused by the band slippage. This did not. We then did an endoscopy on the patient; the results were that the patient stomach formed 2 pouches because of this the patient would have trouble digesting food and caused her to vomit at night. We then proceeded to do a laparoscopy on the patient, we where able to reuse the patients band, due to the fact that there was no inflammatory findings. The patient notices the changes immediately. She was able to drink liquids at night and had no reaction. She did not vomit or have any acid build up. Patient feels fine and is able to return to her daily activities with no limitation.

P73 Has the Indication for LAGB Changed in the Last Decade? – Experience from Three Different Bariatric Centers

W. Karcz¹, F. Claessens², T. Szewczyk³, B. Modzelewski³, W.J. Makarewicz⁴

¹University of Freiburg Germany; ²Hospital Maaseik; ³University of Lodz Poland; ⁴University of Gdask, Poland

Background Laparoscopic Adjustable Gastric Banding (LAGB) is well-known and well-accepted surgical procedure of treatment morbid obese patients. We presented three-institution experience studies comparing the first with the last 100 LAGB implantations.

Methods Patients underwent LAGB. The age, gender, indications, complications, mortality, change of body mass index, as well as course weight loss and BAROS were examined.

Results From 1995 to 1999 all 300 patients underwent LAGB in 100 each clinic (groups A1-3) and from 2002 to 2006 another 300 patients underwent LAGB (group B1-3) in total material over 2400 bands. The mean age was 37.9 and 31.2, respectively. The mean preoperative body mass index was 47.4 and 42.1, respectively. Patients undergoing LAGB in '90 had average 34 min longer operative times and two days longer hospital stays. The percentage of excess weight loss was 34% in groups A1-3 and 38% in group B1-3. The early complications occurred only in the first hundred patients under gastric perforation after previous hiatal surgery and early gastric slippage (band was removed). The second group had no early complications. The early reoperation rate was 1% in groups A and 0% by Bs, and it was no noticed case with conversion surgery. The ten years of experience reduced the numbers to 2 slippages, 3 removals in analogical observations time.

Conclusions LAGB is safe, with lower complication rate bariatric operation in experienced hands and by chosen patient groups. Reoperations can be performed laparoscopically with low morbidity and very short hospitalization. By the over 10 years of experience, after the learning curve of the surgeon, results are markedly improved. Indications to this procedure, operative technique and medical products changed dramatically.

P74 Comparison of Three LAGB Techniques Implantations in Three Different Bariatric Centers

W. Karcz¹, F. Claessens², T. Szewczyk³, B. Modzelewski³, W.J. Makarewicz⁴

¹University of Freiburg, Germany; ²Hospital Maaseik; ³University of Lodz, Poland; ⁴University of Gdansk, Poland

Background Laparoscopic Adjustable Gastric Banding (LAGB) is well-known surgical procedure of treatment the morbid obese patients. Does the different technique implantation have the influence on the results? We are presenting the three institutions experience studies comparing 300 LAGB with three years follow up.

Methods Patients underwent LAGB. The age, gender, indications, operative technique, complications, mortality, change of body mass index, and of course weight loss as well as type of banding were examined. Each bariatric centre observed 100 consecutive Patients operated with different LAGB implantations techniques: standard with the stomach fundus plication (A), with fixation of the Gastric Band direct with the stomach (B), without Band fixation (C).

Results From 2002 to 2005 300 patients underwent LAGB operations in total material 2300 bands. Shortest operation time was observed in group C. All of the patients reduced the weight over 30% EWL. The early complications occurred only in group A as early gastric slippage (band was replaced). No reoperation were noticed in group B and C. The mortality rate and conversion rate were zero in all groups.

Conclusions LAGB is safe, with lower complication rate bariatric operation in experienced hands and by chosen patient groups. Reoperations can be performed laparoscopically with low morbidity and very short hospitalization. The LAGB is basic bariatric procedure, which can be switched laparoscopically to others bariatric procedures if band treatment is insufficient. After the learning curve surgeon results are markedly improved. The redo operations were much easier to perform by patients without band fixation or with direct stomach-band fixation.

P75 Surgical Management of Slippage Following Laparoscopic Adjustable Gastric Banding (LAGB)

G. Faria, J. Preto, A. Ferreira, A. Gouveia, J.A. Barbosa, S. Carneiro, J. Oliveira Alves, J. Sousa Rodrigues, A. Pimenta

Hospital São João - Porto, Portugal / Department of Surgery, Portugal

Background Slippage, following LAGB is one of the most common complications with variable presentation. We present our experience in the management of patients referred to our surgical unit with band slippage.

Methods We studied the clinical files of patients referred to our center with the diagnosis of slippage, and surgically treated between January 2007 and March 2008.

Results The study included 21 patients. All were female. The average age was 38 (23–58). The mean weight at the time of the first bariatric procedure was 114.8 Kg and the BMI – 43.3 kg/m². All patients had previous LAGB (14% pars flacida/86% perigastric). At the time of slippage, the main symptoms were vomiting or food intolerance. The average BMI was 27.9 kg/m² with a mean weight loss of 40.8 Kg, corresponding to %EBL of 86.2%. Slippage occurred at an average of 29 months after previous surgery (8–53). All patients were submitted to laparoscopic treatment, either removal of gastric band or de-rebanding. In 7 cases (33%), rebanding was not possible (due to patient refusal or gastric wall ischemia at time of surgery). One patient with de-rebanding had another surgery for band removal due to abdominal infection. No other complications were found. The current %EBL is 68.6%, with a mean BMI of 31.6 kg/m².

Conclusions Considering the growing number of surgically treated obese patients, LAGB complications will appear more frequently. Bad compliance to follow-up and dietary restrictions might explain, in part, the occurrence of slippage. After slippage, laparoscopic de-rebanding allows maintenance of most of the lost weight. For a selected group of patients with considerable weight loss and lifestyle changes, even band removal might constitute an arguable option. Careful patient selection is demanded in order to achieve better outcomes.

P76 Small Gastrointestinal Stromal Tumors (GISTs) Found Incidentally During Laparoscopic Gastric Banding

N. Sikas, I. Goulimaris, G. Kavvadias

Interbalkan Medical Center, Thessaloniki, Greece

Background Gastrointestinal stromal tumors(GISTs) are rare mesenchymal tumors of the alimentary tract, most commonly affecting the stomach.

Methods We retrospectively reviewed the records of 1145 patients who underwent laparoscopic gastric banding between April 2004 and April 2008. **Results** 4 patients (0.35%) (2 male, 2 female, mean age 46 years) were found to have GISTs. The tumors were detected intraoperatively, all of them located along the anterior aspect of the upper third of the stomach. All the tumors were excised laparoscopically and their mean size was 0.6 cm (range 0.7–0.5 cm). The histology showed longitudinal fusiform cells with no evidence of mitoses, atypia or necrosis. Immunohistochemically all the tumors were positive for CD117(c-kit) And Were Considered To Have Benign Behavior.

Conclusions Small GISTs found incidentally during laparoscopic gastric banding are benign in most of the cases. Proper inspection of the anterior stomach is necessary but in view of their benign nature wide wedge excision is not required.

P77 Adjustable Gastric Banding: Still a Good Procedure?

M. Luiz Neto, A.A. Sorbello, G.S.A. Yamaguchi, G.T. Kappaz, L.S. Godinho, C. Bastos, C.A. De Fazzio, N. Yamaguchi

Hospital dos Servidores do Estado de São Paulo/Instituto Sorbello, Brazil

Background Adjustable gastric banding is a low risk bariatric procedure. It's indication was previously the same as for other bariatric procedures, based only in body mass index (BMI) and associated comorbidities, leaving aspects as alimentary behavior or commitment with the procedure as adjuvants. We prospectively review the results of a two-institution experience with gastric banding, and the evolution of the methods and its indications.

Methods Over a period of ten years the group performed 75 procedures. The medical record of these patients were analyzed and the following data were studied: initial BMI, BMI after procedure, time of follow-up, excess of body weight loss, age, sex, mean time of operation, mean time of hospital stay, comorbidities solved and complications of the procedure.

Results 70 patients were female and 5 male. Mean age was 43,3 years old, mean BMI previous to surgery was 40,22 Kg/m², mean loss of excess of body weight was 60,5%, comorbidities were solved in 68% of patients and complications occurred in 33% (esophagitis being the most common). Slippage, erosion and failure of treatment occurred in 1,56%, 1,56% and 6,25% respectively. For this complications the standart reintervention was: for slippage (replacement), for erosion (take off the band) and for failure ("conversion" to duodenal switch).

Conclusions As our results point, gastric banding is still a good procedure with good results, except for the superobese population or those who are not prone to collaborate with the method.

P78 Erosion Leading to a Gastric Band Becoming Completely Intra-gastric

D. Leff, E. Segaran, K. McDougall, P. Sufi, D. Heath

North London Obesity Surgery Service, the Whittington Hospital, London, UK

Patient details A 42 yr old female patient with a BMI of 44.9 Kg/m² (weight 112 Kg) and hypothyroidism underwent laparoscopic insertion of a Swedish gastric band (SAGB) in December 2004. Her ideal body weight (assuming a BMI of 25 kg/m²) was 52.3 Kg. Her weight 3, 9 and 12 months post surgery was 97 Kg (BMI 38.9 Kg/m²), 89.3 Kg (BMI 35.8 Kg/m²) and 88.5 Kg (BMI 35.5 Kg/m²) respectively. 13 months post surgery she developed epigastric pain, dysphagia and gastro-oesophageal reflux. A barium swallow was reported as normal although the gastric pouch was extremely small. At 16 months there was no further weight loss and 3 ml of fluid was added to the band. At 22 months post surgery the patient's weight was 89.3 Kg (35.8 Kg/m²). The patient reported no restriction and a further 3 ml of fluid were added to the band. 28 months after surgery the patient's weight had increased to 98.4 kg (39.4 Kg/m²). A repeat barium meal demonstrated that the band was completely intra-gastric.

Procedure An upper GI endoscopy confirming the findings of the barium study. The closed band was grasped with a polypectomy snare and retrieved trans-orally after the injection port had been removed. A chest x-ray post procedure showed no evidence of free gas within the abdomen or mediastinum. The patient experienced a sore throat and some port site pain but was discharged home well the day following the procedure.

Conclusions The development of epigastric pain and dysphagia (most often associated with band slippage) should raise suspicion of band erosion, as should failure to gain weight or loss of restriction. The SAGB can be safely removed trans-orally even when closed.

P79 Laparoscopic and Endoscopic Solution in LAGB Complications

P. Pizzi^{1,2,3}, A. Alberti^{1,2}, M. Pizzi⁴, D. Lochis^{1,2}, M. Pinto^{1,2}

¹C.S.R.T.O. Centre of the Study, the Research and the Therapy of Obesity; ²Policlinico di Monza. Via Amati 111. 20052 MONZA; ³University of Milano-Bicocca; ⁴University of Milan, Italy

Background We have utilized two different types of gastric banding:

- SAGB – Obtech (Swedish) as from June 2000 until July 2001
- HAGA – Helio-gast (French) as from July 2001 until February 2008

Methods Our Obesity Centre has its own personal new database that collects statistics which allow us to view on live time all the data related to: Surgery, the course of Post-Operation, Periodical check-ups and also data of early and late complications.

Results From June 2000 until February 2008 we have operated 1980 patients of LAGB:

75 using SAGB – OBTECH and 1905 using HAGA – Helio-gast

1. With SAGB banding we experienced:

2 precocious complications - 1 gastric hernia and 1 bleeding ulcer positioned at the height of the banding.

24 belated complications - 16 intra-gastric migrations and 8 valve infections.

On our patients which were re-operated for removal of banding migrated into the stomach, We performed thorough examinations on the banding - the port - (which all resulted positive against "pseudomonas aeruginosa") and we also undertook histologic examination of the gastric wall near-SAGB (on all there was presence of material compatible with silicone).

2. With HAGA – Helio-gast banding we experienced:

0 precocious complications

20 late port (port rotation, infection or disconnection)

2 migration intra-gastric

38 band slippage

Conclusions The use of the two different types of Adjustable Gastric Banding has emphasized within our Obesity Centre a remarkable difference in respect to incidences and serious complications both for early and late in Favour of HAGA-Helio-gast Gastric Banding - Against the use of SAGB Banding.

P80 Gastric Emptying Study in Patients with Morbid Obesity Treated with Sleeve Gastrectomy

J. Coutinho, F. Carepa, G. Cantinho, H. Cortez-Pinto, C. Ferreira, A. Tejerina, M.J. Fagundes, H. Bicha Castelo

Hospital de Santa Maria/ Faculdade de Medicina de Lisboa, Portugal

Background The authors study gastric emptying, before and after surgery, in 52 patients proposed for sleeve gastrectomy

Methods Gastric emptying study was done 1 to 8 days before surgery and 1 to 2 months after it.

The studies were started after oral ingestion of 250 ml of a soft liquid meal (Nutrison® Standard), marked with 99mTC-DTPA (1 mCi).

The exam was acquired with the patient standing, in anterior view, during 120 minutes. Sequential images were taken every 15 minutes, starting on the first minute.

The residue at 45 minutes was determined, as well as the average and standard deviation before and after the surgery.

Results The study showed a slight decrease in gastric residue at 45 minutes after surgery. (Before- 54±7%; After- 50±18%).

Conclusions The sleeve gastrectomy doesn't show a statistically significant change in gastric emptying.

P81 Morbidly Obese Adolescents and Bariatric Surgery: Laparoscopic Sleeve Gastrectomy as a Better Surgical Option

D. Del Castillo, A. Feliu, S. Blanco, F. Sabench, M. Hernandez, A. Morandeira, J. Domènech, A. Cabrera, A. Sánchez Marín, M. Vives

Hospital Universitario de Sant Joan, Facultad de Medicina, Universitat "Rovira i Virgili", Spain

Aim One of the controversial aspects of bariatric surgery is its use in adolescent patients. Internationally there's agreement on the main conditions for bariatric surgery. Nationally, however, information about and resources for this type of surgery are still rather limited. We present the case of a long-term morbidly obese adolescent female patient who was given a laparoscopic sleeve gastrectomy at our hospital.

Methods We present a fifteen-year-old patient morbidly obese since early childhood and refractory to medical treatment. She has hypertension and triple morbid obesity (BMI=73; Weight=180 kg; Height=1.53 m). Endocrinological study revealed no contributory illness requiring medical treatment. In view of the patient's age and the torpid development of her obesity, she was included in the protocol for preferential surgical intervention. Laparoscopic sleeve gastrectomy with intraoperative liver biopsy was performed.

Results The patient's immediate postoperative development went without incident. A TEG conducted 24 hours after surgery confirmed that contrast passage was good. Intraoperative liver biopsy revealed macro- and micro-vesicular centrilobular hepatic steatosis. The patient was discharged 72 hours after surgery. She is currently making good progress and is under the joint supervision of the Department of Surgery and Paediatric Endocrinology.

Conclusions Protocols for the treatment of paediatric endocrinology patients are needed. As sleeve gastrectomy involves a further regulation of consumption mechanisms that, if not corrected at this age, could lead to morbid obesity with serious and irreversible consequences for metabolism, this type of surgery is one of the best options for such patients.

P82 An Alternative Management of Sleeve Gastrectomy Complications

K.R. Mannur, A. Ghanbari

Homerton University Hospital, UK

Background Laparoscopic Sleeve Gastrectomy (LSG) has become a popular option in the management of super obese patients (BMI>50 kg/m²). The commonest complication associated with LSG is staple line leak & abscess formation. Various methods of managing these leaks have been described including insertion of self expanding stents and total gastrectomy.

Methods We retrospectively reviewed 3 patients who developed post LSG abscesses adjacent to the staple line. None of the patients were found to have a

leak on contrast CT scan. The patients were managed by a repeat laparoscopy/laparotomy, insertion of drain into the abscess cavity +/- feeding jejunostomy.

Results The abscesses were diagnosed at least a week after surgery in all 3 cases. Two patients developed a leak from their staple line a week after the insertion of the drain for the abscess. This was thought to be due to the friction between the drain and the gastric remnant. The abscesses were drained successfully in all 3 patients, The leaks resolved spontaneously with conservative management and the patients recovered fully from their operations.

Conclusions Patients should be observed closely in the first 2 weeks of post operative period. The symptoms suggestive of an abscess formation include hiccups and pain on drinking. If patients are suspected to have an anastomotic leak/abscess, they should have a contrast CT followed by laparoscopy/laparotomy, drain insertion into the abscess cavity and feeding jejunostomy without resorting to stent insertion or gastrectomy.

