

International Federation for the Surgery of Obesity and metabolic disorders. XIV World Congress

Palais des Congrès (Porte Maillot) – Paris, France
August 26-29, 2009

Oral Communications

O-001 Upper Gastrointestinal Investigations Before Gastric Banding

Presenter: M. Bueter (Imperial College London, Hammersmith Hospital, London, United Kingdom)

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Background Long-term complications after laparoscopic gastric banding (LAGB) are frequent and lead to reoperations in a substantial number of patients. It is not known whether esophageal motility or the lower esophageal sphincter play a role in the development of complications. We compared the results of preoperative upper gastrointestinal (GI) testing and the outcome after LAGB.

Methods 68 bariatric patients had esophageal manometry, endoscopy and pH monitoring, prior to LAGB. In 61 patients (90% follow-up) the differences in weight loss, complications and reoperation rate were retrospectively compared.

Result 8.2% of the patients had a non-specific motility disorder of the esophagus, 44.3% had an incompetent sphincter on manometry, and 17.5% had acid reflux on pH monitoring. Endoscopic evaluation revealed esophagitis in 10.3% and hiatal hernia in 33.8%. Abnormal pH monitoring and endoscopic findings were not predictive for the long-term outcome or complications. Presence of an incompetent lower esophageal sphincter (LES) led to reoperation in a greater number of patients (44.4% vs. 14.7%, $p=0.01$), especially if the band was placed using the pars flaccida technique.

Conclusion pH monitoring and endoscopy do not predict outcome of gastric banding and have therefore no relevance in selecting patients for gastric banding. Patients with an incompetent LES on manometry had a higher reoperation rate. If this finding can be confirmed, patients with LES incompetence may need another intervention.

O-002 Laparoscopic Adjustable Gastric Banding via Pars Flaccida vs Perigastric Positioning. Technique, Complications and Results in 2549 Patients

Presenter: N. Di Lorenzo (University of Tor Vergata, Rome, Italy)

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Background Aim of this study is the retrospective multicenter analysis of the results of perigastric and pars flaccida band positioning.

Methods Data were collected from the data base of the Italian Group for LapBand (GILB). Patients operated from January 2001 to December 2004 were selected according to criteria of case-control studies to compare two different positioning techniques: Perigastric (PG-group) and Pars-Flaccida (PF-group). Laparotomic conversion, postoperative complications and weight loss parameters were considered. Data were expressed as mean \pm standard deviation. Fisher's exact test was used for statistics ($p<0.05$ was considered significant). **Result** 2549 patients underwent the LapBand-System procedure (2130F/419 M, mean age: 40 ± 11.7 , mean BMI: 46.4 ± 6.9 Kg/m², mean EW: 60.1 ± 23.6 Kg; mean %EW: 90.1 ± 32.4). 1343/2549(52.7%) were allocated into the PF-group and 1206/2549(47.3%) in the PG-group. Mortality was absent in both groups. Operative-time and laparotomic conversion were significantly higher in the PG-group (80 ± 40 min vs 60 ± 20 ; $p<0.05$), and (6 vs 2 patients; $p<0.01$), respectively. Overall postoperative complication rate was 172/2549 (6.7%) and was linked to gastric pouch dilation/slippage (67/172), erosion (17/172), and tube/port failure (88/172). Gastric pouch dilation and erosions were significantly more frequent in the PG-group: 47 vs 20 ($p<0.01$), and 12 vs 5 ($p<0.01$), respectively. Patients with a minimum 3 years follow-up were 1118/1206(PG group) and 1079/1343(PF group). Mean BMI was 33.8 ± 12.1 (PG-group) and 32.4 ± 11.7 (PF group)($p = ns$), and mean %EWL was 47.2 ± 25.4 and 48.9 ± 13.2 in PG and PF-groups, respectively ($p = ns$).

Conclusion Significant improvement regarding laparotomic conversion and postoperative complication rate, with similar weight loss results, was observed in the pars flaccida group.

O-003 Is The Fixation of Gastric Band Useful?

Presenter: O. Boudouris (Neo Athineon hospital-IMoP, Athens, Greece)

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Background The non-fixation of the gastric band makes operation simpler and mostly leaves the field free for a possible re-operation. Our purpose is to evaluate the effect of fixation of band in the frequency of slippage

Methods Four series of gastric band operations were performed from the same surgical team as following:

| | | |
|-------------|--------------------------------------|-----------|
| 1994 - 2001 | Peri-gastric, LapBand® with fixation | 143 cases |
| 2005 - 2006 | Pars flaccida, SAGB® with fixation | 139 cases |
| 2006 - 2007 | Pars flaccida SAGB® non-fixation | 66 cases |
| 2007 - 2008 | Pars flaccida MidBand® non-fixation | 135 cases |
| 1994 - 2008 | Total | 483 cases |

Minimal follow-up: 10 months and average 2 years and 8 months.

Result

| | N Band | N slippage | % slippage |
|-------------------------------------|--------|------------|------------|
| Peri-gastric LapBand® with fixation | 143 | 21 | 14,69% |
| Pars flacidia SAGB® with fixation | 139 | 3 | 2,16% |
| Pars flacidia SAGB® non-fixation | 66 | 1 | 1,52% |
| Pars flacidia MidBand® non-fixation | 135 | 2 | 1,48% |
| Total Pars flacidia | 340 | 6 | 1,76% |
| Total with fixation | 282 | 24 | 8,51% |
| Total non- fixation | 201 | 3 | 1,49% |
| General total | 483 | 27 | 5,59% |

Treatment of slippage was the removal of band in 21 cases, replacement in 3, conversion to sleeve in 2 and to by pass in 1.