P83 Morbid Obesity Patients Treated with Sleeve Gastrectomy- Endoscopic Linear Stapler 4.1 mm+Manual Suture vs Endoscopic Linear Stapler 3.8 mm+Fibrin Glue

J. Coutinho, F. Carepa, J. Girão, M. Fernandes, G. Matias, C. Ferreira, A. Tejerina, M.J. Fagundes, H. Bicha Castelo

Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Portugal

Background This study is intended to compare the length of surgery, post-operative morbidity and post-operative hospital stay, in patients treated with sleeve gastrectomy, between the use of endoscopic linear stapler of 4.1 mm and manual suture of peritoneum Vs endoscopic linear stapler of 3.8 mm (Endopath™ Echelon®)+fibrin glue (tissucol®).

Methods The study included 52 morbid obesity patients treated during one year with sleeve gastrectomy. Six of the patients were treated with endoscopic linear stapler of 4.1 mm and manual suture of peritoneum and 46 were treated with endoscopic linear stapler of 3.8 mm (Endopath™ Echelon®)+fibrin glue (tissucol®).

Results The use of endoscopic linear stapler of 3.8 mm (Endopath™ Echelon®)+fibrin glue (tissucol®) showed benefits regarding length of surgery and post-operative hospital stay, with a clear decrease in both times.

The post-operative morbidity is identical between the two groups.

Conclusions The use of endoscopic linear stapler of 3.8 mm (Endopath™ Echelon®)+fibrin glue (tissucol®) can improve surgery length and post-operative stay in hospital when compared with endoscopic linear stapler of 4.1 mm and manual suture of peritoneum.

P84 Modified Sleeve Gastrectomy as Combined Treatment of Morbid Obesity, Cirrhosis Stage of NAFLD and Portal Hypertension Bleeding

G.P.S. Miguel¹, J.A.M. Correia², C.L.C.B. Moreira², P.S. Carvalho¹, J.L.M. Azevedo³, L.A.P. Andrade², J.M. Binda², R.R. Andrade², T. Correia²

¹Federal University of Espírito Santo; Meridional Hospital, Brazil; ²Federal University of Espírito Santo; ³Federal University of São Paulo, Brazil

Background The Non-Alcoholic Fatty Liver Disease (NAFLD) is intimately related to morbid obesity, tends therefore its prevalence presented important increase accompanying the world pandemic of the exaggerating earnings of weight and their associated diseases. We describe combined treatment of morbid obesity and NAFLD complications, cirrhosis with esophagogastric variceal bleeding (CHILD-PUGH B), Modified Sleeve Gastrectomy.

Methods Related of patient's case, female, 56 years, BMI=51.6, type II diabetes mellitus, sleep apnea, arterial hypertension, NAFLD (cirrhosis stage) submitted to surgical treatment by Modified Sleeve Gastrectomy proposed for us, with periesophagogastric devascularization. In addition, the left gastric vein were ligated. We evaluated control of the morbid obesity, presence of varices bleeding and of hepatic function improvement postoperative.

Results In 12 months follow-up, patient presented weight loss expected for technique proposed (restrictive procedure), as well as total control of the digestive hemorrhage caused by esophagogastric varices bleeding and improves the hepatic function. The patient stays in attendance being proposed new serial biopsies for better histologic evaluation of the hepatic disease. This procedure downstage NAFLD and the CHILD-PUGH score (B 8 to A 5), and eliminate temporary the need of Liver Transplantation.

Conclusions The surgical treatment with the technique proposed, Modified Sleeve Gastrectomy, became efficient, until the present moment, for the correction of morbid obesity, control of the digestive hemorrhage related to esophagogastric variceal bleeding and the improvement of liver function. The results of this new operative method are initially promising being maintained still in continuation for new future evaluation.

P85 The Significance of Gastric Motility in Gastric Sleeve

J. Montoya Ramírez, O. Aguilar, R. Alvarez Cordero

Hospital Angeles del Pedregal, Mexico

Sleeve gastrectomy seems a good bariatric technique which has weight loss comparable with other techniques. Patients with gastric sleeve experience loss of appetite, less hunger and even nausea; one of the explanation is the lack of ghrelin due to the extirpation of the stomach.

In fluoroscopic studies, we have found irregular peristaltic waves, gastric stasis and distention; in order to evaluate the significance of this phenomenon, a careful recording of patient symptoms was done as they have a barium & meal fluoroscopic study. 21 patients were studied, sleeve gastrectomy was performed 60 to 90 days before.

Results radiological studies showed abnormal gastric peristalsis with slow movements and even paresis for 5 to 15 seconds in 11 patients; slow passage of the barium without movements was observed in 6 patients; normal passage was seen in 4 patients.

6 of abnormal gastric peristalsis related food repulsion, 3 were nauseated and 2 did not have any symptom; nausea was expressed by all slow passage of barium patients; one of the normal passage patients experienced slight nausea.

Conclusions there seems to be a correlation between abnormal gastric waves and gastric symptoms in sleeve gastrectomy patients; a more careful study of the gastric motility in this patients is needed.

P86 Histological Findings of the Removed Stomach After Laparoscopic Sleeve Gastrectomy (LSG)

J. Salinas, C. Boza, N. Quezada, L. Ibáñez

Departamento de Cirugía Digestiva, Hospital Clínico, Pontificia Universidad Católica de Chile, Chile

Background LSG is a promising procedure that involves a parcial gastrectomy to achieve weight loss. The aim of our study is to analyze the biopsies from the removed stomach after LSG.

Methods We review the histological records of the removed stomach after LSG from November 2005 to May 2007.

Results During this period 131 LSG were performed. Preoperative demographics were 72% female, age was 36±12 years and body mass index of 36 ±3.8 kg/m². Normal histology was found in 79 patients (60.3%). Chronic Gastritis was found in 46 patients (35.1%) where only 2 patients had atrophic type with metaplasia and the rest were superficial type. Lipomatosis was found in 3 cases (2.1%). We also found a case of fundic gland polyp, another case of reactive lymphoid hyperplasia and finally a leiomyoma. From the 2 patients with metaplasia, only one of them had the diagnosis on preoperative upper endoscopy.

Conclusions Histological analysis of the removed stomach after LSG is very important, because almost 40% was altered and it allows focalized follow-up to higher risk patients (metaplasia).

P87 Morbid Obesity Patients Treated with Sleeve Gastrectomy - One Year Analysis

J. Coutinho, F. Carepa, H. Cortez-Pinto, M. Fernandes, J. Girão, G. Matias, I. Távora, V.M. Machado, C. Ferreira, A. Tejerina, A. Costa, T. Evangelista, G. Cantinho, M.J. Fagundes, H. Bicha Castelo

Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Portugal

Background This study is intended to demonstrate the efficacy of the sleeve gastrectomy in reducing co-morbidities related to morbid obesity.

Methods The study included 52 morbid obesity patients treated during one year with sleeve gastrectomy, according to protocol:

- Inclusion criteria
- Co-Morbidities
- Pre-operative analytic evaluation:
 - Evaluation of Chronic Liver Disease

Viral*

Auto-immune*

Metabolic*

- Lipid Profile with insulin resistance (HOMA and OGIS)
- Metabolic Syndrome Evaluation
- Ghrelin Sampling
- Pre-operative gastric emptying study
- Pre-operative visceral fat MRI
- Intraoperative liver, muscle and visceral fat biopsy for histopathologic and Immunohistochemical study (IRS- 1 and GLUT-4)
- Post-operative clinical evaluation- Estimated Weight Loss- %
- Post-operative analytic evaluation
- Post-operative imagiologic evaluation

Results All 52 patients showed reduction in body weight and body mass index, diabetes, hypercholesterolemia, arterial hypertension, sleep apnea, depression and enhances libido.

Conclusions The sleeve gastrectomy is an efficient treatment in reducing co-morbidities related to morbid obesity.

P88 Portal Vein Thrombosis After Laparoscopic Sleeve Gastrectomy: Report of Three Cases

J.I. Fernández, A. Escalona, A. Donoso, C. Boza, G. Perez, F. Pimentel, L. Ibañez

Departamento de Cirugía Digestiva. Facultad de Medicina de la Pontificia Universidad Católica de Chile, Chile

Background Splanchnic vessels thrombosis is an uncommon postoperative complication. Portal vein thrombosis (PVT) has been described as postoperative complication after several laparoscopic procedures, including bariatric procedures such as gastric bypass and adjustable gastric banding. To date there's no report of PVT after laparoscopic sleeve gastrectomy (LSG).

Methods Between April 2005 and April 2008, 368 patients underwent LSG at our institution. A total of three patients evolved with PVT as an early postoperative complication. We present in this study the clinical setting, treatment and evolution of these patients.

Results The patients reported were all women, with ages of 38, 42 and 45 years respectively. BMI was 34.5, 35 and 35.2 Kg/m² respectively. Two of the patients had hypertension and insulin resistance. One of them had chronic renal failure secondary to NSAID. There was no previous personal or family history of venous thrombosis in any of the patients. Two patients were using oral contraceptives and only one of them had history of cigarette smoking. All patients underwent LSG with no incidents, and were discharged at third postoperative day. Between the tenth and thirtieth postoperative day the patients presented mild to severe abdominal pain with other unspecific gastrointestinal symptoms. Contrast enhanced CT scan was performed in all cases, giving the diagnosis of PVT. All patients responded to treatment with continuous infusion of heparin, and were discharged in good conditions with oral anticoagulation. Two of them were diagnosed with a specific type of thrombophilia.

Conclusions PVT is a postoperative complication that can be observed after LSG. Early contrast enhanced CT scan is useful in patients consulting with abdominal pain in the early postoperative period after any bariatric procedure.

P89 Laparoscopic Magenstrasse & Mill Procedure for Morbid Obesity: our Initial Experience

R. Allieta, P. Millo, G. Scozzari, R. Brachet Contul, E. Lale Murix, A. Gatti, R. Lo Russo

Department of General Surgery - Regional Hospital "Umberto Parini" - Aosta - Italy

Background The outcomes and initial results of laparoscopic Magenstrasse & Mill procedure were evaluated.

Methods A prospective study of the initial 10 patients who underwent laparoscopic Magenstrasse & Mill procedure was performed.

Results Between February 2007 and January 2008, we performed 10 laparoscopic Magenstrasse & Mill procedure in morbidly obese patients. There were 7 women and 3 men, with mean age 51.6 years (range 33–68). Mean preoperative weight was 138.5 kg (range 101–201 kg), with mean preoperative BMI 51.6 kg/m² (range 37–71). Mean operative time was 121.5 minutes (range 45–195). No patient required conversion. There were no mortality. There were 1 (10%) postoperative complication (a case of melena, improved with conservative treatment). Mean hospital stay was 8.5 days (range 6–14). At 6 months follow-up, there were 7 patients (70%). Average weight, BMI and %EWL at 6 months were 109.4 Kg (range 75–171), 42.4 kg/m² (range 32–62) and 41.2% (range 18.7–66.7), respectively.

Conclusions Laparoscopic Magenstrasse & Mill procedure is a safe and simple technique that can be safely integrated into a bariatric surgical program with good results in terms of weight loss and quality of life.

P90 Importance of Postoperative Follow-up

C.C. Mottin, M. Schmitt, G. Repetto, I.U. Chiao, D. Casagrande, A.V. Padoin

Centro da Obesidade Mórbida – Hospital São Lucas da PUCRS (COM HSL/ PUCRS), Porto Alegre, Brazil

Background The non-adherence to recommendations of the follow-up program can interfere with the result and success of the bariatric surgery. The aim of this study was to evaluate the adherence of patients submitted to bariatric surgery to the postoperative follow-up program.

Methods Two groups of patients were compared with regard to postoperative anthropometric and biochemical data. The first group adhered to the postoperative follow-up program and the other group had low adherence. The patients were submitted to clinical evaluations and laboratory tests.

Results Weight (kg) – mean±SD: adherence, 80.0±14.1; low adherence, 86.5±24.90 (p 0.402). BMI (kg/m²) – mean±SD: adherence, 29.7±3.71; low adherence, 31.3±6.37(p 0.422). MAP in men (mmHg) – mean±SD: adherence, 109.0±0.0; low adherence, 115.6±17.7 (p 0.751). MAP in women (mmHg) – adherence, 93.7±10.5; low adherence, 93.9±19.3 (p 0.978). Laboratory tests: Triglycerides – median (P25–P75): adherence, 72.5 (67.0–94.5); low adherence, 91.5 (69.3–169) (p 0.154). Total cholesterol – mean±SD: adherence, 190.6±22.9; low adherence, 181.7±20.5 (p 0.327). HDL – mean±SD: adherence, 60.2±12.8; low adherence, 67.2±13.0 (p 0.204). Glucose – median (P25–P75): adherence, 88.0 (85.8–93.5); low adherence, 85.0 (78.0–95.0) (p 0.403). Iron: adherence, 110 (69.0–129); low adherence, 83 (40.0–121) (p 0.424). Folic acid: adherence, 10.0 (7.2–14.7); low adherence, 9.1 (5.5–14.9) (p 0.424) Vitamin B12: adherence, 409 (222–509); low adherence, 285 (218–344) (p 0.066).

Conclusions The small number of cases constitutes a major limitation in this study, reducing the power of statistical significance for identifying potentially important differences. The results presented demonstrate that there were no significant differences between the two groups.

P91 Adherence to Postoperative Follow-up of Bariatric Surgery

C.C. Mottin, G. Repetto, M. Schmitt, L.B. Alves, I.U. Chiao, A.V. Padoin

Centro da Obesidade e Síndrome Metabólica, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil

Background Bariatric surgery is efficacious in the treatment of morbid obese patients, alleviating co-morbidities and reducing mortality. Adherence to follow-up should be lifelong, because adjustments are needed with regard to dietary habits, new body image and vitamin supplementation. It is essential that the patient attend follow-up appointments with the multidisciplinary team and for periodic lab tests to lose weight and maintain weight loss with quality of life. The aim of the study was to analyze patients considered having low adherence to doctor visits for clinical and lab exams.

Methods We studied 407 patients who underwent gastric by-pass from 3/2000 to 12/2004. The postoperative visits from 2000 to 2007 were

totalled for those with at least 3 years of follow-up. The program consisted of 6 visits in 1st year, 3 in 2nd, 2 in 3rd, 4th and 5th year and annually thereafter. Adherent patients were those who appeared for doctor visits 100, 75 and 50% of the time, and those with 25% appearances had low adherence.

Results A total of 324 patients had 50% and 83<50% appearances, of whom 43 were included. Excluded were 6 deceased, 2 out of the country, 27 unlocatable, 6 refusing doctor visits and 2 incompatible with medical team. Included were 14 who agreed with doctor visits; 1 traveling, 1 in prison, 2 in other medical team, 2 other reasons, 1 out of state and 19 not showing up at appointments.

Conclusions Adherent patients were similar to those of large series in the literature. It is a complex problem with various factors, e.g., patient, treatment system, team and life changes. Determining the profile of patients who adhere little can help in designing strategies for better compliance with postoperative follow-up.

P92 In Portuguese Obese Patients Undergoing Bypass Gastric Surgery is 14 Days Triple Therapy More Effective Than 7 Days Triple Therapy in First-line Treatment for Helicobacter Pylori Eradication?

R. Cerqueira, M. Correia, C. Fernandes, H. Vilar, M. Nora, P. Martins, M.C. Manso

Brazil

Background The high prevalence of Helicobacter Pylori (HP) in our obese population undergoing bypass gastric surgery (69.4%) and the concern that it may exacerbate postoperative foregut symptoms lead us to adopt a policy of HP eradication in this group of patients. Our aim is, in obese patients undergoing bypass gastric surgery, to compare effectivity of 7 days and 14 days clarithromycin-based triple therapy in first line treatment for HP eradication.

Methods Three hundred twelve patients [mean age 40.7±9.9; 262 women (84%)] were HP positive determined by histology or urea breath test. In 2005 we treated 88 patients (Group A) with a 7 days triple therapy – proton pump inhibitor (PPI) bid, clarithromycin (CL) 500 mg bid and amoxicillin (AMX) 1000 mg bid. Since 2006 we treated 224 patients (Group B) with a 14 days similar drug regimen – PPI bid, CL 500 mg bid and AMX 1000 mg bid. Post treatment HP status was assessed by urea breath test 4–6 weeks after the end of therapy.

Results The eradication rates were 67.0% (Group A) and 82.1% (Group B). The eradication rate achieved with 14 days triple therapy was significantly higher than with 7 days triple therapy (OR=2.26; 95% CI [1.29–3.96]; p=0.004)

Conclusions A 14 days triple therapy is more effective than 7 days triple therapy suggesting this regimen should be the first line therapy for HP eradication in Portuguese obese patients undergoing bypass gastric surgery.

P93 The Variable Effect of Gastric Banding on Gastro Oesophageal Reflux Symptoms in the Morbidly Obese

P. Cherian, C. Chintea, S. Adjepong, A. Sigurdsson

Shropshire UGI unit

Aim There is conflicting evidence about the influence that gastric banding (GB) has on gastro-oesophageal reflux disease (GORD). The benefit of crural repair in patients with incidental hiatus hernia at the time of GB is also ill understood. We therefore reviewed our experience.

Methods We retrospectively reviewed our database to find patients who have had a LAGB and excluded all patients with complications to prevent extrinsic bias. A postal questionnaire on pre and post operative GORD symptoms and treatment was sent. Medical records of each patient who returned the questionnaire was reviewed, and the results analyzed.

Results Questionnaires were sent to 157 random, uncomplicated patients from our series of 873 GB performed from 2003 to 2007. The 82 (52.2%) patients who returned them formed our final study cohort (median BMI 43.5). Overall, 40 patients suffered GORD pre-operatively. Post-operatively, of the 34 with heartburn only 12 had residual symptoms, however 22 had new onset heartburn. Of the 23 with acid regurgitation, 18 had none after, but in 12 the symptom recurred. 11 (73%) of 15 patients with hiatal repair performed were better post surgery, versus only 29.8% (20 out of 67) whose symptoms improved without repair. 16 (64%) of 25 patients on medication for GORD pre

surgery came off medication, but 10 who were not on medication needed medication post surgery.

Conclusions The preoperative prevalence of GORD was 48.8%. Many patients with pre-operative reflux experienced cessation or improvement in GORD after banding. However post-operatively in 27% GORD persisted and an additional 27% had new-onset reflux reconfirming the complex nature of the disease. GORD improved in 73% of the 15 patients who had hiatus hernia repair suggesting that crural repair in general benefited most patients.

P94 Diagnosis of Obstructive Sleep Apnea/Hypopnea Syndrome (Osahs) Using the Berlin Questionnaire Report (QCB) in Morbidly Obese Patients

J.C. Franzotti, A.C. Ramos, M. Galvão, A.H.F. Murakami, L.S. Santos, M. Galvão, A. Longo, I. Paegle, S.S. Maria, A. Carlo

Gastro Obeso Center - São Paulo / Brasil - 55 11 3211200

Background The OSAHS is considered as the most serious manifestation of sleep-dependent respiratory disorders which is defined as recurrent episodes of partial or total obstruction of the upper airway during sleep. It is characterized by progressive and incapacitating disability with a high mortality and cardiovascular morbidity rate. It is estimated that morbidly obese patients are 12 to 30 times more likely to trigger this syndrome. Our aim is to apply the QCB during preoperative evaluation in order to diagnose patients with OSAHS (2006).

Methods 452 patients' respiratory disorders were evaluated using the QCB during preoperative physiotherapeutic evaluation. The QCB addresses the main risk factors for OSAHS as follows: snoring, sleepiness and the presence of obesity or SAH to apply a score of low, medium or high probability for OSAHS. (Wedzicha, 2006)

Results From the 452 patients, 358(79%) were female and 94(21%) were male. Mean age and body mass index were 35.6 years-old and 36.9 kg/m² (30–79) respectively. 317(70%) patients had a QCB score positive for OSAHS. From those, 75(16.5%) were male and 242(53.5%) were female. 48(10.6%) male and 117(25.8%) female patients had a high probability for OSAHS QCB score; 77(17%) patients scored average probability and 75 patients(17%) had low probability for OSAHS.

Conclusions With the implementation of the QCB we were able to identify that only 29.8% of our patients had no chance for OSAHS. We conclude that QCB is an easy-to-use instrument which can assist to correctly diagnose and manage the morbidly obese bearer of the OSAHS.

P95 Occurrence of Alopecia and its Relationship with Lean Body Mass After Gastric Bypass

S. Pereira¹, I. Goncalves², L.R. Lavallo², L. Aquino³, C. Saboya²

¹Universidade Federal do Rio de Janeiro e Clínica Cirúrgica Carlos Saboya, Brazil; ²Clínica Cirúrgica Carlos Saboya, Brazil; ³Universidade Federal do Rio de Janeiro, Brazil

Diffuse alopecia is a frequent complaint after Gastric Bypass and one of its causes is protein deficiency due to the telogen effluvium which affects hair growth on the stem base. The objective of this work was to assess the occurrence of alopecia and its relationship with lean body mass in the Gastric Bypass postoperative period.

Methods Patients of both genders with mean age of 36.7+12 years submitted to Gastric Bypass in the city of Rio de Janeiro – Brazil, in the period from 05/01 over 07/02. Patients were submitted to biochemical evaluation in the preoperative and six months of postoperative and to a monthly clinical and anthropometrical evaluation. Statistical analysis included test t, Spearman correlation and ANOVA.

Results Out of the 847 patients studied, 27.1% were males and 72.9% females. Sixty-eight percent presented alopecia and out of these 96% were females. The mean of the beginning of alopecia occurred in the 4th month (varying from 3 to 6 months) of the postoperative period. There was no correlation between age and alopecia. It was observed a significant negative correlation between lean body mass and alopecia. Despite the observation of a negative correlation between iron and zinc with alopecia, this was not significant.

Conclusions The high prevalence of alopecia in the female gender and the correlation with lean body mass may be related to muscle consumption due to

the diet and to the possible androgenic potential of progesterone. Although not significant, the negative correlation of zinc and iron with alopecia corroborates literature and calls attention to malabsorption secondary to surgical procedure. Our personal clinical experience, besides the routine dose of a polivitaminic, has shown promising results in the control of alopecia with the administration of 80 g of daily protein.

P96 Association Between Zinc and Body Adiposity in the Pre-Operatory Phase of Bariatric Surgery

L. Aquino¹, S. Pereira^{1,2}, A. Matos¹, K. Andrade¹, C. Saboya^{1,2}, A. Ramalho¹

¹Center for Micronutrient Research (NPqM) – INJC/ UFRJ, Brazil; ²Carlos Saboya Surgery Center, Brazil

Background Zinc is related to several different metabolic processes and current literature has proven its role in controlling appetite and the metabolism of hormones that regulate food ingestion and body composition, such as leptin and insulin.

Methods The data collection involved individuals with Type III obesity (body mass index >40 kg/m²) of both sexes with ages ranging from 20 to 60 years who were patients of the Carlos Saboya Surgery Center in Rio de Janeiro from August 2006 to January 2007. The patients were submitted to biochemical evaluations to determine the dosage of serum zinc, with levels <70 ug/dL considered inadequate. An anthropometric evaluation was also conducted to determine the Body Mass Index (BMI), waist circumference (WC) and hip circumference (HC) as well as the percentage of body fat (%F) through regression equations validated for obese individuals of both sexes (Weltman et al., 1987 and 1988).

Results A total of 82 patients were evaluated (73.2% women and 26.8% men) with an average age of 36.6±12.3 years and BMI of 44.3±5.2 Kg/m². The prevalence of zinc inadequacy was 9%. There was a negative and significant correlation between the serum zinc levels, HC ($r=0.252/p=0.252$) and %F ($r=0.254/p=0.027$). The correlation between zinc, WC and BMI was negative and not significant, although it may be of clinical significance.

Conclusions Accordingly, the findings of this study suggest that HC and %F, methods that are easily applied in clinical practice, have a low cost and are non-invasive, can help diagnose hypozincemia in individuals with Type III obesity.

P97 Serum Zinc Levels and Their Association with Insulin Resistance During the Pre-Operation Stage of Roux-en-Y Gastric Bypass Surgery

L. Aquino¹, S. Pereira^{1,2}, M. Aredes¹, C. Cardinelli¹, C. Saboya^{1,2}, A. Ramalho¹

¹Center for Micronutrient Research (NPqM) – INJC/ UFRJ, Brazil; ²Carlos Saboya Surgery Center, Brazil

Background In vitro studies indicate that insulin can bond with zinc, improving the solubility of this hormone in the beta cells of the pancreas and also increasing insulin's capacity to bond with its receptor. However, certain authors defend the hypothesis of elevated levels of nutrients with an antioxidant action for insulin resistance (IR) as a protective mechanism for oxidative stress in obese individuals.

Methods The data collection involved individuals with Type III obesity (body mass index >40 kg/m²) of both sexes with ages ranging from 20 to 60 years who were patients of the Carlos Saboya Surgery Center in Rio de Janeiro from August 2006 to January 2007. The patients were submitted to biochemical evaluations to determine the serum dosage of basal insulin and glycemia after fasting to determine the Homa-IR. Those individuals with Homa-IR >2.90 and inadequate levels of zinc <70 ug/dL were considered to suffer from IR. An anthropometric evaluation was also conducted to determine the Body Mass Index (BMI) of the patients.

Results A total of 82 patients were evaluated (73.2% women and 26.8% men) with an average age of 36.6±12.3 years and BMI of 44.3±5.2 Kg/m². IR was observed in 46.3% of the individuals and zinc inadequacy in 9%. There was a positive and significant correlation between the serum zinc levels and Homa-IR ($r=0.481/p=0.001$). The difference in the zinc averages between the

individuals with and without IR (115.06±24.86 ug/dL and 92.01±29.11 ug/dL, respectively) was significant ($p=0.002$).

Conclusions The findings of this study show higher serum zinc levels in individuals with IR, reinforcing the hypothesis that increased levels of nutrients with antioxidant action serve as a protective mechanism for oxidative stress to which individuals with Type III obesity are exposed.

P98 Influence of Roux-en-Y Gastric Bypass on Lipid Profile in Morbidly Obese Patients

R. Paluszkiwicz¹, P. Kalinowski¹, P. Remiszewski¹, J. Białobrzeska-Paluszkiwicz², L. Kłosiewicz-Latoszek², H. Zborowska³, M. Krawczyk¹

¹Department of General, Transplant and Liver Surgery, Medical University of Warsaw, Poland; ²Metabolic Outpatient Clinic, Food and Nutrition Institute, Warsaw, Poland; ³Central Laboratory, Medical University of Warsaw Central Hospital, Poland

Background Roux-en-Y Gastric Bypass (RYGB) is a method of surgical treatment of morbid obesity that combines restriction and malabsorption. It is believed to influence metabolism of the patient. The purpose of the study was to evaluate changes in plasma lipid concentration and comorbidity status in patients with morbid obesity following RYGB.

Methods Between January 2002 and March 2007, 82 patients (49 females and 33 males) with morbid obesity underwent RYGB. Average age was 39.5±9 years, average body weight was 145.6±27 kg and average Body Mass Index (BMI) was 49.1±7. Dyslipidemia was diagnosed in 37 patients, with average plasma levels of lipid fractions: total cholesterol (TC) 4.9±0.8 mmol/l, triglycerides (TG) 1.9±0.7 mmol/l, HDL-cholesterol 1.2±0.3 mmol/l, LDL-cholesterol 2.9±0.8 mmol/l. Arterial hypertension was found in 46, type 2 diabetes mellitus in 16, coronary artery disease in 5, sleep apnea in 14 and cholelithiasis in 15. The patients were evaluated preoperatively, 6 and 12 months after surgery. Follow-up was at least 12 months.

Results Six months after the operation average body weight was 111.2±23 kg, BMI 37.1±23, TC 4.4±0.7 mmol/l, TG 1.3±0.6 mmol/l, HDL 1.3±0.2 mmol/l, LDL 2.4±0.6 mmol/l. Twelve months after the operation average body weight was 98.6±16 kg, BMI 33.1±4, TC 4.3±0.6 mmol/l, TG 1.1±0.5 mmol/l, HDL 1.5±0.3 mmol/l, LDL 2.2±0.6 mmol/l. In the postoperative period the symptoms of concomitant diseases alleviated and the patients required medications in reduced doses. There was one case of bleeding from gastrojejunostomy that required reoperation, 8 cases of complicated wound healing, and 4 cases of incisional hernia.

Conclusions Roux-en-Y gastric bypass in patients with morbid obesity is a safe way to achieve excellent weight loss and causes significant improvement in plasma lipids and comorbidities.

P99 Glucose and Cholesterol Metabolism One Year After Gastric By-Pass Operation

M. Pääkkönen¹, H. Gylling, S. Grönlund, M. Hallikainen, L. Moilanen, T. Miettinen², J. Pihlajamäki¹

¹University Hospital of Kuopio, Finland; ²University of Helsinki, Finland

The aim of our study was to evaluate the long-term effect of laparoscopic gastric by-pass operation (LGB-P) on glucose and cholesterol metabolism. Thirteen subjects with the mean age of 45 years and the body mass index (BMI) of 46.7 (±1.7SE) kg/m² operated by LGB-P were investigated preoperatively and one year after the operation. Body weight, BMI, plasma glucose and serum insulin level and resistance, and serum non-cholesterol sterols as surrogate markers of cholesterol absorption and synthesis were studied at baseline and after one year- follow-up. Plasma glucose and serum insulin were measured with routine methods of our hospital laboratory, and those of serum sterols with gas-liquid chromatography.

Mean weight loss from the baseline of 133±6 kg was 40.8±2.6 kg (25%) and BMI was reduced to 33±1 kg/m² ($P<0.001$ for both). Fasting plasma glucose and serum insulin were diminished by 15% and 59%, respectively. Serum cholesterol and triglyceride levels were diminished by 12% and 26%, and HDL cholesterol level was elevated by 24% after the follow-up ($P<0.01$ – 0.001 for all). Of the synthesis markers of cholesterol that of lathosterol ratio to cholesterol was reduced by 28% ($P<0.05$), and of the absorption markers

cholestanol was unchanged. However, serum plant sterols campesterol and sitosterol, in general markers of cholesterol absorption, were significantly reduced by 22% and 23%. Cholesterol homeostasis was uninterrupted.

Conclusions LGB-P in morbidly obese subjects improves glucose metabolism and serum lipids, and decreases cholesterol synthesis, whereas less so cholesterol absorption. The metabolism of plant sterols is interfered, and their value as markers of cholesterol absorption seems questionable.

P100 Insulin Resistance and Glycemic Control in Non-Diabetic Morbidly Obese Patients After Roux-en-Y Gastric Bypass

P. Kalinowski¹, R. Paluszkiwicz¹, P. Remiszewski¹, J. Białobrzęska-Paluszkiwicz², L. Kłosiewicz-Latoszek², H. Zborowska³, M. Krawczyk¹

¹Department of General, Transplant and Liver Surgery, Medical University of Warsaw; ²Metabolic Outpatient Clinic, Food and Nutrition Institute, Warsaw; ³Central Laboratory, Medical University of Warsaw Central Hospital, Poland

Background Roux-en-Y Gastric Bypass (RYGB) is known to improve glycemic control in morbidly obese type 2 diabetic patients but its influence on glycemia and insulin resistance in non-diabetic patients is not well described.

Aim The purpose of the study was to assess changes in insulin resistance and glycemia in non-diabetic morbidly obese patients after RYGB.

Methods Thirty four non-diabetic morbidly obese patients (21 females and 13 males) underwent RYGB. Average age was 34.7±7.5 years, average body weight 141.1±27 kg and average Body Mass Index (BMI) 48.1±6.6. Fasting glycemia, plasma insulin and HbA1c were measured before the operation and 6 and 12 months after the operation. Homeostatic model assessment (HOMA) was used to calculate insulin resistance.

Results At baseline all patients had normal fasting glucose levels that decreased 6 and 12 months after the operation (5.0±0.7 vs 4.5±0.4 vs 4.3±0.3 mmol/l; p<0.05). Fasting insulin levels also decreased during the follow up (94.2±55 vs 55.9±16 vs 39.0±10 pmol/l; p<0.05) as well as insulin resistance measured with HOMA (3.2±2.4 vs 1.6±0.6 vs 1.1±0.3; p<0.05). At 6 months HbA1c levels decreased (5.6±0.4% vs 5.2±0.2%; p<0.05) but then increased between 6 month and 12 month (5.2±0.2% vs 5.3±0.4%; p>0.05). Six months after the operation average body weight was 104±22 kg, BMI 35.3±4.9 and 12 months after the operation 93.4±20 kg and 31.9±4.7 respectively.

Conclusions In morbidly obese patients RYGB leads to decrease in fasting glycemia, fasting insulin and reduction in insulin resistance 6 and 12 months after the operation. HbA1c levels decrease after 6 months and increase thereafter that suggests an increase in mean glucose levels.