Conclusion Although this study is not a randomized one but retrospective, results establish clearly that the peri-gastric technique is linked with higher slippage rate (14,69%) than pars flacidia technique (1.76%). The non-fixation technique, reduce the frequency of slippage in total (1,49%), in comparison with fixation (8,51%), either we use the peri-gastric technique (14,69%), or the pars flacidia technique (2,16%). There is no significant difference using SAGB® or MidBand®, although the number of first (66), is limited to give final results. All these conclusions demand longer time ratification in a border of perspective studies.

O-004 Long-Term Results After Laparoscopic Gastric Banding for Morbid Obesity. 13 Years Follow Up in a Single University Unit

Presenter: A. Konstantinos (Bichat Claude Bernard Hospital, Paris, France)

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Background Laparoscopic adjustable gastric band (LAGB) placement is a common procedure for morbid obesity patients due to its encouraging early results. In order to evaluate the long-term effect and failure rate of LGB on weight loss we reviewed the results of LGB operations in our institution.

Methods Between September 1995 and December 2007, LAGB was attempted in 899 cases meeting the minimum of the criteria for bariatric surgery proposed by the NIH Consensus Development Panel of 1991. The LAGB was successfully placed laparoscopically in 895 cases (completion rate 99.6%) either using perigastric dissection (373 cases, 41.7%) or after 2000 using the pars flaccida technique (522 cases, 58.3%). Male to female ratio was 1 : 6.1, mean age was 39.5 (SE 0.34) and baseline median BMI was 44.3 (SD 6.2 min 30.5 max 74.5). Perioperative complications leading to reoperation (within 30 days) occurred in 11 cases (1.2%) and in 8 of them the LAGB was removed, while the procedure related mortality was 0.01% (1 case). BMI, percentage of excessive weight loss (EWL%), late complications requiring band removal (with or without conversion to another bariatric procedure) and treatment failures were recorded in 887 eligible patients, during a median follow-up of 6.3 years (76 months, SD 36.1, min 2 months, max 13.5 years).

Result Overall, 274 patients (30.9%) developed 335 late complications (1.2 per patient), the most frequent being pouch dilatation (10.5%), stoma kinking/occlusion (8.5%), and catheter rupture/disconnection (5.9%). LAGBs were removed during follow up in 264 cases (29.8%), due to complications mandating removal in 203 cases (77% of removals), due to treatment failure in 54 cases (20%), or due to patient preference in 9 cases (3%). The LAGB was still in place in 861 cases (97%) 1 year postoperatively, in 798 cases (90%) at 2 years, in 536 cases (65.3%) at 5 years, in 245 cases (60.7%) at 8 years and in 96 cases (55.3%) at 10 years. In these groups of patients that were eligible for response to treatment at 1 year, 2 years, 5 years, 8 years and 10 years postoperatively, median BMI values were 36 (SD 5.8), 35 (SD 6.4), 36.7 (SD 6.8), 36.2 (SD 7.1) and 36.3 (SD 7.5) respectively, while median values of BMI difference from baseline were 8.4 (SD 4.3, range -0.4 – 27.4), 9.6 (SD 5.1, range -6.57 – 31.5), 8.4 (SD 5.7, range -11.5 – 34.0), 9.5 (SD 6.1 range -11.2 – 29.7) and 10.3(SD 6.4, range -10.0 – 29.7) and median EWL% values were 42.9% (SD 19.8, max 135.6), 47.6% (SD 22.9,

max 123.8), 40.6% (SD 25.0, max 133.6), 46.0% (SD 6.1, max 129.7) and 44.1% (SD 28.1, max 108.9) respectively.

Conclusion Laparoscopic gastric banding is a simple and safe bariatric operation as a procedure per se. Still, it results in overall < 50% of EWL in both short and long term follow up and is accompanied by a significant reoperation rate either due to complications or due to treatment failure. Thus, LAGB should no longer be considered as the procedure of choice for obesity and reliable selection criteria must be developed for its use if at all.

O-005 Long Term Results of Laparoscopic Adjustable Gastric Banding for the Treatment of Morbid Obesity

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Background Laparoscopic Adjustable Gastric Banding (LAGB) is a gold standard for the management of morbid obesity for 15 years. However, the effectiveness in the long term follow-up is not very well known. Two French bariatric centers describe their experience and the evolution of the choice of the bariatric procedure resulting of their long term data.

Methods Between 1996 and 1999, 2 French bariatric centers have prospectively collected the data of severe or morbid obese patients treated by LAGB. 170 patients (86, 6% female) have undergone LAGB procedure. Excess weight loss after 10 years of surgery and the morbidity of the procedure have been analyzed.

Result The perigastric technique (LB) (Lap Band, Inamed), has been performed in the beginning of our learning curve in 124 patients then we have switched to the Pars Flaccida approach for 116 patients (SAGB) (Swedish adjustable gastric banding, , Obtech) The mean BMI of the patient was 45,05 kg/m for LB and 44,52 kg/m for SAGB. The mortality rate was nil and the conversion rate was 0, 02%. The complications were represented by slippage or dilatation, intragastric migration, achalasia, port problems, food intolerance, GER disease, hemorrhage. The rate of slippage was significantly higher in the perigastric group (23, 3% Vs 5, 4 %). 21, 7 % of band has been removed. When the band was still in place the EWL at 10 years was 50, 15%. The Reinhold score of the 240 patients operated was good or excellent in 35% of women and 25% of men at 10 years.