P101 Insulin Resistance Evaluation in Fat And Muscle Tissue in Morbid Obesity Patients Treated with Sleeve Gastrectomy

J. Coutinho, F. Carepa, T. Evangelista, A. Costa, C. Ferreira, M. Fernandes, J. Girão, A. Tejerina, M.J. Fagundes, H. Bicha Castelo

Hospital de Santa Maria/ Faculdade de Medicina de Lisboa, Portugal

Background The Authors study Insulin Resistance in fat and muscle tissue in 52 patients before and after sleeve gastrectomy

Methods The study evaluated 52 morbid obesity patients regarding insulin resistance in fat and muscle tissue, before and after sleeve gastrectomy

Pre-operative:

- Lipid profile with insulin resistance evaluation (HOMA and OGIS);
- Metabolic Syndrome evaluation

Intra-operative:

- Intra-operative deltoid muscle and visceral fat biopsy for histopathologic and Immunohistochemical study (IRS- 1 and GLUT-4)

Post-operative (6 months):

- Clinical evaluation- EWL %
- Analytical evaluation with HOMA and OGIS study

Results The study showed an improvement of insulin resistance due to reduction in caloric intake, glucose levels and weight loss

Conclusions Weight loss due to sleeve gastrectomy decreases caloric intake, with improvement in glucose levels and muscle and fat tissue insulin resis

P102 Bariatric Surgery: the Last Resort in the Management of 'Diabetes'

M. Morris¹, S. Jackson¹, A. Davis¹, L. Robles¹, A.B. Johnson², S. Bates²

¹University of the West of England, UK; ²Southmead Hospital, North Bristol NHS Trust, UK

Background Lifestyle interventions have proved unsuccessful for most obese people with Type 2 diabetes (T2DM), which may, in part, be due to complex psychological and social factors which undermine their quality of life and psychological wellbeing. This study explored the effects of laparoscopic gastric banding surgery (BS) on the expectations and experiences of obese people with T2DM pre and 6 months post surgery.

Methods 37 morbidly obese people, were interviewed pre surgery (25 with T2DM; 30 women, 7 men; mean age=41; mean; BMI 49.62 kg/m², ±sd=6.90), and 17 six months post surgery (9 with T2DM; 12 women, 5 men; BMI 42.61 kg/m² sd=8.74). Interviews were digitally recorded, transcribed verbatim and analysed using Inductive Thematic analysis.

Results A number of themes emerged. Pre-surgery: BS the process; eating behaviour; obesity as a shrinking life; and the role of others. Post-banding: BS the experience; life enhancement; dependence and relationships. Pre-surgery BS was seen as a panacea to aid their return to normality and improved quality of life. Post surgery there were observable health benefits; and while some described it as "a last chance", most saw it as a tool to regain and maintain control of their life and eating.

Conclusions Participants were clear that BS provides more than simply health benefits. Individuals felt that following weight loss their self image would improve, and for some this was apparent 6 months post-operatively. They held the belief they would and are returning to "normal", suggesting BS may have psychosocial benefits as well as conferring health benefits in the morbidly obese, with or without T2DM.

P103 Adipose Tissue from Lean and Ex-Obese Patients Exhibited Differences in Tissue Content and Mesenchymal Stem Cell Potential

C. da Silva¹, L. Baptista², K. da Silva^{2,3}, J. Carneiro⁴, M. Aniceto¹, C. Takiya³, R. Borojevic¹, M. Rossi^{2,3}

¹Hospital Universitario Clementino Fraga Filho - UFRJ / Plastic Department; ²Hospital Universitario Clementino Fraga Filho - UFRJ / APABCAM; ³Histology and Embryology Department, Biomedical Sciences Institute/ UFRJ; ⁴Hospital Universitario Clementino Fraga Filho - UFRJ / Diabetes and Nutrition Department, Brazil

Background Bariatric surgery is largely used for the treatment of morbid obesity and related disorders whose incidence is increasing in the modern world. The development of obesity depends on angiogenesis and is characterized by an abnormal cytokine production and macrophage (MØ) infiltration in Adipose tissue (AT), that contributes to insulin resistance. After loss of weight, blood levels of cytokines are known to return to normal, but nothing was evaluated about AT composition and properties of AT derived mesenchymal stem cells (ATMSC) in comparison with lean patients.

Methods Fragments of abdominal subcutaneous AT were obtained from lean (n=4) and ex-obese (n=4) women (age ranging 30–50 years) undergoing plastic surgery in the University Hospital. Number of vessels and presence of MØ were evaluated in 3 sections of AT fragments, stained by H&E method and immunohistochemistry for CD68. Differentiation towards adipogenic and osteogenic lineages was evaluated by culturing expanded MSC cells, obtained after collagenase digestion of AT, with inductive medium.

Results AT from ex-obese patients was significantly enriched both in small and large blood vessels when compared to lean patients, respectively (104,5 ±22,07 41,5+/24,43, p<0,05), and (20+/6,45 8+/2,22, p<0,05). Small aggregates of CD68 positive MØ reside between the adipocytes of ex-obese. Although ATMSC from ex-obese could differentiate towards osteogenic lineage, they differentiated more efficiently into unilocular fat cells than those from lean.

Conclusions Even after weight stabilization, ex-obese AT do not return to its normal state, as it is enriched in blood vessels and MØ. Moreover, ex-obese

ATMSC seems to be enriched in adipogenic progenitor cells, which could jeopardize its use for cell therapy.

P104 Prevalence of Comorbidities in Female Bariatric Surgery Candidates in Relation to Those Who had Been Operated More than Two Years Before the Study

P. Novais^{1,2}, N. Souza¹, I. Rasera Jr², M. Cesar³, M. Oliveira¹

¹Universidade Estadual Paulista "Júlio de Mesquita Filho"; ²Clínica Bariátrica; ³Universidade Metodista de Piracicaba, Brazil

Background Bariatric surgery is the main treatment to control or cure the comorbidities found in morbidly obese patients. Thus, the objective of this study was to determine and compare the comorbidities in female bariatric surgery candidates and in those who had already undergone surgery.

Methods A total of 141 women seen at Brazilian public health units participated in the study. Of these, 61 had been in the waiting line for bariatric surgery from 1 to 2 years, 80 had already undergone surgery from 3 to 5 years before the study. Information regarding the prevalence of comorbidities was determined by interviews. The means were compared by the Student's t test and the proportions by the chi-square test with a significance level of 5%.

Results Most of the surgery candidates were hypertensive and effort dyspnea and roughly 1/3 had type 2 diabetes, dyslipidemia and depression. Among the women who had already been operated, 7.5% had hypertension, 2.5% had effort dyspnea and depression and only 1.3% had type 2 diabetes. A significantly lower prevalence of all comorbidities was found in the group that had already been operated when compared with the other group ($p < 0.0001$), with a special emphasis to depression, hypertension and effort dyspnea.

Conclusions The physical and mental well-being was compromised to an important degree among surgery candidates. Meanwhile, the women who had already undergone surgery presented a significantly better quality of life, especially psychological well-being and a lower prevalence of depression. Thus, the long-term benefit of bariatric surgery to control the innumerable comorbidities found in morbidly obese patients is confirmed.

P105 Analysis of Phonological Protocol Effectiveness in Patients Submitted to the Bariatric Surgery at Equilibrium - Therapeutic Center of Obesity

E. Pereira, A. Pereira, M. Trelles, F. Bergoli, K. Keller, L. Rubin, L. Pereira, P. De Freitas, L. Ramos, J.M. Santos, E. Coelho, L. Luiz

Equilibrium - Therapeutic Center of Obesity, Brazil

Objective The objective of this study is to evaluate the results and the effectiveness of the phonological protocol due to alimentary complications in patients submitted to the bariatric surgery.

Methods The study was developed with 42 patients submitted to the bariatric surgery. In this group there were 06 man (14%) and 36 women (86%), with medium age of 34.6 years old (17 to 60 years), medium BMI 42.48 (33.11 to 62.07). The phonological protocol consists of two consultations. The first consultation happens in the preoperative and the second consultation happens in the postoperative, when the third post-surgical month begins. The preoperative consults: In this consultation a detailed anamnesis is accomplished, which can contribute with useful information on occupation and parafunctional habits, a detailed explanation about the appropriate mastication, a functional evaluation of the structures of the stomatognathic system and finally an exam of the mastication. The postoperative consults: The patient returns for the consultation in the third month after the bariatric surgery, when he/she is already eating solid foods. A proprioceptive work is developed.

Results It was observed that the patients submitted to the phonological protocol didn't present clinical complications. However, four patients needed to obtain one more consultation, in order to reinforce the orientations, since the episodes of vomits happened with these patients because of the ingestion of large amounts of food or by the speed of mastication.

P106 Clinical and Metabolic Profile of Morbidly Obese Patients: Impact of a Preoperative Program Focused on Practice of Exercises

J. Carneiro^{1,2}, I. Dines³, D. Xerez⁴, M. Castro⁵, J. Egidio¹

¹Hospital Universitário Clementino Fraga Filho - UFRJ . diabetes and Nutrition Department; ²Santa Casa de Misericórdia - V Enfermaria; ³Hospital Universitário Clementino Fraga Filho - UFRJ . Multidisciplinary laboratory; ⁴Hospital Universitário Clementino Fraga Filho - UFRJ . Physiatry Department; ⁵DNA Group Laboratory

Background Regular practice of exercises, have been cited as an important adjuvant in weight loss therapies. This study aim to evaluate clinical and metabolic profile, in a cohort of morbidly obese patients before and after a specific preoperative program.

Methods 23 morbidly obese patients (16 women and 7 men, age 24–53 6,93 Kg/m²) were evaluated for their clinical and \pm years),(BMI=49,66 metabolic profiles, and started on a specific preoperative program preparation initially focused on respiratory rehabilitation and subsequent aerobic work. After an average period of 3 months they were re-evaluated for these parameters.

Results BMI was lower at the end of the program when compared to the 6,93 Kg/m², $p = 6,10$ Kg/m² 49,66 \pm start; respectively (47,98 < 0,01). We didn't find any difference in systolic and diastolic arterial pressure, and in the levels of glucose, triglycerides, insulin, and in the HOMA index. Total cholesterol and LDL-cholesterol levels were lower at the end of the program when \pm compared to their levels at the start of the program, respectively (166,78 31,30 mg/dl, $p = 22,47$ mg/dl 179,52 < 20,21 mg/dl $x \pm 0,05$) and (87,02 31,27 mg/dl, $p = 108,73$ < 0,01). Fibrinogen levels were higher at the end of 23,57 \pm the program when compared to before the program, respectively (266,34 21,87 mg/dl, $p = 253,56$ < 0,05). We didn't find any correlations between these findings and the % EWL or the %EBMIL of the program.

Conclusions Our patients, despite normal levels of cholesterol and ldl-cholesterol, had a decrease in the levels of these metabolic markers when completed a specific preoperative program focused on exercises practice. As expected, exercises lead to increase of fibrinogen levels. These findings were not correlated to the % EWL or to the %EBMIL achieved by this program.

P107 Program of Physical Activities After Bariatric Surgery, Therapeutics and Esthetics

E. Pereira, A. Pereira, J.M. Santos, F. Bergoli, K. Keller, L. Rubin, L. Pereira, P. De Freitas, L. Ramos, M. Trelles, E. Coelho

Equilibrium - Therapeutic Center of Obesity, Brazil

Objective To identify the profile, in relation to weight and BMI, of patients assisted in private service, their objectives in the weight reduction, obtaining bases for definition of program of physical activities.

Methods A number of 89 patients was evaluated and submitted to the surgery in the service, the desired weight was extracted from the patients' manifestations in interviews that occurred in the beginning of the program of physical activities.

Results The sample was constituted of 70 female patients and 19 males. Ages varying from 15 to 63 years old (average 34.6 years old), weigh from 88.1 to 161.5 kg (average 114.4). The Body Mass Index ranged from 35 to 62.1 (average 42.8 kg/m²). The wanted weight varied from 50 to 88 kg, average of 65.9. The Body Mass Index was from 20.3 to 29.6 (average of 24.7 kg/m²) and 57.3% (51 people) would like to be with BMI below 25. It was verified that the objectives of the patients in the sample transcend to the benefits for health, proportionate for the weight reduction. It was clearly possible to observe the esthetic concern and the desire of reaching weight considered normal.

Conclusions Programs of physical activities, focused on this public should include aspects that regard the recovery of the patient, improving his/her general physical conditioning, with emphasis in the physical fitness related with the health: cardio respiratory aptitude, strength and muscular resistance, flexibility and improvement in the corporal composition. It should be structured

in a way to respect the biological individualities, but with progressive characteristic that allows the individuals to reach their objectives, either to reach the wanted weight and to improve the corporal esthetics, or as in the re-education of habits with intention of avoiding to regain weight.

P108 Analysis of the Quality of Weight Loss in Patients Submitted to Bariatric Surgery

F.G. Colossi¹, A.S. Barhouch¹, D.S. Casagrande¹, R. Chatkin¹, M. Moretto², G. Repetto², A.V. Padoin², C.C. Mottin²

¹Nutrião - Centro da Obesidade e Síndrome Metabólica, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil; ²Centro da Obesidade e Síndrome Metabólica, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil

Background The aim of bariatric surgery is to provide a better quality of life and health to obese individuals. There is a preoccupation with the reduction in excess weight, nutritional deficiencies, and clinical improvement of the patient. Still, it is necessary to assure that weight loss is qualitatively positive for body composition.

Methods Retrospective observational study, with review of medical charts of 20 patients in postoperative period of RYGPB. Data were collected from tetrapolar bioimpedance evaluation using 3 electrical currents with potentials of 5, 50 and 500 Khz (In Body 520 - Biospace[®]) prior to surgery and in the postoperative period at 1, 3 and 6 months. At these times, the following parameters were examined for alterations: weight, minerals, protein, bone mass, body water, body fat mass, lean mass. Statistical analysis was carried out using SPSS, version 10.0, and $p < 0.05$ was considered statistically significant.

Results The study demonstrated a reduction in all the indices evaluated but disproportionately greater in body fat. The patients who showed the greatest loss of lean mass did not comply with nutritional guidelines of the medical team ($p < 0.001$). On the contrary, in those who followed closely the nutritional recommendations with respect to food intake, mainly protein, lean mass was minimally reduced ($p < 0.001$).

Conclusions The study suggests that based on proper dietary guidance and periodic follow-up, it is possible for the bariatric patient to achieve a healthy and qualitative weight reduction. Also evident from this study is the importance of evaluations by bioimpedance for postoperative management and adjustment of behavior based on the results obtained.

P109 Can Morbidly Obese Patients Awaiting Bariatric Surgery Achieve a 10% Weight Loss Prior to Surgery?

E. Segaran, D. Heath, K. McDougall, P. Sufi

North London Obesity Surgery Service, The Whittington Hospital, London, UK

Background It has been suggested that the preoperative weight loss of 10% of excess body weight, demonstrates motivation and commitment to surgery, reduces liver size and abdominal adiposity as well as the risks of surgery. In this study we examine whether it is possible for patients awaiting surgery to lose 10% of their excess body weight (EBW) by employing diet alone.

Methods 25 patients (3 men and 22 women) were studied over a 6-month period. The median age, starting weight and body mass index were 44 yr (19–65 yr), 133 kg (90–279 kg) and 50 kg/m² (37–79 Kg/m²) respectively. 13 patients underwent gastric banding, 11 Roux en Y gastric bypass and 1 sleeve gastrectomy. Each was asked to lose 10% of their EBW prior to surgery. Each was offered expert dietary advice and a 4-week preoperative diet of 1000 kcal per day.

Results 12 patients (48%) achieved the required weight loss. The median preoperative weight loss was 8 kg (range 2–53 kg) and 8% of EBW (range 2.5–37.5%). There was no significant difference in % of excess weight loss between different surgical procedures. No operation was cancelled or abandoned. There was no difference in the operating time or morbidity between those who archived the required weight loss and those who did not.

Conclusions A proportion of patients were able to lose 8% of the target 10% of EBW through the use of sensible healthy dieting combined with a stricter 4-

week period of liver shrinking diet. There was a considerable range of weight loss and questions still exist as to how much weight loss is required to adequately reduce liver volume and affect morbidity/mortality risk and in which patient groups.

P110 Comparative Analysis Between Dietary Protein and Iron Intake After Bariatric Surgery

A.S. Barhouch¹, F.G. Colossi¹, M. Zardo², M. Moretto², A. Padoin², C.C. Mottin²

¹Nutrião - Centro da Obesidade Mórbida, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil; ²Centro da Obesidade Mórbida, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil

Background Nutritional follow-up is essential in the postoperative period of bariatric surgery due to potential nutritional deficiencies, mainly after malabsorptive procedures. Among the deficiencies observed, that of iron is the most frequent. The aim of this study was a comparative analysis between the quantities of protein and iron consumed, to determine if protein ingested in the postoperative period of bariatric surgery is sufficient to supply iron intake needs.

Methods Retrospective observational study with review of medical charts of 146 patients for postoperative period of RYGPB. Data were obtained for the 1st, 3rd, 6th, 9th, 12th, 18th and 24th postoperative months. The percentage of adequate levels of dietary protein and iron was calculated in the relation to the recommended daily intake (DRI) values for healthy adults.