Conclusion Even if the LAGB is a consensual procedure for the management of morbid obese patients, the long term results present poor efficacy in term of weight loss. The perigastric approach has to be abandoned due to high risk of slippage.

O-006 Laparoscopic Gastric Banding is Safe in Outpatient Surgical Centres

Presenter: C. Cobourn (Surgical Weight Loss Centre, Mississauga, Canada)

Background The public hospital system is plagued by serious constraints on resources and capacity, suggesting a need to move surgical procedures to the clinic setting when feasible. This study was designed to investigate the safety of laparoscopic adjustable gastric banding (LAGB) as an outpatient procedure for morbid obesity.

Methods This retrospective analysis included consecutive patients who underwent outpatient LAGB at the Surgical Weight Loss Centre in Ontario, Canada, beginning with our initial experience in February 2005 and continuing to November 2008. Eligible patients were morbidly obese adults whose outpatient surgery had been performed by one of two experienced

Results A total of 1224 patients were included in this analysis. Most procedures were performed in an outpatient surgical facility (n=1164; 95.1%), whereas the remainder (n=60; 4.9%) were performed as outpatient procedures at a major community hospital due to assessment of higher risk. The average presurgical weight was 282 lbs and the average BMI was 45.8 kg/m² (range 35.1 to 77.9 kg/m²). Fifteen of the 1224 patients (1.2%) experienced minor complications during surgery or within 30 days of surgery (dysphagia, n=3; port

infection, n=2; all other complications occurred in 1 patient each). No complication was deemed serious. The device was explanted in 2 patients. The average time from sedation to discharge was < 4 hours.

Conclusion The ability to treat patients within 4 hours and the extremely low complication rates reported here contribute to a growing literature supporting the safe performance of LAGB in an outpatient setting for the treatment of morbid obesity.

O-007 5-7 Year Us Outcomes with Gastric Banding: Sustainability of a Procedure

Presenter: M. Kurian (New York University Medical School, New York, United States of America)

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Background Laparoscopic gastric banding is gaining in popularity in the U.S. Concerns of the longevity of the procedure are raised when considering the 5-7 year European banding data. Since some of the European centers with longer follow-up are removing bands, we decided to look at our 5-7 year outcomes in our gastric banding patients.

Methods Retrospective review of our prospective database from 2001 to 2009. Pts identified had their surgery from January 2001 to May 31, 2004. All reoperations were identified.

Results 833 patients underwent primary banding. Follow-up at 5, 6 and 7 years is 54.9% (206/376), 46% (100/217) and 52.8% (47/89). Port and tubing repairs occurred 7.8% of the time and port infection occurred 0.72%. There was a 0.36% incidence of leak from the band balloon. Revisions for gastric prolapse or hiatal hernia repair were 9.0% and 13.32%. The incidence of band removal for erosion and band intolerance was 0.6% and 1.92%. Revision of gastric banding to another bariatric procedure occurred in 3.96% of the patients and 0.6% had their bands changed. Overall reoperation rate was 38.28%.

Conclusions 5-7 year follow-up of gastric banding patients shows a high retention of the gastric band in our hands. The overall reoperation rate is fairly significant with minor and major procedures, and most patients opt to keep their bands. Our 5-7 year percentage follow-up is comparable to other centers and is a limitation of this study.

O-008 14-Year Long-Term Results After Gastric Banding: Are Failures the Result of a Mistake?

Presenter: C. Stroh (SRH Wald-Klinikum Gera, Gera, Germany)

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Background Adjustable gastric banding is a popular bariatric operation worldwide.

The rate of long-term complications such as pouch dilatation, slippage and band migration and the long-term effect of weight loss are reported in a meta-analysis and few studies for a period of more than 5 years. We report on our experiences with gastric banding.

Methods Over a period of 14 years 200 patients with morbid obesity were treated with gastric banding. Preoperative data, postoperative weight loss and long-term complications were prospectively obtained and retrospectively analyzed.

Results The mean age of the patients was 41.7 years, with a mean preoperative BMI of 49.6 kg/m. No intraoperative or postoperative death occurred in the first 30 postoperative days. 89% of the patients (n=178) were available for follow-up (mean follow-up time 120 months). Long-term complications occurred in 19% of the patients. 27 complications (13,5%) were related to slippage and pouchdilatation and 11 (5,5%) to band migration. Mean excess

weight loss was 39.6, 47.3, 44.2, 43.4, 32, 32% after 1, 2, 4, 5, 8 and 10 years, respectively.

Conclusions Laparoscopic gastric banding can achieve an effective weight loss. However band-related and functional complications will influence the late outcome. Pathways to choose the best surgical method for the individual patient are necessary to reduce failures after gastric banding.

O-009 Does Additional Pharmacotherapy to AGB Influence Outcomes?

Presenter: K. Dolezalova (ISCARE a.s., Prague, Czech Republic)

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Background Obesity is multifactorial disease with several back-up mechanisms establish in human organism to held keeping body weight relatively steady. Unfortunately various back up mechanisms against weight loss are empowered even in morbidly obese patients.