Results The study demonstrated a gradual increase in protein and iron intake over the course of the study period. Proteins of high biological value were shown to reach satisfactory levels in reference to DRI ($p < 0.001$). On the contrary, iron consumption did not reach the minimal DRI value ($p < 0.001$).

Conclusions As red meat is the principal source of absorbable iron, the results of the study demonstrated that the protein consumed by patients in the postoperative period of RYGPB did not come from satisfactory quantities of this food source, since the levels of dietary iron intake remained low, despite the adequate level of protein consumption. This justifies the supervised use of supplemental iron.

P111 Analysis of the Nutritional Behavior of Patients on Their First Year of Gastroplastic Surgery with Ileum Interposition

Sd. Oliveira¹, A.Ld. Paula¹, M.Md. Silva², C.D.B. Sobreira³

¹Surgery Department of the HOSPITAL DE ESPECIALIDADES DE GOIANIA; ²Obesity Surgery Unit of the Digestive System Surgery Department and Division of Psychology – Hospital das Clínicas – São Paulo. ³Instituto Brasileiro Interdisciplinar da Obesidade- INBIO, Brazil

Background Many surgical techniques have been developed in the attempt to treat obesity. Among them the gastroplastic technique with ileum interposition. It has been recently shown the part played by leptin, grelin and other various peptic secretions of the digestive system in the control of the appetite and in the energetic homeostasis. The combination of the efficient participation of these hormones and neurons in the different gastric restrictions is called “Neuro-endocrine Brake”. The objective of this study is to check the changes in the nutritional behavior of patients after one year of the bariatric surgery using gastroplastic technique with ileum interposition.

Methods Fifty (50) patients were randomly selected among applicants to Bariatric Surgery, with different BMIs and being followed for one year after the surgery. They were thirty three (33) women and seventeen (17) men coming from different parts of the country. A questionnaire was applied (Questionnaire for Nutritional Behavior Evaluation) to them in the Pre Surgery and one year after they had been submitted to the surgery.

Results Sixty five percent (65%) of women and thirty two percent (32%) of men mentioned good adjustment to nutritional habits. Two percent (2%) of men and one percent (1%) of women mentioned food inappetence. Three (3) patients presented vomits and feelings of precocious satiety.

Conclusions During this one year period of evaluation it was noticed that the Bariatric surgery using Gastroplastic technique with Ileum Interposition has been complying with the expectancies of a change in nutritional habits and feelings of precocious satiety has been complying with the expectancies of a change in nutritional habits and feelings of precocious satiety.

P112 Second Obesity Surgery (from Adjustable Gastric Band to Gastric Bypass)

A. Longo, M. Galvão, A.C. Ramos, M. Galvão, A.H.F. Murakami, J.C. Franzotti, A. Carlo, E.G. Canseco, S.S. Maria, I. Paegle

Gastro Obeso Center - São Paulo / Brasil - 55 11 32111200

Background Revision surgeries are performed to salvage weight loss when conservative manage is not possible, and there is persistence of comorbidity and/or late complications (MARCHESINI, 2004). This study aimed to evaluate weight loss and qualitative dietary intake after revision bariatric surgery to convert an Adjustable Gastric Band (AGB) procedure to Gastric Bypass (GB).

Methods Data of 20 patients who had undergone gastric bypass from previous AGB were evaluated retrospectively. Data on body weight and BMI before and 6 months after the revision procedure were analyzed. Qualitative dietary habits before and after the second surgery were also evaluated.

Results There were 13(65%) females and 7(35%) males. 5(25%) patients had grade II obesity and 15(75%) patients were morbidly obese. Mean age was 39.2±9.6 years. Mean weight and BMI before AGB were 114,8 kg (±17) and 41,6 kg/m² (±5) respectively. Mean time from AGB to GB was 51,1(±9,1) months. Mean weight and BMI prior to revision surgery was 106,7 kg (±13,9) and 38,6 kg/m² (±3,9) respectively and after 6 months decreased to 79,5 kg (±14,1) and 28,8 kg/m² (±4,3). Due to dietary intake, 13(65%) patients were daily sweet eaters before AGB, which decreased to 5(25%) patients after GB. There was improvement in the meat intake after gastric bypass from 3(15%) to 16(80%) patients; consumption of vegetables and fruits showed slight improvement. Snack's intake which was present in 16(80%) patients during AGB fell to 9(45%) patients after gastric bypass.

Conclusions Satisfactory weight loss and improvement in eating behavior were observed 6 months after revision gastric bypass. The restriction imposed by the AGB could probably hamper the intake of solid foods, directing the patient to the habit of eating snacks and calorie liquids which results in failure of weight loss.

P113 Basal Metabolic Rate (Bmr): Correlation Between Predictive Equations and Indirect Calorimetry in Late Postoperative Gastric Bypass

M.R.M. Oliveira¹, K.C.P. Fogaa^{2,3}, V.A. Leandro-Merhi³, P.F.S. Novais^{2,4}, G. Cardoso³, Md.C. César³, I. Rasera Jr⁴

¹Universidade Estadual Paulista - UNESP, Instituto de Biociências, Botucatu - SP, Brazil; ²Universidade Estadual Paulista - UNESP, Faculdade de Ciências Farmacêuticas, Araraquara - SP, Brazil; ³Universidade Metodista de Piracicaba - UNIMEP, Piracicaba - SP, Brazil; ⁴Clínica Bariátrica - Centro de Gastroenterologia e Cirurgia da Obesidade, Piracicaba - SP, Brazil

Background Since the behavior of predictive equations for BMR in individuals submitted to gastric bypass is still unknown, the objective of this study is to correlate BMR measured by indirect calorimetry (IC) with those estimated by the equations Harris-Benedict, FAO/WHO/UNO only weight, FAO/WHO/UNO weight and height, Schofield, Mifflin St. Jeor, Owen and Romero.

Methods Cross-sectional study with 51 patients of both genders (BMI: 30.92±5.59 Kg/m², Age: 45.94±10.21 years) submitted to gastric bypass more than two years before the study. The basal energy expenditure (BEE) was measured by IC and estimated by the predictive equations. The data were expressed by descriptive statistics and the agreement between the methods was assessed by intraclass correlation. The BMR obtained with each method were compared by ANOVA followed by the Tukey test, with a significance level of 5%.

Results When the measured BMR is analyzed against the BMR predicted by the equations, there was a statistical significance of p=0.0001 (p<0.05). The

Tukey test showed that the assessed BMR was lower than the predicted BMR by all analyzed equations (p<0.01). Owen's equation was the one with the lowest value, lower than FAO/WHO/UNO only weight (p<0.05) and Romero's (p<0.01). Romero's equation presented higher values than those obtained with Mifflin St-Jeor's equation (p<0.05). All equations presented an excellent correlation with the measured BEE, but Owen's equation was the one with the best correlation (r=0.97) as well as the smallest percentage difference.

Conclusions Predictive BEE equations can lead to predictive errors and to minimize their adverse effects, Owen's equation was the one which presented the best result in this population.

P114 Comparison of Bmr Measured by Indirect Calorimetry and Body Composition of Obese Women in Relation to Those Submitted to Gastroplasty

M.R.M. Oliveira¹, C.Ld. Souza², K.C.P. Fogaa^{2,3}, G. Cardoso³, Md.C. Cesar³, A.B. Frollini³, P.F.S. Novais^{2,4}, I. Rasera Jr⁴

¹Universidade Estadual Paulista - UNESP, Instituto de Biociências, Botucatu - SP; ²Universidade Estadual Paulista - UNESP, Faculdade de Ciências Farmacêuticas, Araraquara - SP; ³Universidade Metodista de Piracicaba - UNIMEP, Piracicaba - SP; ⁴Clínica Bariátrica - Centro de Gastroenterologia e Cirurgia da Obesidade, Piracicaba - SP

Background Dietary restriction can lead to reduction of the basal metabolic rate (BMR), which is speculated to happen after bariatric surgery. The objective of this work was to compare BMR measured by indirect calorimetry and body composition of obese women in relation to those submitted to gastroplasty.

Methods A total of 88 women aging from 21 to 60 years participated in the study. Of these, 40 were obese (39.3±5.1 kg/m²) and 48 had been operated (30.7±5.3 kg/m²) from 2 to 7 years before the study. The BMR was determined by indirect calorimetry and body composition was determined by bioelectrical impedance analysis. The ration of BMR by unit of body mass (in kg) was calculated (TMR/kg). The mean results were compared by the Student's t test and the correlation between the body composition and BMR variables was verified by the Pearson's test. The significance level was 5%.

Results The percentage of body fat (obese: 50.6±5.0; postoperative: 43.6±7.9; p<0.001) and lean mass (obese: 49.4±4.9; postoperative: 56.5±7.8; p<0.001) differed between the groups. The BMR was greater in the group of obese women (1590±402 kcal) than in the postoperative group (1157±281 kcal), p<0.001. However, there was no difference in the ratio TMR/kg. Lean body mass presented a good correlation with BMR in the group of obese women (r=0.68) and weak positive correlation (r=0.38) in the other group.

Conclusions The hypothesis of metabolic adaptation has not been confirmed among women submitted to gastroplasty. Although the BMR after surgery was lower, these values were proportional to body weight.

P115 Health Psychology Contributions to a Bariatric Surgery Obese Patients Applicants Group: Preventive Actions and Health Improvement

I. Paegle^{1,2}, J. Rosa², M. Galvão¹, A. Ramos¹, J. Franzotti¹, A. Longo¹, S. Maria¹

¹Gastro Obeso Center -SP- Brazil; ²Methodist University, Sao Bernardo do Campo-SP- Brazil

Background Descriptive study about the characteristics presented by a bariatric surgery obese patients applicants group, approaching issues about obesity, family history and physical activity habits.

Objectives 1. List patients that fulfill the surgery requirements; 2. Report family pathologies; 3. Apply health prevention and improvement concepts into elaborating educational and psychosocial lectures.

Methods Descriptive study using data collected from Psychology Section files. 300 files were examined. Data were selected referring to genre, age, marital status, educational level, body mass rate, obesity family history and physical activity practice. The profile will be presented using percentages for each item.

Results Female (75%) and male (24,3%); age ranging from 16 to 72 years old (average=35,7). The chosen surgical technique was Capella By-Pass through videolaparoscopy (45,7%). Marital status: married 53,7%, single 35% and divorced 5,7%. There has been a concentration in college degree (29,7%) and high school degree (23,3%). The BMI ranged from 31,3 to 61,5 with 42,6 average; severe obesity degree (27,3%) and morbid obesity (57%). Obesity family history, the affirmative answers reached 76,7% and negative, 21,3%. For 83,7% of the sample stated that did not practice any physical activity.

Conclusions Control group composed by a majority of adults, obesity degree ranging from severe to morbid. The intellect and perception degree of patients with college and high school degree, demonstrating an information about health and unbalance prevention absorbing and understanding capacity. The absence of physical activity practice demands attention. Educational and psychosocial intervention measures, within the pre and post surgery programs, by the multidisciplinary team, are recommended.

P116 Bariatric Surgery, Psychosomatics and Achievement Perception: A Fifteen-Month Follow-Up of a Patient

I. Paegle^{1,2,3}, J. Rosa^{2,3}, J. Vieira da Silva³

¹Gastro Obeso Center, São Paulo, Brazil; ²Methodist University, São Bernardo do Campo, Brazil; ³Apep Associação de Psicoterapia e Estudos Psicanalíticos, Santo André, Brazil

Background It is presented a case study of a patient, followed by a multidisciplinary team for 15 months, within the period between the pre-post surgical phases. The procedures success was distorted by the patient, requiring a study under the psychosomatic and psychoanalysis fields.

Objectives 1. Assess the distortion degree and its structural elements; 2. Describe the patient's psychodynamics.

Methods Case study on the psychoanalytic point of view. The study patient had undergone a bariatric surgery. The designed technique was Fobi-Capella; the weight was reduced in 40 kg, but she complained about discomfort distributed among anger feelings, mood swings, low-quality family relationships, dumping, night-eater attitudes. Participated in 44 psychoanalytic psychotherapy sessions, once a week, 14 before the surgery.

Results The patient displayed: intense frustration, comparing herself to thinner women; made negative self-accusations; showed difficulty in listening to the clinical team and the therapist; complained about childhood occurrences and expressed feelings about not thinking about them again after the surgery; complained that her family relationships were branded by the people's envy over her new appearance and her husband's jealousy about the fact that she was prettier. Revealed that she sought comfort at night by carrying sweets and candies for her own consumption, alone in her bedroom. Associated her vomit to the anger feeling over being the centre of attention.

Conclusions The patient disclosed a love and recognition demand, that could not be received due to the accumulation of past events. Those more aggressive and angry emotions regression occurred after successive interpretations of success fright, awakening of coveting looks by others, fear of injustice and of being stolen of all good things.

P117 Laparoscopic Bariatric Surgery for Patients with Type 2 Diabetes and Morbid Obesity: Improving Psychological Status?

S. Jackson¹, M. Morris¹, K.T. Lilley¹, A.B. Johnson², S. Bates²

¹University of the West of England; ²Southmead Hospital, North Bristol NHS Trust, UK

Background Surgical treatment is regarded as the most effective means of achieving weight loss and normalising glucose tolerance in morbidly obese patients with Type 2 diabetes (T2DM). This study was undertaken to compare the psychological status of morbidly obese individuals pre and six months post bariatric surgery.

Methods Pre-operative (T1: n=41, 27 with T2DM, 14 without; age range: 25–58; mean BMI 51.8 kg/m²±sd=8.31) and post-operative participants (T2: n=11, 9 with T2DM, 2 without; age range: 35–48; mean BMI 42.18 kg/m²±sd=8.36) completed psychological scales measuring anxiety and depression; quality of life; and social anxiety.

Results A comparison of study measures mean scores with clinically relevant normative populations revealed that the T1 group had significantly increased levels of social anxiety (65.0±14.8; norm=29.54±12.39), general anxiety (9.76±4.42; norm=6.14±3.76) and depression (9.22±4.01; norm=3.68±3.07). Pearson's correlations indicated that increasing BMI was associated with increased depression (p<0.008) and anxiety (p<0.015) and reduced psychological quality of life (p<0.006). For the T2 group (n=11), levels of social anxiety (56.18±18.7) were also significantly raised. Levels of general anxiety were slightly raised (6.45±3.75), while levels of depression were still significantly raised (5.36±3.80). Non-parametric statistical testing revealed that BMI was significantly lower in the T2 group (p<0.002), as were levels of anxiety and depression (p<0.05), while ratings of quality of life were significantly higher (p<0.05). No significant correlations were observed between BMI and any of the study variables for the T2 group.

Conclusions These data suggest that morbid obesity has a significant negative impact on psycho-social functioning which was much improved in the post-surgery group.

P118 Involvement of Previous Psychiatric Pathology on Patients' Outcome After Extremely Obese Surgery

S. Garcia Blanco¹, J. Ramon Moros², A. Goday Arno³, M. Villatoro Moreno³, A. Delgado Barrau³, M. Garcia Lacort¹, L. Trillo Urrutia⁴, S. Ros Montalbán¹

¹Psychiatric Department. Hospital del Mar. Barcelona, Spain; ²Surgery Department. Hospital del Mar. Barcelona, Spain; ³Endocrinology Department. Hospital del Mar. Barcelona, Spain; ⁴Anaesthesiology Department. Hospital del Mar. Barcelona, Spain

Background The eating and emotional disorders are involved in the origin and the maintenance of the extremely obese. The objective of our study is to regard if the presence of any psychiatric disorder worsens the bariatric surgery outcome.

Patients and Methods Longitudinal study, 86 patients who underwent bariatric surgery. We collected weight control at 3, 6, and 12 months post-surgery. In the way to look for mental pathology we play psychometric tests and psychiatric interview: Eating disorders inventory (EDI), Bulimic investigatory test Edinburg (BITE), Montgomery-Åsberg depression rating scale (MADRS), Hamilton anxiety rating scale (HARS), 36-item Short-Form Health Survey (SF-36).

Results We studied 86 patients (87% women), with a mean age of 45.68 years (±8.58). Psychiatric disorders detected were 75.6% not specified eating disorder (NSED), 24.7% anxiety, 24.4% binge eating disorder, 22.2% depression and 17.3% adjustment disorder. Pre-surgery therapy: 45.7% for impulsivity, 39.5% antidepressant, 27.2% anxiolytic. Post-surgery results: 42 patients (37 women) have a 12 months follow-up. The reduction between initial Body Mass Index (BMI) and pre-surgery BMI were 5.58% (±5.2) in adjustment disorder, 5.28% (±6.8) in anxiety, 5.02% (±5.0) in NSED, 4.79% (±4.96) in binge eating disorder and 2.19% (±5.2) in depression. There were statistically significant differences in the first year BMI reduction in NSED (BMI 36.02%±7.7, p=0.012) and binge eating disorder (BMI 35.56%±5.29, p=0.05).