Methods During a three year period (2005-2008) 65 patients (59female, 6 male) who underwent adjustable gastric banding (AGB) and in whom despite behavioral, dietary, exercise and band adjustment interventions weight loss did not exceed 1.5 kg/month, or who reached „plateau“ phase for at least three months, were subjected to additional pharmacotherapy (combined approach). Patients were started on Sibutramin 10 mg/day, however still keeping level of gastric restriction and dietary regimen unchanged.

Result Average age of this group of patients was 38.4 years, pre-op weight/BMI was 137.3 kg/42.1, average weight loss achieved before additional pharmacotherapy was started -12.4 kg (+11.1 to -25.0 kg). Patients entered the study in average in 11.4 months (6-36 mths) after operation.

Average length of combined therapy was 4.8 months (1-14 mths) and average weight loss during the combined therapy period was -16.4 kg (-8.6 to -30.2 kg) Achieved weight loss / month was statistically significantly higher (p<0.001) than during any other month before the combined therapy was started.

Conclusion Combined therapy adds incremental weight loss in patients who are not achieving adequate weight loss (at least 2 kg/mth) after AGB despite adequate behavioural, dietary, exercise and gastric restriction interventions. Combined therapy intensifies effect of bariatric treatment in selected group of patients and triggers weight loss in „plateau“ patients again. Combined therapy reduces appetite substantially. Combined therapy can be applied even on intermitent basis. There were no adverse events reported during the entire study.

O-010 Poor Psychological Health and a History of Abuse, in Bariatric Surgery Candidates: Levels of Pathology in the UK

Presenter: J. Buckroyd (University of Hertfordshire, Hatfield, United Kingdom)

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Background Research literature from Italy and the USA on psychological screening for bariatric surgery candidates, reports high percentages of childhood maltreatment, poor self-esteem, and depression. This paper explores whether bariatric surgery candidates in the UK reveal similar levels of pathology.

Method 300 NHS bariatric surgery candidates, referred for Roux-en-Y gastric by-pass over 18 months, were offered a psychological assessment as part of the multi-disciplinary screening process. 120 candidates completed

- The Rosenberg self-esteem scale (RSE)
- The Becks Depression Inventory (BDI)
- A semi-structured clinical interview to investigate childhood maltreatment

Results RES Results showed 11% (n=13) were within the normal range; 89% (n=103) had scores indicating low self-esteem.

BDI results showed 3% (n=3) were not depressed; 25% (n=29) had mild-moderate depression; 56% (n=65) had moderate-severe depression; 16% (n=19) had severe depression.

Other data from the clinical interview indicated that 77% (n=92) of candidates had experienced emotional abuse in childhood; 68% (n=82) physical abuse; and 42% (n=50) sexual abuse.

Conclusion These data suggest bariatric surgery candidates in the UK present a very similar profile to studies from the USA and Italy.

Although this sample has limitations, the study has implications for peri-operative care for this patient group. Such high levels of pathology argue for routine psychological screening and support.

O-011 Measurements with Computed Tomography of Visceral Fat, Hepatic Volume and Density in Morbidly Obese Patients Undergoing Bariatric Surgery: About 107 Cases

Presenter: E. Letessier (CHU Hôtel Dieu, Nantes, France)

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Background Bariatric surgery is associated in the event of significant loss of excess weight to a significant reduction in the volume of visceral fat in the morbidly obese patient.

Methods The aim of this prospective study was to evaluate a new program using computed tomography (CT) in order to measure the volume of visceral fat in 107 morbidly obese patients, pre-operatively. Liver volume and density were also calculated. Abdomino-pelvic scanographies acquisitions were achieved, from the tip of the xyphoïde to the pubic symphysis. Software for semi-automatic detection of fat, by using a pixel density selected and highlighting the abdominal cavity, was able to calculate the volume of visceral fat. The same method was used to measure the volume and density liver.

Result The average age of patients was 45 years (range: 22 and 65). The average of body mass index of patients was 49 kg/m² (range: 34 and 70 kg/m²). The averages of measurements obtained in this patient group are: volume of visceral fat: 5907 cm³ (min 511 cm³, max 16147 cm³); liver volume: 2465 cm³ (min 1391 cm³, max 4457 cm³); liver density: 42 Hounsfield Units (min - 14 UH, max 125 UH). In women with abdominal perimeter exceeds 88 cm (n=81) and in men with abdominal perimeter exceeds 102 cm (n=26), we found an aspect of hepatic steatosis in 44% of cases (n=36) in women and 46% of cases (n=12) in men.

Conclusion This method allowed us to calculate precisely the volume of visceral fat, volume and density liver. These results are easy to obtain and reproducible, allowing the follow up of these patients after surgery. The volume of subcutaneous fat, often out of the field of view in obese patients could not be assessed.

O-012 Impact on the Surgical Technique When the Liver Size and Visceral Fat are Compared on Computer Tomography After a 5-Day Preoperative Diet. Liquid vs Solid Diet

Presenter: R. Rumbaut (Hospital San Jose TEC de Monterrey, monterrey, Nuevo León, Mexico)

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Background Laparoscopic bariatric surgery requires a good visualization and exposure of the intraabdominal organs. Several studies have stated that a

very low calories liquid diet before surgery improves the visual field by decreasing the intraabdominal visceral fat. The aim of the study is to compare liver size and visceral fat volume on computed tomography before and after 5 days of liquid vs low calories solid diet, and its impact on the surgical technique.