Conclusions The outcome of patients with eating impulsivity is different from all other obesity patients. They show less weight loss in the first year after surgery. In order to improve the reliability of our results it is necessary to increase the number of patients and time of follow-up.

P119 Perception of the Interpersonal Relationships and Family Relationships on Obese Patients Who are Candidates to the Obesity Surgery

M.J. Borba, M. Silva, K. Pinto, A. Garrido, M.C. Lúcia, N. Santos

Hospital das Clínicas - HC FMUSP, Brazil

Background Currently, the most efficient treatment for morbid obesity is the bariatric surgery. Due to the physical and emotional changes resulting from this surgery, family support is of fundamental importance. Conflicts regarding family and interpersonal relationships are seen as a significant factor for the failure of the treatment on obese patients. The Objective of this study was to

investigate the perception that candidates to the obesity surgery had about their interpersonal relationships.

Methods 90 candidates to the obesity surgery were interviewed, both at public and private hospitals. These candidates were over 16 years old, both females and males and were interviewed in various states of Brazil. They answered the questions of the Inventory on Weight and Life Style (WALI) and Guide of the Instrument Analysis.

Results 78% of the individuals were satisfied and/or very satisfied with his/her family affectionate relationship. 81% had received support from all or most of their family members; nevertheless, 43% do not talk with anyone or even with half of these people.

Conclusions We had noticed an unbalanced correlation between the level of satisfaction with their affectionate relationships and the dialogue between these individuals and their family members. From these results we may consider the presence of distortion in the perception of the affectionate relationships on obese individuals candidates to the obesity surgery.

P120 Quality of Life Two or More Years After Bariatric Surgery

P. Novais^{1,2}, N. Souza¹, I. Rasera Jr², M. Oliveira¹

¹Universidade Estadual Paulista Júlio de Mesquita Filho, Brazil; ²Clínica Bariátrica, Brazil

Background It is consensus that bariatric surgery is the only treatment to achieve significant and long-lasting weight loss in morbidly obese individuals. It is essential to assess not only weight loss but also quality of life during follow-up visits. The objective of this work was to assess quality of life of individuals 24 or more months after bariatric surgery.

Methods A total of 172 adult patients who had been submitted to the Roux-en-Y-Gastric Bypass from 2 to 7 years ago participated in the study. The surgery was done in a clinic in upstate São Paulo State, Brazil. The Bariatric Analysis and Reporting Outcome System (BAROS) was used to assess quality of life. The participants of the study were divided into groups according to the time elapsed after surgery: from 2.0 to 3.99 years; from 4.0 to 5.99 years and 6.0 years. The results, in proportions, were compared with the chi-square test with a significance level of 5%.

Results In the final classification, the analysis showed that 28.5% of the patients presented a very good and 56.4% presented an excellent quality of life. The aspect associated with ego scored 90.6% (much better) among the quality of life items. The clinical conditions improved in 95% of the cases, and the major medical complication reported was abdominal wall hernia in 29% of the cases and the minor was anemia in 26% of the cases. The re-operation item occurred in 5.8% of the cases. When the results of the questionnaire were analyzed between the groups, no difference was found (2=8.1; $p=0.231$). We conclude that most participants of the study were classified as having a very good or excellent quality of life, confirming the good results of the surgical procedure for morbidly obese individuals and the time elapsed after surgery did not influence this result significantly.

P121 Integral Nursing Care of Patients Submitted to Bariatric Surgery

M. Blaise¹, E. Bru¹, M. Cabistañ¹, M. Estivill¹, M. Luzón¹, J. Nieves¹, M.A. Ollobaren¹, D. Del Castillo²

¹Hospital Universitario de Sant Joan, Universitat Rovira i Virgili, Divisió de enfermeria; ²Hospital Universitario de Sant Joan, Universitat Rovira i Virgili, Spain

Background The only effective treatment for Morbid Obesity is surgery where the patient receives multidisciplinary care. The involvement of and motivation behind nursing treatment is fundamental to guaranteeing integral care throughout the different areas where the patient is going to be kept.

Methods A Clinical Pathway has been made which, from the moment the patient is admitted to the Surgical Preparation Unit (UPQ), includes following the specific Surgical Block protocol, managing systematically the patient's stay in the Post-Operative Recovery Unit, and the patient's stay in the surgical hospitalization area.

Results A greater streamlining of the process was obtained which is reflected in the greater quality of the daily nursing work, which in turn generated greater involvement and motivation in the complex care required by these patients.

Conclusions The creation of clinical pathways, treatment protocols and teamwork among the nurses in their different areas enabled better integral care which benefited the patient.

P122 Diabetes Treatment In Severe Obesity

S. Gutt¹, A. Beskow², N. Vainstein¹, M. Yuma¹, F. Wright², D. Cavadas²

¹Sección Nutrición – Servicio Clínica Médica Hospital Italiano de Buenos Aires; ²Servicio de Cirugía – Hospital Italiano de Buenos Aires, Argentina

Background Bariatric surgery may improve and sometimes resolved obesity co-morbidity, particularly type 2 diabetes mellitus (DM2) Insulin resistances associated with central obesity and defect insulin secretion are DM2 pathophysiological mechanism.

Loss weight enhance DM2 in a variable way depends on surgical procedure. The Roux-en-Y gastric bypass (GBP) has showed decrease glucose, insulin and HbA1c levels.

Surgery may become a therapeutic tool for DM2 in morbid obesity.

Objective Evaluate hydrocarbonate metabolism and management evolution in morbid obesity patient with DM2 treatment with GBP

Methods Obesity grade III patient undergoing GBP with DM2 were included in a prospective way since 2004 to 2006. We evaluated glucose, HbA1c levels and pharmacological treatment for DM2 after surgery at baseline and 6 month. **Results** All patients achieved significantly weight loss, results in a percentage of excess weight loss (%EWL): 52% at 6 month past surgery (BMI 39,2 kg/m² $p<0,05$), and glucose and HbA1c decrease ($p<0,001$). Before 6 months after GBP 77% patient under anti-hyperglycemic drug (AHD) stop medication and 7 of 9 with combine treatment still only AHD. Whereas one patient continues insulin and another with combine treatment.

Conclusions Bariatric surgery, particularly malabsorptive, improves DM2 control in morbid obesity patient. GBP may be a potential treatment with unknown pathophysiology aspect like anti-incretins factors. Currently GBP is being proposed as DM2 option treatment and should play a role as metabolic surgery.

P123 Respiratory Muscle on Immediate Bariatric Surgery Postoperative: Laparoscopy Versus Laparotomy

M.C. Barbalho¹, G.P.S. Miguel², E.M.P. Forti³, D. Costa³, P.S. Carvalho², J.L.M. Azevedo⁴, Abreu, IW²

¹Meridional Hospital; ²Methodist University of Piracicaba; ³Meridional Hospital; ⁴Methodist University of Piracicaba; ⁴Federal University of São Paulo, Brazil

Background To compare the effects of bariatric surgery performed by laparoscopy or laparotomy on respiratory muscles.

Methods Were studied 26 women, with BMI of 35–49,99, candidates for Roux-en-Y gastric bypass surgery performed by laparoscopy (LG) (n=13) or laparotomy (OG) (n=13). Were excluded smokers, patients having lung disease and unable to carry out the tests properly. The physical therapy was standardized for both groups. The respiratory muscles evaluation was performed on the preoperative and on the second postoperative day, through tests of respiratory muscle strength (maximal static inspiratory pressure – Pimax and maximal static expiratory pressure -PEmax) and diaphragmatic mobility measured at radiography. The pain was evaluated by the visual analogue scale on the second postoperative day.

Results The patients were similar to the variables: age, BMI and Waist/Hip ratio. Both groups showed postoperative decline in Pimax (LG=83,5±12,5 vs 64,6±16,6 cmH₂O and OG=92,3±25,2 vs 58,5±23,8 cmH₂O), PEmax (LG=105,4±25,4 vs 76,9±25,9 cmH₂O and OG=104,6±27,3 vs 41,2±11,9 cmH₂O), right hemidiaphragmatic mobility (LG=5,14±2,26 vs 4,38±1,87 cm and OG=4,53±1,82 vs 2,50±0,91 cm) and left hemidiaphragmatic mobility (LG=5,44±2,10 vs 4,42±1,74 cm and OG=4,78±1,93 vs 3,05±1,09 cm), but this was less pronounced in the LG ($p<0,05$). The pain was also smaller in the LG (1,92±1,70 vs 3,23±1,92 – $p<0,05$). The length of hospital stay was 2 days, and there were no pulmonary complications.

Conclusions : While not have existed difference in the incidence of pulmonary complications and the length of hospital stay between groups, the results show that Roux-en-Y gastric bypass surgery performed by laparoscopy caused minor pain and impairment of respiratory muscles in the postoperative.

P124 Pulmonary Volumes on Immediate Bariatric Surgery Postoperative: Laparoscopy Versus Laparotomy

M.C. Barbalho^{1,2}, G.P.S. Miguel¹, I.W. Abreu¹, J.L.M. Azevedo³, E.M.P. Forti⁴, D. Costa⁴, P.S. Carvalho¹, C.L.C.B. Moreira²

¹Meridional Hospital; ²Methodist University of Piracicaba; ³Federal University of São Paulo; ⁴Methodist University of Piracicaba, Brazil

Background To compare the effects of bariatric surgery performed via laparoscopy or laparotomy on pulmonary volumes.

Methods Were studied 26 women, with BMI of 35–49.99 kg/m², candidates for Roux-en-Y gastric bypass surgery performed by laparoscopy (LG) (n=13) or laparotomy (OG) (n=13). Were excluded smokers, patients having lung disease and unable to carry out the tests properly. The physical therapy was standardized for both groups. The spirometry was performed on the preoperative and on the second postoperative day. The pain was evaluated by the visual analogue scale on the second postoperative day. The analysis statistics was carried through with parametric or not-parametric tests, depending on the distribution of variable, considering significant $p < 0.05$.

Results The patients were similar to the variables: age, BMI and Waist/Hip ratio. Both groups showed postoperative decline in vital capacity (VC) (LG=3.46±0.72 vs 2.90±0.76L and OG=3.10±0.67 vs 2.05±0.39 L), forced vital capacity (FVC) (LG=3.46±0.71 vs 2.92±0.72 L and OG=3.20±0.70 vs 2.21±0.49 L), forced expiratory volume in one second (FEV1) (LG=2.77±0.61 vs 2.36±0.64 L and OG=2.58±0.60 vs 1.85±0.43 L) and maximum voluntary ventilation (MVV) (LG=109.6±20.6 vs 95.6±22.9L/min and OG=109.1±21.5 vs 77.1±20.7 L/min), but this was less pronounced in the LG ($p < 0.05$). The pain was also smaller in the LG (1.92±1.70 vs 3.23±1.92 – $p < 0.05$). The length of hospital stay was 2 days, and there were no pulmonary complications. **Conclusions** : While not have existed difference in the incidence of pulmonary complications and the length of hospital stay between groups, the results show that Roux-en-Y gastric bypass surgery performed by laparoscopy caused minor pain and impairment of pulmonary volumes in the postoperative.

P125 Implementation of the Epworth Sleepiness Scale (ESE) in Preoperative and Postoperative Evaluation for Bariatric Surgery

J.C. Franzotti¹, A.C. Ramos¹, M. Galvão^{1,2}, C. Jardim¹, A.H.F. Murakami¹, A. Longo¹, S.S. Maria¹, I. Paegle¹

¹Gastro Obeso Center - São Paulo/ Brasil - 55 11 32111200; ²Hospital das Clínicas HCFMUSP

Background Excessive sleepiness is a symptom of the obstructive sleep apnea hypopnea syndrome (OSAHS). Active investigation on excessive sleepiness signs should be performed to avoid the complication of OSHAS and the progressive detriment in quality of life (Martins, 2007). The objective of this study was to identify the occurrence of the signs of excessive sleepiness prior to bariatric surgery and 30 days after the procedure.

Methods During physiotherapeutic consultation, 60 patients with complaints of somnolence and snoring were evaluated preoperatively and 30 days after bariatric surgery by the ESE scale. The ESE is a validated instrument of sleepiness measurement by the description of 8 everyday situations. Patients are asked about the likelihood of falling asleep through a score ranging from 0 to 24. A score higher than ten features excessive daytime sleepiness. (Boari, 2004).

Results Data on 60 patients were recorded. 42(70%) were female and 18 (30%) were male. Average Body Mass Index (BMI) and age were 41.7 kg/m² and 33 years-old respectively. After a month of the bariatric procedure average BMI declined to 36.4 kg/m². ESE average scores decreased from

9.05 and 8.21 points to 5.44 and 4.72 points for men and women, respectively ($P = 0.000/p < 0.001$).

Only 11(18%) patients remained symptomatic.

Conclusions The application of ESE showed a decrease in ESE scores of 41.5% and an eradication of snoring and sleepiness symptoms in 81.6% of patients following an average weight loss of 13% 30 days after bariatric procedure. ESE is a feasible tool to evaluate and measure the respiratory outcomes of bariatric surgery for the treatment of OSHAS in the morbidly obese patients.

P126 The Effect of the Omentectomy on the Metabolic Improvements After Biliopancreatic Diversion

R. Carbajal, N. Palacios, J. Orrego, V. Mena, E. Lombardi, F. Vargas, M. Portanova

Edgardo Rebagliati Martins Essalud Lima Perú

With the purpose of comparing the effectiveness of omentectomy associated to biliopancreatic diversion to improve weight loss and on the main components of the metabolic profile in morbid obesity in four years in follow up. It was carried out a prospective study in 190 patients with morbid obesity during the lapse October 2003 to April of the 2008. There were 56 males and 134 females, aging from 18 to 65 years (mean 43 years). Data about Metabolic parameters were measured by months until 3–6, 12, 24 and 48 months after undergoing Biliopancreatic diversion for morbid obesity. Patients was divided in two groups Group A: Omentectomy and Biliopancreatic diversion (112) and Group B 78 patients only Biliopancreatic diversion.

Results No significant differences between two groups patients were observed at baseline. At follow-up there was no difference between mean values of body weight and BMI preoperatively and at the different follow-up times. changes in waist-to-hip ratio diameter did not differ between groups. There was mayor and faster improvement in metabolic profile in omentectomy group; One month after the procedure the ratio of improvements in oral glucose tolerance, insulin sensitivity and plasma glucose, insulin, cholesterol and triglycerid were 2–3 times faster and greater in omentectomized group, blood pressure returned to normal in 89% vs 83%. HDL concentrations showed no significant variations. 2.04% of the patients with omentectomy required relaparotomy due to severe bleeding and 7.3% regain of weight between biliopancreatic diversion.

Conclusions Omentectomy, when performed together with biliopancreatic diversion, has significant positive and long-term effects on the metabolic profile in obese subjects. Consequently, it should be considered as a therapeutic option.

P127 Cutaneous Manifestations in Patients with Morbid Obesity – Report of 16 Cases

L. Crestana, F.L. Becker, C.S. Poziomczyk, B. Köche, G. Repetto, A.V. Padoin, C.C. Mottin

Centro da Obesidade Mórbida, Hospital São Lucas, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil

Background Several pathologies are associated to obesity degree III however, there are few reports about skin reactions secondary to obesity, especially in which refers to this degree. Considering the matter, this case report aims to describe the dermatosis found in 16 morbidly obese.

Methods 16 pre-op patients of an Obesity Center, COM HSLPUCRS, were selected at random, except for three main criteria: older than 16 years old and to be morbidly obese. The exclusion criteria were: gestation, puerperium or breastfeeding; to be doing or having finished for at least 30 days specific treatment for skin diseases; and to be HIV positive.

Results Mean age was 40.85 years (range 29 to 65) and the mean weight was 143.53 kilos (range 112 to 220), with an average BMI of 53.82. Most were female (n=13) and caucasian (n=12). All had systemic arterial hypertension, and six were diabetics. The most common cutaneous findings are: striae 13 (87.5%); onychodystrophy and plantar hyperkeratosis 9 (56.25%). Half had fungal infection, acrochordons, excessive sweating, intertrigo and varicose veins (50%). Acanthosis nigricans 7 (43,75%); lower limb oedema and pilar keratosis 4(25%).

Conclusions This analysis is the first stage of a more comprehensive research. We recognize that it is necessary a more representative sample of the population. However, this article aimed at highlighting the importance of the issue in the evaluation of a patient who is becoming increasingly prevalent in our society.