Methods This is a comparative, longitudinal, experimental and prospective study. Twenty four candidates were chosen for bariatric surgery, with a BMI between 35 to 60. They were randomly assigned to a) liquid diet or b) low calories solid diet, for 5 days up to the day before surgery. A CT was performed in every patient before and after the diet. In this study, surgery in all patients was conducted by the same blinded surgeon, who after each procedure, filled a Likert scale to assess the level of technical challenge.

Result No significant differences in demographics between the 2 groups were found (age, BMI, Sex, Visceral Fat and Hepatic Volume). In the solid diet group, there was a decrease in liver volume of 2933.4286 cc to 2573.8571 cc (P=0.043). A decrease in visceral fat of 269.2857 cc to 218.7143 cc (P = 0.036) was also observed. In the liquid diet group, the liver volume decreased from 2809.3333 cc to 2404.8889 cc (P = 0.002) and visceral fat decreased from 254.3333 cc to 186.4444 cc (P = 0.003). When comparing the total N (both groups), the liver volume decreased from 2863.6250 cc to 2478.8125 cc (P = 0.000) and visceral fat is reduced from 260.8750 cc to 200.5625 cc (P=0.000). We found no relationship between diet and technical challenge in the Likert scale.

Conclusion Both low calories liquid and solid diets reduce significantly visceral fat and liver volume in only 5 days. In our series, the reduction of calories in the diet, but not its consistency, plays an important role in preparing the patient before being submitted to laparoscopic bariatric surgery.

O-013 Opioid Sparing Anesthesia in Mini-Gastric Bypass Using Dexmedetomidine, Ketamine and Remifentanyl, Propofol Total Intravenous Anesthesia (TIVA)

Presenter: R. Rutledge (Centers for Laparoscopic Obesity Surgery, Henderson, United States of America)

Background Anesthetic management of morbidly obese patients is problematic with particular concerns re: difficult airway, respiratory depression/failure and post operative nausea and vomiting (PONV). Opioid sparing techniques may allow improved management of these difficult patients.

Methods Mini-Gastric Bypass MGB patients were treated with either TIVA (remifentanyl & propofol) with (TKD) or without (TNO) opioid sparing doses of supplemental ketamine (50-100 mg) and dexmedetomidine (100 g IV over 10 minutes.) We compared post-anesthetic recovery analogue pain score (APS) and narcotic use (# of doses), post operative nausea and vomiting (PONV) and overall patient satisfaction.

Result Over a two year period 720 patients underwent MGB, 343 TKD patients and 377 TNO patients. The mean age 39+8, 85% female, mean BMI 45+7, mean operative time 39+5 min. No patient required reintubation for respiratory depression. In comparing the two groups the TKD patients had: significantly lower mean APS, fewer doses of rescue narcotics, a higher mean respiratory rate in recovery room, less PONV and higher levels of patient satisfaction.

Conclusion Morbidly obese patients present a serious anesthetic challenge to the surgeon and anesthesiologist. The short operative time of the Mini-Gastric Bypass (39 min) allows the use of opioid sparing techniques that decrease respiratory depression and PONV caused by narcotics. This decreases the need for narcotics, improves pain score, decrease PONV and improves overall patient satisfaction.

O-014 Development of Micronutrients Deficits in Patients Submitted to Laparoscopic Roux-Y-Gastric Bypass vs Laparoscopic Sleeve Gastrectomy 12 to 24 Months Post Surgery

Presenter: C. Boza (P. Universidad Católica de Chile, Santiago, Chile)

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Background It is well recognized that Bariatric Surgery is associated with development of micronutrients deficit. The aim of this study is to assess the micronutrients status in patients submitted to Laparoscopic Roux-Y-Gastric Bypass (LRYGBP) or Laparoscopic Sleeve Gastrectomy (LSG).

Methods Retrospective analysis of our database. 66 patients in the LRYGBP group and 52 in the LSG group having a complete biochemical profile between 12 and 24 months post op were compared. All patients were advised to take vitamins containing Iron, Folate, Calcium, D vitamin and B12 vitamin injection monthly.

Result The %EWL evolution for LRYGBP and LSG was as follow, respectively: Month1: 29±13 vs 30±13, Month6: 80±25 vs 80±20, Month12: 100±22 vs 90±30, Month24: 100±30 vs 100±18 (p>0.05). The Iron plasmatic biochemistry did not reveal any difference between the groups, but 8 patients had low levels of Ferritin and Transferrin saturation in the LRYGBP compared to 1 patient in the LSG group. There was a significant difference in plasmatic levels of PTH (LRYGBP: 48±11 vs LSG: 40±11, p<0.05) but only 1 patient had abnormal levels of PTH in each group. The B12 vitamin and RBC Folate levels showed no differences, although there were 3 patients in the LSG group with RBC Folate below normal.

Conclusion Here we show that both surgical techniques have a similar micronutrients deficit over time, although it seems that LRYGBP interferes more severely than LSG in Iron metabolism with no statistical difference. Also, Vitamins supplements are important to avoid these deficits.

O-015 Maintenance of Serum Calcium, Parathyroid Hormone and Vitamin D After Bariatric Surgery: a Comparison of Gastric Bypass, Duodenal Switch and Sleeve Gastrectomy

Presenter: P. Frank (University of Southern California, Los Angeles, United States of America)

Co-authors: P. Crookes¹

Background Several studies have reported on calcium metabolism after bariatric surgery but few have compared the effects of different procedures. The goal of this study was to compare calcium, 25-hydroxyvitamin D (25-OH D), and parathyroid hormone (PTH) values in patients who underwent a sleeve gastrectomy (SG), roux-en-Y gastric bypass (RGB), or duodenal switch (DS).