P128 Leptin, Thyroid Hormones and Thyrotropin (TSH) in a Cohort of Morbidly Obese Patients - Effect of Exercise

J. Carneiro¹, I. Dines², C. de Moura³, K. Oliveira⁴, M. De Castro⁵, J. de Oliveira¹

¹UFRJ / HUCFF - Diabetes and Nutrition Department, Brazil; ²UFRJ / HUCFF - Multidisciplinary Laboratory, Brazil; ³Carlos Chagas Filho Biophysical Institute Federal University of Rio de Janeiro, Brazil; ⁴Carlos Chagas Filho Biophysical Institute, Brazil; ⁵DNA Group laboratory, Brazil

Background Leptin, thyroid hormones and TSH have a link on human metabolism. These hormones can signal the switch from the fed to the starved state. Leptin can stimulate TSH secretion through hypothalamic action modulating TRH secretion.

Methods 27 morbidly obese patients (21 women, 6 men), (BMI=52,94±18,15 Kg/m²) were evaluated for plasmatic levels of leptin, TSH, free T4 and free T3. They started on a specific preoperative program preparation, focused on mild exercise practice. 22 patients (16 women and 6 men - 81,48%) completed the program and were re-evaluated after an average period of 3 months. We compared the 2 groups (group 1 - before and group 2 - after the program).

Results We didn't find difference in the BMI between women and men. Leptin levels were higher in women when compared to men at the beginning and at the end of the program, respectively: (48,91±16,08 ng/ml/26,92±8,70 ng/ml; p<0,001) and (39,76±13,56 ng/ml/26,08±7,98 ng/ml; p<0,05). We didn't find difference in BMI before and after the program. We noticed a tendency to lower levels of leptin in the group 2 when compared to group 1, respectively (44,02±17,33 ng/ml/36,03±13,61 ng/ml; p=0,08) The fall of leptin levels after the program of exercises was correlated to weight loss (r=0,56, p<0,01) and had a weak correlation with alterations in TSH levels (r=0,44 p<0,05), but not with alterations in T4L and T3 levels, respectively (r=0,17 and r=0,22).

Conclusions Morbidly obese women had higher leptin levels than men matched by age and BMI. Exercise can lead morbid obese people to lower their levels of leptin and this fact can explain some difficulties in maintaining weight loss, although it may signify an improvement in leptin resistance in this cohort of patients.

P129 Non Alcoholic Fatty Liver Evaluation in Morbid Obesity Patients Treated with Sleeve Gastrectomy

J. Coutinho, F. Carepa, H. Cortez-Pinto, M. Fernandes, J. Girão, V. M. Machado, A. Costa, C. Ferreira, A. Tejerina, H. Bicha Castelo

Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Portugal

Background The Authors study Non Alcoholic Fatty Liver Disease (NAFLD) evolution before and six months after surgery

Methods The study included 52 patients treated during one year with sleeve gastrectomy according to protocol:

Pre-operative:

- Exclusion of Chronic Liver Disease;
- Lipid profile with insulin resistance evaluation;
- Metabolic Syndrome evaluation

Intra-operative:

- Intra-operative liver biopsy for histopathologic and Immunohistochemical study (IRS- 1 and GLUT-4)

Post-operative (6 months):

- Clinical evaluation- Estimated Weight Loss %
- Analytical evaluation
- Liver MRI

Results The study showed an improvement in clinical and analytical evaluation of the patients. MRI also suggests a morphologic liver improvement.

Conclusions The patients treated with sleeve gastrectomy showed favorable results in NAFLD disease. Nevertheless there isn't a direct correlation between the proportion of weight loss and the NAFLD improvement.

P130 Metabolic Syndrome and Laparoscopic Adjustable Gastric Banding

M. Fishman, V. Sedov

Pavlov's State Medical University, Russia

There are 27,3% of women population and 14,1% of men in the Northern-Western part of Russia suffer from obesity.

Methods Results of treatment of 273 patients, after LAGB with maximal for supervision of 8 years are investigated. Middle age 38 years (16–60). Women 218 (80%), men - 56 (20%). Mean preoperative BMI was 44 kg/m² (range 35–55). In group of patients 20–29 years at 20% it is revealed metabolic syndrome (MS), 30–39 years – 26%, 40–49 years – 32% and 50–59 years – 37% accordingly.

Results In first two years of supervision at 141 (72,6%) of patients the level of sugar was normalized, at 46 (23,7%) - clinical current of disease has improved, at 7 (3,6%) - changes were not observed. At 90 (50,5%) patients arterial pressure normalized, at 28 (15,7%) have remained former, and at the others 60 (33,7%) hypotensive therapy has been corrected on "easier". BMI at women was within the limits of from 26 up to 38 kg/m² and at men from 27 up to 36 kg/m². Cholesterol and LDL reduced slightly (the results are unconvincing), at the same time HDL increased. Triglycerides reduced a little.

Conclusions 1. LAGB is effective way of treatment of obesity and MS, at the maximal effect of operation at patients with BMI up to 43–45 kg/m² in young age groups.

2. LAGB at patients with BMI more than 45 kg/m², with heavy also are long existing accompanying diseases, significant changes in lipid spectrum it is expedient to replace initially on combined bariatric operation.

P131 Preliminary Results of Post-Operative Pain in Bariatric Surgery: Problem or not?

S. Ishaq, J. Banicek, M. Williams, E. Gillott, D. Heath, P. Sufi

Whittington Hospital - North London Obesity Surgery Service, UK

Background UK government data (2007) suggests 30% of all adults in the UK are obese with increasing demand for bariatric surgery in the National Health Service (NHS). There are additional considerations for peri-operative management and analgesia selection.

Methods We prospectively reviewed the Verbal Response (VR) pain score for 20 consecutive patients (N=20) undergoing laparoscopic bariatric surgery (9 laparoscopic gastric banding [LGB], 11 laparoscopic gastric bypass [LGBP]). All patients received regular Paracetamol. All LGB & 8/11 LGBP received NSAID (non steroidal anti inflammatory drugs). All LGBP patients had Morphine Patient Controlled Analgesia (PCA). The Acute Pain Team assessed pain score post-operatively at 3 intervals - recovery suite, ward arrival, & 24-hours post-op.

Results LGBP patients reported none to mild pain in recovery & on ward arrival, but mild to moderate pain day-1 post-operatively - 2 patients suffered complications. Both reported higher pain scores post-operatively & were noticeably more anxious. LGB patients reported no pain in recovery & on arrival to ward, & mild pain day-1 post-operative.

Conclusions All patients reported higher pain scores day-1 post operatively. However, at given time intervals, LGB patients seem to experience lower levels of pain compared to LGBP and warrants further investigation into feasibility of day-case LGB. Further data needs to be collected and should extend the survey beyond 48-hours to elicit any trends post-operatively. Matching pain score to complications may allow an elevated pain score to be used as an early predictor of complications and may further enhance patient care.

P132 Latex Allergy in a Woman Submitted to Bariatric Surgery

J.R.I. Carneiro¹, M.A. Abrão², A.C.N.V. Messias¹, L. Santana², M.J. Jamel³, V.G. da Silveira³, A.A. Peixoto³

¹Clementino Fraga Filho Hospital / Federal University - Rio de Janeiro - Diabetes and Nutrition Department, Brazil; ²Clementino Fraga Filho Hospital / Federal University - Rio de Janeiro - Anesthesiology Department, Brazil; ³Clementino Fraga Filho Hospital / Federal University - Rio de Janeiro - Surgery Department, Brazil

Background Allergy to the latex, measured by IGE is a nosological entity. Approximately 8% of general population is allergic to latex and subject to severe preoperative reactions.

Methods We reported a case of a morbid obesity patient who underwent an Anaphylactic shock during obesity surgery.

Results A 45 years-old white female was referred to our service in 2005. She reported obesity since childhood and many attempts to lose weight in the past. She also reported hypertension since 21 years old, using enalapril 10 mg/d. She was submitted to 3 surgeries before, without any kind of anesthetic intercourse. She referred a questionably allergy to latex, minimized by herself, and denied any other allergy kind. At time of admission, her BMI was 46.00 kg/m². After 6 months of preoperative preparation with multidisciplinary team, she lost 14 kg and it was indicated to bariatric surgery. She underwent to general anesthesia in order to be submitted to open vertical banded gastroplasty (Capella-Fobi technique). At the time the jejuna was incised, she had an anaphylaxis reaction. The surgery was reverted and the patient had specific treatment to reverse the shock. After 48 hours she was presented progressive improvement and released from hospital. At the ambulatory consultation, she presented some allergic tests: IgE 1.330 KU/L (normal <140), Specific IgE 0.96 (positive); and Latex IgE >100 KU/L (normal <0,35). It was confirmed latex allergy, and she has been assisted by our multidisciplinary team and the immunology / allergy department.

Conclusions Past report of allergy to latex during any king of exposure must be tested before surgery, because of the risk of anaphylatic intraoperative reactions. Specific test must be done in the preoperative period, to rule out this entity even when the level of suspicion is low.

P133 Growth Curve of Children Borne After Mother's Bariatric Surgery

D. Casagrande, F.G. Colossi, R. Chatkin, J. Rizzolli, R.E. Klaesener, C.C. Mottin, M. Moretto, M. Schmitt, A.V. Padoin, G. Repetto

Centro da Obesidade Mórbida do Hospital São Lucas da PUCRS, POA, RS, Brasil

Background The prevalence of childhood obesity is worrying all global health organizations. The monitoring of weight and lenght of children from birth to adulthood can prevent future rates of obesity.

Methods We evaluated 25 children who were born after their mothers underwent bariatric surgery.(Téc. Fobi-Capella), from September 2002 to March 2008, and the mother's weight gain/loss during pregnancy. The children were classified according to the growth standard curves of NCHS (National Center for Health Statistics): weight/age(W/A), length/age(L/A) and weight/length (W/L).

Results 56% of children were female.

Conclusions Although our sample is still small, the three parameters for assessing the NCHS showed that these children maintained a median below the percentile 25 at birth and higher than the percentile 80 for 3 years. We believe that it is necessary to monitoring all NB whose mothers underwent bariatric surgery.

Table 1 Characterization of the sample

Variables	Birth Average ±SD	3 months Average ±SD	6 months Average ±SD	1 year Average ±SD	2 years Average ±SD	3 years Average ±SD
N	25	15	13	10	6	6
Weight (Kg)	3.07± 0.41	5.87± 0.86	7.64± 1.10	9.97± 1.99	14.3± 4.08	17.7± 4.34
Length (cm)	48.2± 1.61	60.6± 3.12	66.1± 3.59	75.9± 3.93	86.7± 7.66	97.3± 8.92

Table 2 NCHS classification

Variables	Birth (n=26) Median (P25–P75)	3 months (n=15) Median (P25–P75)	6 months (n=13) Median (P25–P75)	1 year (n=10) Median (P25–P75)	2 years (n=6) Median (P25–P75)	3 years (n=6) Median (P25–P75)
W/A	25 (17.5–55)	65 (35–75)	65 (27.5–75)	47.5 (8.5–80)	73 (16–98)	89 (25–98)
L/A	20 (15–42.5)	55 (22.5–90)	60 (16.3–75)	57.5 (32.5–86)	47.5 (2–92)	91 (24.3–98)
W/L	22.5 (15–55)	40 (20–61.3)	45 (16.3–79)	37.5 (20–75)	92.5 (46.3–96)	98 (96–98)

P134 Physical Therapy Protocol for the Prevention of Airway Infection and Respiratory Thromboembolism After Bariatric Surgery

C.B. Vargas, C.C. Mottin, C.Hd. Lima, G.T. Leites, L.Gd. Silva

Centro da Obesidade Mórbida – Hospital São Lucas - PUCRS – Porto Alegre – Rio Grande do Sul - Brazil

Background physical therapy on Bariatric Surgery post-oprative period reaches for the prevention of possible respiratory and vascular complications, besides promoting return to normal daily activities. This study objectives to analyse the effectiveness of a physical therapy protocol to prevent upper airway infection and pulmonary thromboembolism on individuals submitted to bariatric surgery.

Methods Transversal and prospective study, implemented on the Centro da Obesidade Mórbida (COM) on the period of January and February 2008. A motor and respiratory physical therapy protocol was proposed since admission until last hospital day, two times a day, supervised for the service's physical therapists. We also utilized, for not supervised exercises executed periodically, data registered by the patients as oriented during treatment. Airway infection and pulmonary tromboembolism were diagnosed by clinical signs and complementary examination.

Results We included 21 patients in this study, 76,1% female, 36 years old average (+7,7) and body mass index average 40,2 kg/m². All patients showed complete adhesion to the protocol. No cases of airway infection or pulmonary thromboembolism were detected during research intervention period.

Conclusions This study suggests physical therapy after bariatric surgery as a tool for respiratory and vascular diseases prevention. Meanwhile, it is necessary a major amount of subjects to improve results. This point is already under execution in our group.

P135 Correlation Between Body Composition and Basal Metabolic Rate (BMR) in Late Postoperative Gastric Bypass Patients

M.R.M. Oliveira¹, K.C.P. Fogaa^{2,3}, V.A. Leandro-Merhi³, G. Cardoso³, P.F.S. Novais^{2,4}, I. Raserá Jr⁴

¹Universidade Estadual Paulista - UNESP, Instituto de Bociências, Botucatu - SP, Brazil; ²Universidade Estadual Paulista - UNESP, Faculdade de Ciências Farmacêuticas, Araraquara - SP, Brazil; ³Universidade Metodista de Piracicaba - UNIMEP, Piracicaba - SP, Brazil; ⁴Clínica Bariátrica – Centro de Gastroenterologia e Cirurgia da Obesidade, Piracicaba - SP, Brazil

Background A low basal metabolic rate (BMR) is a great indicator as a risk factor for gaining weight. Thus, the objective of this study was to determine BMR by indirect calorimetry (IC) and correlate it with body composition (BC) in the late postoperative period of gastric bypass patients.

Methods Cross-sectional study with 52 patients of both genders, aging from 21 to 61 years, with preoperative body mass index (BMI) of 46.45±7.69 kg/m², submitted to gastroplasty, where BC and IC were analyzed. The data were expressed by descriptive statistics using a correlation coefficient with a significance level of 5%.

Results Eight percent of the patients presented class III obesity, 15% class II obesity, 35% class I obesity, 25% were overweight and 17% had proper

weight after bariatric surgery. Total body mass presented weak to moderate correlation ($r=0.050$) with BMR. There was a moderate correlation between BMR and lean mass ($r=0.68$) and a weak correlation between BMR and body fat ($r=0.23$). The weight loss percentage was of $66.15 \pm 18.89\%$ after 5.08 ± 1.70 years of surgery and presented a weak and negative correlation with BMR ($r=0.300$). A significant correlation ($p>0.05$) was not found between BMR and weight gain after surgery ($r=0.136$).

Conclusions BMR did not interfere significantly in the result of surgery, however the patients are advised to practice physical activities that increase lean mass, since lean mass is positively associated with BMR.

P136 Eating Patterns After Gastric Bypass Surgery

C.E. Machado, B. Zilberstein, M.M. Silva, I. Ceconello

Division of Psychology and Department of Gastroenterology - Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo

Background Obesity has multifactorial causes, such as lifestyle habits. These habits include a diet based on a greater intake of calories. The aim of this study was to evaluate the eating patterns of patients submitted to gastric bypass surgery and to identify habits and feeding preferences changes on long-term follow-up.

Methods Fifty patients underwent a gastric bypass surgery were studied. The follow-up includes a period between two and five years after the surgery. A questionnaire was performed to identify habits and food preferences before surgery and others acquired after surgery. Statistics analysis were performed. **Results** Before surgery, patients preferred high-fat foods like carbohydrates (42%), sweet food (26%) and snacks (14%). After surgery, the feeding preference was based on easy-intake food, like sweet food (45%) and snacks (22%). The difference between pre and postoperative diet was statistically significant ($p<0,05$).

Conclusions There are changes on dietary choices after gastric bypass surgery, suggesting adaptation in feed behaviour based on a unhealthy diet.

P137 Nutritional Evolution of Patients After Roux-en-Y Gastric Bypass with and Without Silicon Ring

A.X. Santos, V.M. Scabim, D.J.I. Kaio, M.A. Santo, S.M.S.S. Trecco, A.B. Garrido Junior, I. Ceconello

Hospital das clinicas da FMUSP, Brazil

Bariatric surgery is the most effective treatment for the reduction of the corporal weight in morbid obese patients.

Objective To evaluate the nutritional evolution of patients who underwent to RYGBP with and without silicon ring.

Methods Retrospective study accomplished with patients operated in 2006 and 2007, which evaluated weight variation, tolerance to the diet and food consumption in the postoperative period: 3, 6, 9 and 12 months.