Methods Patients who underwent a DS (n=331, mean BMI 53.5), SG (n=70, mean BMI 60.2), or RGB (n=72, mean BMI 48.6) had calcium, PTH, and 25-OH D levels measured preoperatively and at 12 and 24 months postoperatively. The percentage of patients developing new-onset hyperparathyroidism (NHPT) postoperatively was determined during the first 6 months (early) and between 9 and 24 months (late).

Result The median preoperative PTH value was significantly higher in the SG group compared to the RGB group (p=.03), reflecting their higher BMI. Postoperatively, the 25-OH D was significantly lower in DS patients compared to RGB at 12 months (p=.02) and the SG at 24 months (p=.01). Calcium values did not differ between groups. NHPT in the early period developed in 11.1%, 23.2%, and 25.3% of the SG, RGB, and DS patients, respectively (p=ns). The percentage of patients developing NHPT in the late period was 27.3%, 10.0%, and 41.6% in the SG, RGB, and DS patients (p=.05 for DS vs. RGB).

Conclusion Vitamin D deficiency and secondary hyperparathyroidism is more frequent after the duodenal switch procedure, but may occur even after purely restrictive procedures.

O-016 Impact of Time and the Acute Ingestion Carbonated Drinks on Pouch Area and Outlet Diameter After Laparoscopic Roux-En-Y Gastric Bypass (LRYGBP)

Presenter: M. F. Herrera (The American British Cowdray Medical Center I.A.P., Distrito Federal, Mexico)

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Background Recommendations to prevent pouch dilation in patients undergoing a LRYGBP include: pouch construction using the lesser gastric curvature and avoidance of carbonated drinks after surgery. Nevertheless, pouch distensibility has been scantily studied. The aim of the study was to assess 1) changes on pouch area and diameter of the gastrojejunostomy over time, and 2) the impact of the acute ingestion of carbonated drinks (radiologic double contrast) on gastric distensibility after LRYGBP

Patient and Methods A total of 55 patients who underwent immediate postoperative gastrografin swallow and had more than 6 months after LRYGBP (26.8±20.4) were included. The gastrografin GI evaluation was repeated and additional studies using barium and double contrast were performed. Pouch areas were calculated using standard formulas for geometric figures and the diameter of the gastric outlet (gastrojejunostomy) was measured. Studies were then compared

Result There were 21 males and 34 females with a mean age of 41.3±10.4 years. There were no significant differences in pouch areas between the immediate postoperative and the follow-up gastrografin studies. However, mean gastric outlet increased. Pouch area and outlet diameter were significantly higher after the ingestion of double contrast than barium alone. (Table

| | |
|-----------------------------|---------------------------------|
| Pouch area, cm ² | Immediate PO gastrografin study |
| Outlet diameter, cm | 13.7±7.3 |
| | 7.5±2.0 |
| | Follow-up gastrografin study |
| | 13.3±5.7 |
| | 11.3±3.1 |
| | Follow-up barium study |
| | 16.5±7.5 |
| | 14.3±4.2 |
| | Follow-up double contrast study |
| | 37.0±20.3 |
| | 24.8±6.3 |

Conclusions Gastric pouch and outlet showed a 44.5% and 57.6% of enlargement after the ingestion of double contrast. Gastric outlet increased with time, whereas pouch areas remained very similar.

O-017 Assessment of Plasma Citrulline, Iron, Vitamine D and Nutritional Status in the Short-Term Follow-Up of Roux-En-Y Gastric Bypass for Morbidly Obese Patients

Presenter: E. Letessier (University Hospital of Nantes, Nantes, France)

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Background Weight loss in morbidly obese patients after Roux-en-Y gastric bypass (RYGB) may involve intestinal malabsorption. Plasma citrulline is a marker of intestinal absorptive function, but is not modified 2 years after RYGB (ESPEN 2008, P351). The aim was to examine whether plasma citrulline, iron, vitamine D status, and nutritional markers could be modified 3 months after RYGB.

Methods We prospectively included 20 morbidly obese patients (18 women, mean (±SD) age 45±8 yrs, mean BMI 47.4±6.6) selected for RYGB. They all underwent blood testing including globular count, iron, ferritin, albumin, transthyretin, 25-OH-D3, creatinine and citrulline, 15 days before and 3 months after RYGB. At discharge, systematic micronutrient supplementa-

tion, associated with a specific iron or vitamin D supplementation in case of deficiency, was prescribed to all patients for 3 months.

Result At 3 month, mean (\pm SD) excess weight loss and BMI were $32\pm 11\%$ and 38.9 ± 6.3 , respectively. Before RYGB, all patients had a vitamin D deficiency, and none have corrected it after RYGB. Before RYGB, low ferritin, low iron and mild anemia were found in 1 (5%), 5 (25%) and 2 (10%) patients, respectively. Prevalence of post-operative sideropenia is 35%. Plasma iron was reduced after RYGB (13.3 ± 5.5 vs. 18.4 ± 6.4 $\mu\text{mol.L}^{-1}$, $P=0.02$), without any change in ferritin. Hypoalbuminemia was observed in 8 patients (27%) before RYGB. RYGB was associated with an increase of serum albumin (42.0 ± 3.4 vs. 37.3 ± 2.8 g.L^{-1} , $P=0.007$). Plasma citrulline was non significantly reduced 3 months after RYGB as compared with baseline (23.8 ± 9.3 vs. 28.2 ± 4.7 $\mu\text{mol.L}^{-1}$, $P=0.07$), while plasma creatinine did not vary (62.4 ± 11.6 vs. 62.8 ± 9.8 $\mu\text{mol.L}^{-1}$, NS).

Conclusion Although nutritional status seems to improve 3 months after RYGB, the prevalence of sideropenia and vitamin D deficiency is high. Plasma citrulline decreased, but remains in normal ranges, suggesting that the alteration of intestinal absorptive function is not the main factor leading to weight loss after RYGB.

O-018 Weight Loss Importance is Not the Only Predictive Factor of Gallstone Formation After Laparoscopic Roux En Y Gastric By Pass (Lrygbp)

Presenter: S. Msika (department of bariatric surgery, colombes, France)

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Background Obesity as weight loss are well known risk factors of gallstone formation. LRYGBP is a very efficient procedure of bariatric surgery in term of weight loss. The aim of this study was to report our experience about gallstone formation before and after LRYGBP.

Methods between January 2001 and December 2008, 283 LRYGBP were performed in our department. All patient had prospectively a preoperative transabdominal ultrasound but, there was no systematic biliary exploration after surgery except in case of symptomatic patients.

Results 28 patients (10%) had biliary lithiasis or sludge on preoperative explorations and had a concomitant cholecystectomy during the LRYGBP. There was no post-operative specific morbidity. During the follow-up, the postoperative rate of symptomatic biliary disease was 3.9% (n=10): 7 patients had a cholelithiasis, 2 choledocolithiasis and one lithiasis migration; one patient had a laparotomy for bile duct obstruction. These patients had a mean percentage of excess weight loss of 62% (min 32, max 100%; median = 65%) versus 67% for the whole patients after LRYGBP. Every patient has been operated 13 months by mean after bariatric surgery (min 4, max 24; median = 11 months).

Conclusions weight loss importance has been considered as the main predictive factor of gallstone formation after LRYGBP; we did not confirm this feature in our series but it occurs in the first postoperative year and we recommend postoperative ultrasound during this period.

O-019 Marginal Ulcer After Roux-En-Y Gastric Bypass

Presenter: B. Dillemans (Sint Jan Brugge-Oostende, Bruges, Belgium)

Co-authors: B. Dillemans¹, S. Van Cauwenberge¹, J. Mulier¹, S. Lambert¹, A. Van Schaik¹, J. Mulier¹

¹AZ Sint-Jan Brugge-Oostende AV Brugge

Background A marginal ulcer is a well-known complication after Roux-en-Y gastric bypass (RYGB). The aim of this retrospective, non-randomized study was to assess the incidence and the outcome of marginal ulcers after RYGB.

Methods Between January 2005 and May 2007, 1,405 patients underwent a RYGB. 1,105 patients were included in the study and the follow-up ranged from 3 to 31 months postoperatively. A standard preoperative endoscopy or Helicobacter pylori testing was not systematically carried out.

Results In 92 (8.3%) of 1,104 patients in whom a RYGB was performed, an endoscopy was achieved based on upper gastro-intestinal symptoms. In 54 (4.9%) patients a marginal ulcer was diagnosed. There was a complicated ulcer in 14 patients (26%) (2 perforations, 5 bleedings, 7 stenoses), 6 of them (11%) requiring surgical operation (2 perforations, 1 bleeding, 3 refractory symptoms). After healing of the ulcer under high dose of PPI, still 11 patients (20%) had a recurrence after mean follow up of 15.6 months.

Conclusion There was an incidence of 4.9% of marginal ulcer after RYGB. We conclude that marginal ulcer after RYGB represents a clinical important problem, because of the high incidence, the complexity, and the tendency to recur. A vigorous treatment with high-dose PPI is required. Although the pathogenetic role of Helicobacter pylori infection is still unknown, preoperative detection and treatment is advised.

O-020 Risk of Dental Complications Following Gastric Bypass Surgery

Presenter: J. Lebreton (dental university bordeaux 2, Libourne, France)

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Background Morbid obesity medical-surgical care is a solution which is acknowledged for its benefits. But its consequences, in the oral cavity, are poorly evaluated in the literature. Therefore, the purpose of our study was to examine the impact of gastric bypass bariatric surgery type in the oral cavity. **Methods** This prospective study was performed on 35 patients (7 men and 28 women) with severe obesity or morbid obesity, who had gastric bypass surgery in two clinics in Bordeaux. The medical and dental data, as well as flow, pH, buffering saliva and the proportion of *Streptococcus mutans* and *Lactobacillus spp.* (Cario-Analyse, Pierre Fabre) are collected pre- and post-op.

Results The average CAO is 9 (SD=6.29) and has not changed before and after surgery.

Before surgery: The average BMI was 44.56 kg/m^2 (SD=6.82). Over 90 % of patients had a high caries risk (Cario-Analyse).

Three months after surgery: 30 subjects were reviewed. The average BMI is 34.53 kg/m^2 (SD=5.97) and average PEP is 44.6 % (SD=5.98). The caries risk remains high because the major salivary cariogenic bacteria remain at a high level, the salivary pH decreases significantly ($p<0.05$), the saliva buffering capacity decreases and microbiological total index increases.