Results The study included 94 patients, being 28,7% underwent to the surgery with ring and 71,3%, without ring. The weight loss in relation to the pré-surgical weight was from 36,7% and 32,0% to the groups with and without ring, respectively. The most frequent symptoms reported were vomits, being 45,5% in the patients with ring and 28,6% in the patients without ring. The intolerance for meats was larger for the patients with ring in the period of 6 months after the surgery, and it stayed in the period of 9 months just for the patients without ring. In both groups, 100% of the patients consumed hipocaloric diet. Patients without ring had larger protein consumption than patients with ring. The hiperlipidic diet prevailed in all of the periods analyzed for the patients with ring. In the patients without ring, the diet was normolipidic in 3, 6 and 9 months and hiperglicidic after 12 months.

Conclusions The surgery was effective for the weight loss, however patients with ring reported more symptoms. The most frequent food intolerance happened with meats, mainly for the patients without ring. The hipocaloric diet was the more consumed by the two groups. The patients with ring showed a tendency to the hiperlipidic diet, while the patients without ring, to the hiperglicidic diet, what can affect in a negative way in the nutritional evolution and in the postoperative long-term results.

P138 Food Aversions After Bariatric Surgery: a Retrospective Study

P. Novais^{1,2}, N. Souza¹, I. Rasera Jr², M. Oliveira¹

¹Universidade Estadual Paulista "Júlio Mesquita Filho", Brazil; ²Clinica Bariátrica, Brazil

Background The anatomical change of the gastrointestinal tract after bariatric surgery leads to modification of dietary patterns that must adapt to new individual physiological conditions. Thus, the objective of this work was to assess retrospectively the evolution of food aversions in individuals submitted to bariatric surgery.

Methods A total of 172 individuals submitted to the Roux-en-Y Gastric Bypass from 2 to 7 years ago in a clinic in upstate São Paulo State, Brazil, participated in the study. In order to analyze the food aversion history, besides reviewing the clinical records, the participants were asked to report possible aversions. In order to analyze the food aversion history, besides reviewing the clinical records, the participants of the study were asked to report possible food aversions in the following occasions: before bariatric surgery, six months after surgery and at each surgery anniversary. The foods were listed according to the main foods of each food group to ease recollection. The results, in proportions, were compared by the chi-square test with a significance level of 5%.

Results Food aversions were more frequent in the first six months after surgery. The food groups most frequently cited were meats (80%), followed by cereals (75%) and the additional energetic foods (53%). The foods cited most frequently were red meat (44%), rice (38%) and regular soda (15%). As the years go by, food aversions become less frequent for all food groups ($p<0.005$) except for fruits ($p=0.67$). Thus, bariatric surgery presents individual variations regarding postoperative food tolerances. Food aversions are more frequent in the first months following surgery, especially regarding the meat and cereal groups, and over time tolerance for these foods increases significantly.

P139 Dietary Intake Survey Done by Electronic Mail to Patients with Sleeve Gastrectomy

A. Palacio¹, A. Valenzuela¹, J. Salinas², J. Klaassen¹

¹Department of Nutrition, Diabetes and Metabolism, Catholic University of Chile, Chile; ²Department of Digestive Surgery, Catholic University of Chile, Chile

Background There is a wide amount of evidence about the nutritional deficiencies related to gastric bypass surgery, because of the drastic decrease of intake. On the contrary, data on the alimentary intake after 12 months post sleeve gastrectomy is rather scarce. Our objective was to find out the daily intake of macro and micro nutrients at 3, 6 and 12 months post sleeve surgery, its relation to the daily recommended ingest, and the presence of gastrointestinal symptoms and alimentary intolerance.

Methods A 24 hrs dietary intake survey was sent by electronic mail to 120 obese patients with different post sleeve gastrectomy surgery times. The reported intake was analyzed with the Food Processor II Software.

Results Daily average intake at 12-mo post surgery was of 906 Kcal and 72 g of proteins. Calcium, iron, zinc, thiamin and folate ingest was less than the daily recommended. Twelve percent of the patients presented vomits related to fast swallow. Intolerance to fat (6%), sweet foods (1.2%), and red meats (1.2%) was reported.

Conclusions After sleeve gastrectomy, calorie's intake is similar to the one reported after gastric bypass; protein intake is acceptable and superior to the one reported in gastric bypass patients in Chile; reported eating of some vitamins and minerals as thiamin, folic acid, iron, calcium and zinc is below what is recommended. Our results suggest that these patients should receive mineral and vitamin supplements at least during the first year of follow-up.

P140 Nutritional Assessment of Children Borned After Bariatric Surgery

D. Casagrande, F.G. Colossi, R. Chatkin, J. Rizzolli, R.E. Klaesener, C.C. Mottin, M. Moretto, A.V. Padoin, M. Schmitt, G. Repetto

Centro da Obesidade M3rbida – Hospital S3o Lucas da PUCRS (COM HSL/ PUCRS), Porto Alegre, Brazil

Background The pregnancies after bariatric surgery are frequent, however, many children suffer intra-uterine malnutrition, becoming a predictive factor for the development of obesity.

Methods We evaluated 33 pregnancies of patients in the post-operative (PO) bariatric surgery (Fobi-Capella), included from September 2002 to March 2008. The mothers studied variables were: age, weight (W1) and body mass index (BMI1) before pregnancy, weight at the delivery (W2), gestational obstetric age (GOA), PO period after bariatric surgery to become pregnant (time 1). The newborn babies (NB), 12 girls, were classified into percentiles, using according to the growth standard curves NCHS (National Center for Health Statistics): weight/age (W/A) and length/age (L/A).

Results Table 1 – Characterization of the sample (n=33)

Conclusions We found that according to the NCHS parameters all the studied NB were in percentile 50 or less and no association with the gain/loss of the mother weight during pregnancy could be demonstrated. These conclusions must be treated with caution since we had a small number of patients. As an inference of these findings, we advocate the necessity of monitoring all NB of mothers in PO bariatric surgery.

Table 1 Characterization of the sample

Variables	Average	SD	Median	P25–P75
Age (years)	28.7	4.61	29.0	25.5–32
W1 (Kg)	83.7	15.2	92.5	69–101
BMI 1 (Kg/m ²)	47.9	8.23	47.8	42.1–52.2
W2 (Kg)	83.8	15.3	83.0	69–92
Weight gain during pregnancy (Kg)	6.17	9.24	8.0	1.9–12.5
GOA (weeks)	38.2	2.27	38.0	37–40
Time 1 (months)	17.6	13.1	16.0	6.5–26
Weight NB (Kg)	3.07	0.41	2.98	2.79–3.36
Length NB (cm)	48.2	1.61	48.0	47.1–49
Percentil W/A	37.4	27.2	25.0	17.5–55
Percentil L/A	25.8	17.9	20.0	15–42.5

P141 Story of Feeding Habits and Actual Food Consumption of Women Candidates for the Obesity Surgery

N. Souza¹, P. Novais^{1,2}, I. Rasera Jr², M. Oliveira¹

¹Universidade Estadual Paulista “J3lio de Mesquita Filho”, Brazil; ²Clinica Bari3trica, Brazil

Background Many obese people searching quality of life seek the bariatric surgery, but to avoid possible nutritional lacks after the surgery it's important to investigate the story of feeding habits and actual food consumption for more effective treatment.

Methods Participated 35 women candidates for the obesity surgery. Their story of feeding habits was determined by an instrument that assesses the chronological order of events. To estimate and verify the adequacy of actual food intake, three 24-hour recalls were used. The values of intake of energy, fiber and micronutrients were compared to the recommendations of Dietary Reference Intakes. The participants were divided in onset age of obesity. The differences among the groups were tested by ANOVA and the Turkey's test.

Results Feeding behavior from infancy, regardless of age of onset of obesity, was characterized by inadequate habits, such as nibbling, eating sweets and binge eating, frequently associated with anxiety. They had a western feeding pattern, however with pronounced inadequateness. Energy intake varied greatly (433 kcal–6878 kcal). Women who were obese during childhood consume more carbohydrates in their diets than women who became obese during adulthood (56% vs. 43%): these consume more fats (29% vs. 41%). On average, intakes of iron, vitamin B12 and vitamin C did not meet their estimated requirements; intakes of calcium and potassium were below the recommended. The intake of sodium surpassed the recommended upper limit (3629 mg vs. 1500 mg). Estimated fiber intake was below the recommended intake (17.7 g vs. 25 g).

Conclusions The feeding habits of these women are inadequate since their childhood. Changes in the quality of their diet should be made, therefore if that alimentary pattern continues they have great chances of many nutritional lacks after the surgery.

P142 Emotional Structure of Obese Patients Applying to Bariatric Surgery

M Silva, C. Machado, C. Sobreira, A. Garrido, R. Zini, Md.L. Cardoso, T. Simamoto

Hospital das Cl3nicas - HC FMUSP, Brazil

Background The applicants to Bariatric Surgery at the Obesity Surgery Unit of Digest System Department of HC–FMUSP are submitted to Pre-Surgery Psychological Evaluation aimed to assist the diagnosis of the patients' emotional structure. Through these evaluations it was found a need to study the existing changes in the emotional structure of patients to be submitted to Bariatric Surgery according to their obesity levels. This paper is to compare the psychological structure of two groups of patients distributed according to BMI levels above or under 50.

Methods 60 patients were randomly selected and grouped according to their IMC. 30 patients with BMI under 50 and 30 patients with BMI above 50 were submitted to a Pre-Surgery Psychological Evaluation using the tools of the Color Pyramids Test of Max Pfister.

Results 67% of the patients with BMI under 50 and 57% of patients with BMI above 50 presented their psychological structure affected, showing emotional instability. Statistically there was no significant divergences between the two groups.

Conclusions The emotional structure of the obese person is not related to the different levels of BMI.

P143 Self-Esteem of Patients Submitted to Bariatric Surgery

J.C. Martinez, P.C.C. Pinto, A.M. Maia, A.F. Duarte, E.C. Silva

Cecad - Cl3nica Especializada em Cirurgia do Aparelho Digest3rio, Brazil

Background Quality of life (QoL) is getting more attention in the medical literature. Self-esteem is an important aspect in patients' QoL and probably is decreased in obese patients. The aim of this study is to evaluate self-esteem obese patients before and after Bariatric Surgery (Fobi-Capella Gastroplasty). **Methods** 45 patients (36 women/9 men) were submitted to gastroplasty by Fobi-Capella, between the ages of 21 and 58 years old. It was used Rosenberg Self-Esteem Scale (RSES), validated to Portuguese Language from Brazil. Patients received the RSES before bariatric surgery. After one year, they were requested to complete the RSES and return it in an enclosed envelope. Data were analyzed using Mann-Whitney test.

Results 40 questionnaires returned complete, 2 patients didn't answer and 3 patients were not found (incorrect address). After one year, there was reduction mean BMI from 41.6 to 32.4 Kg/M². The Patients Showed Their Self-Esteem Was Increased Significantly (P<0.05).

Conclusions Weight loss after bariatric surgery improve self-esteem evaluated by Rosenberg Self-Esteem Scale.

P144 The 6 Minute Walk Test in a Cohort of Morbidly Obese Patients Before and After Gastric Bypass

J.R.I. Carneiro^{1,2}, Jd.V. Quaresma³, G.G. da Cruz^{2,3}, D. Xerez³, V.G. da Silveira⁴, J.E. de Oliveira¹

¹Universitary Hospital Clementino Fraga Filho / UFRJ. Diabetes and Nutrition Department, Brazil; ²V Enfermaria - Santa Casa de Miseric3rdia do rio de Janeiro, Brazil; ³Universitary Hospital Clementino Fraga Filho / UFRJ. Psychiatry Department, Brazil; ⁴Universitary Hospital Clementino Fraga Filho / UFRJ. Surgery Department, Brazil

Background The 6 minute walk test (6mwt) has been used to evaluate quality of life and mobility in obese and morbidly obese patients. During this procedure the balance, respiratory, cardiovascular and skeletal-muscle systems integrity were analyzed. We analyzed the results of the 6mwt in 16 morbidly obese patients before and after gastric bypass.

Methods 16 morbidly obese patients (14 women and 2 men, BMI average = $51.69 \pm 8.78 \text{ Kg/m}^2$) were submitted to a 6mwt in the preoperative period of bariatric surgery. We recorded after 2 minutes, after 4 minutes and at the end of test the distance covered (mts), the average speed (Km/h) and the energy expense (METs). All patients were previously evaluated by our cardiologist. A second 6mwt and the anthropometric measures were repeated after an average 234,06/116,69 days after open Capella-Fobi surgery and the results were compared to those of the first test.

Results Despite BMI was lower at the time of the second test ($38.82 \pm 8.04 \text{ Kg/m}^2$ vs $51.69 \pm 8.78 \text{ Kg/m}^2$, $p < 0.01$), we didn't find any difference in the parameters analyzed when we compare the two tests. However, after surgery, the difference of the distance covered at the end of the test between the two tests was correlated to the percent of BMI lost (%EBL) and to the time between the surgery and the second test, respectively ($r = 0.529$, $p = 0.035$ and $r = 0.615$, $p = 0.011$). In the same way, the %EBL was correlated to the time between the surgery and the second test, respectively ($r = 0.567$, $p = 0.022$).

Conclusions After bariatric surgery, the improvement in the performance of the 6mwt is correlated to the %EBL. As the postoperative time increase, we can observe an improvement in the performance of the 6mwt and this is correlated with the changes in the BMI of this group of patients.

P145 Bariatric Surgery: Post Surgical Patients Return, Complaints and Psychological Treatment Adhesion

I. Paegle^{1,2,3}, M. Galvão¹, J. Vieira da Silva³, A. Ramos¹, J. Rivera^{1,3}

¹Gastro Obeso Center, São Paulo, Brazil; ²Methodist University, São Bernardo do Campo, Brazil; ³Apep Associação de Psicoterapia e Estudos Psicanalíticos, Santo André, Brazil

Background Study of the patients that undergone a bariatric surgery, who were offered psychological treatment, adhesion followed by a multidisciplinary team.

Objectives 1. List the patients that fulfilled the Psychology Section post surgical protocol; 2. Report previous psychopathologies, confronted with the surgery results; 3. Analyze the psychological treatment adhesion degree.

Methods Descriptive exploratory study with data extracted from the medical registers. Patients (82) were selected and examined: genre, age, surgical technique, maximum and minimum eliminated body weight, surgery elapsed time, complaints reported after the surgery. **Results** Two groups were formed: group I with 42 patients that fulfilled all post surgical requirements and accepted psychotherapy sessions; group II with 40 patients that had not returned to the Psychology Section. In group I, the ages from 19–65 years old; surgery elapsed time between ten days to seven years; techniques By-

Pass-24, Fobi-14, BGA-2, Sleeve-1 e IB-1. The smallest amount of eliminated weight was 5 kg and the biggest, 63 kg. In group II, the ages from 17–53 years old; surgery elapsed time between 5 days to 5 years. The complaints arisen by both groups were categorized as psychological and psychopathological illnesses; feeding disorders; psychosocial aspects. In both groups, there were references to the assessed categories. In group I, 15 patients were under medication and 6 from group II. Within the psychosocial aspects, 23 patients from group I reported inadequacies and 5 from group II.

Conclusions More studies are required, regarding the weight regain and do not accept the team's suggestions. The psychopathology illness diagnosis seems to be the distinguishing factor regarding the complete adhesion to the bariatric surgery follow-up procedures.

P146 Assessment of Anxiety and Depression in Pre-Operative Bariatric Patients

F. Kruschewsky, F. Aberceb, M. Vilas-Boas, H. Povoas, O. Casais, M. Magalhaes

Center for Obesity Surgery, Brazil

Background Anxiety and depression are contemporary symptoms that cause significant impairment of social and occupational functioning and affect other important areas of the individual's life. Several studies have shown association between obesity and morbid psychiatric disorders (such as depression and anxiety). These symptoms may contribute to the development and maintenance of morbid obesity.

Objectives To assess the levels of anxiety and depression in morbid obese patients candidates for bariatric surgery.

Methods From August 2006 to August 2007, 211 patients were studied at the center for Obesity Surgery, in Salvador, BA, Brazil. The patients were of both sexes, aged between 20 and 50 years and the technique used was a laparoscopic banded Roux-en-Y gastric bypass. The instruments used were the Beck Inventories for Anxiety (BAI) and depression (BDI), both composed of 21 questions each, which answers resulted in a score classified at minimum, mild, moderate and severe.

Results The anxiety level was minimal in 53.1% of the cases, 25.1% had mild anxiety, 14.7% moderate anxiety and 7.1% of the patients showed severe anxiety. Regarding the level of depression, 43.5% of patients had minimal depression, 32.4% mild, 20.3% moderate and 3.9% had severe depression.

Conclusions There was a high prevalence of depressive symptoms and anxiety in morbid obese patients. The data reinforce the need for post-operative psychological support to help patients in the lifestyle changes adaptation imposed by surgery.