Conclusion The obese patients carrying a gastric bypass constitute a population with high caries risk.

It seems that the dentist should be incorporated into the multidisciplinary team that supports these patients. This in order to set up individual dental prophylaxis measures consisting of motivation for oral hygiene, of professional mechanical teeth cleaning, of applying fluorinated varnish and/or using fluoridation gutters.

O-021 Rates of Metabolic Improvement After Sleeve Gastrectomy

Presenter: A. Keidar (Hadassah Hospital, Jerusalem, Israel)

Background Laparoscopic Sleeve Gastrectomy (LSG) is gaining popularity as a stand-alone procedure but its metabolic effect is not well reported. The known mechanism is weight loss. This knowledge is crucial in decision about the type of operation in a specific candidate.

Methods Of 278 patients who underwent bariatric operations (02/2006- 03/2009), 80 patients who underwent LSG were identified. Only patients with at least 3 month metabolic follow up data (total 53) were included. Rate of resolution or improvement of hyperlipidemias, diabetes type2, hypertension, hyperuricemia and proteinuria/microalbuminuria were analyzed.

Result The mean weight and BMI decreased from $122\pm 30.1 \text{ kg}$ and 44.5 ± 8.8 to 89.7 ± 22.6 and 32.9 ± 6.4 respectively at mean follow up of 261 (37-811) days. EWL was $50\pm 16.3\%$ during this period.

Many of the patients suffered from multiple metabolic ailments. 18 patients have had an impaired fasting glucose (9) or overt DM2(9). In 14 (77%) of them there was a complete normalization of blood glucose and glycosylated Hb levels with no medical treatment. 25 patients suffered from hypertension,

and 13 of them experienced resolution of this condition (52%). In 34 preoperative hyperlipidemia was observed (hypercholesterolemia – 16, hypertriglyceridemia – 4, both abnormalities – in 14). The rate of complete resolution overall was 23.5%, and by condition, were: 3/16 three out of sixteen, 1/4, and 4/14, respectively. Hyperuricemia was encountered in 10 patients preoperatively, and resolved in 5 (50%) after the operation. Proteinuria/microalbuminuria resolved completely in 5 out of 7 (71%).

Conclusion LSG is not only effective for the weight loss but is followed by a significant metabolic benefit. Its effectiveness is highest for DMT2, and lowest in improvement of hyperlipidemias.

O-022 Does Sleeve Gastrectomy Predispose to Nutritional Deficiencies on Short Term Follow-Up?

Presenter: C. Schweiger (Hadassah Medical Center, Modiin, Israel)

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Background Bariatric surgery candidates are at risk of developing nutritional deficiencies (ND) in the post operative period. Although the number of the Sleeve Gastrectomy procedures (SG) is on a steep rise, the nutritional status after SG has not been documented yet.

Methods 73 patients were operated on between August 2006 and March 2009. 45 patients completed at least three month follow-up (210 days±150). Blood tests results were collected preoperatively, 3, 6, 12 month postoperatively and yearly thereafter. All patients were recommended to take multivitamin postoperatively. Multivariate analysis was performed to identify the significant contributing factor for the development of ND.

Result The prevalence of the ND in the blood tests preoperatively were as follows: 34% for Iron, 17% for Ferritin, 46% for Folic Acid, 12% for B12, anemia was found at 23% of the patients and MCV level was low in 20%. The prevalence of the ND 3-6 month (mean follow-up 97±39 days, 45 patients), 6-12 month (239±54 days, 20 patients) and at longer than 12 month (430±109 days, 10 patients) postoperatively were: 35%, 33%, 10% for Iron, 11%, 30%, 30% for Ferritin, 37%, 40%, 11% for Folic Acid, 3.5%, 23%, 0% for B12, anemia was found in 32%, 29% and 12.5% of the patients and MCV level was low in 23%, 17% and 12.5% respectively. In a multivariate analysis, the only statistically significant predicting factor for ND after the operation was low vitamins levels prior to operation. No significant relation was found between postoperative ND and %EWL, age or sex.

Conclusion substantial percentage of the bariatric surgery candidates suffer from nutritional deficiencies even prior to the operation. SG does not cause any deficiencies in the short term period. Further studies are needed to elucidate the prevalence of deficiencies after SG.

O-023 Dilated Upper Sleeve is Associated with Severe Postoperative Gastroesophageal Dysmotility and Reflux

Presenter: A. Keidar (Hadassah Medical Center, Jerusalem, Israel)

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Background Laparoscopic Sleeve Gastrectomy (LSG) is an effective bariatric procedure, and it can be done as an isolated LSG or in conjunction with BPD/DS (LDS). Gastroesophageal reflux after LSG has been described, but the mechanism is unknown and the treatment in the severest cases has not been discussed. We describe a cohort of patients who have underwent an LSG or LDS, and have suffered from a severe postoperative gastroesophageal motility disorder and/or reflux, report on their treatment, and discuss possible underlying mechanisms

Methods Seven hundred and six patients underwent an LSG by two of the authors (AK, AB). Sixty nine patients underwent Laparoscopic Sleeve

Gastrectomy in Hadassah Medical Center, Jerusalem, Israel (January, 2006, and December 2008) (55 isolated LSG, 14 with LDS), and 637 (212 isolated LSG, 425 LDS) in Clinica San Jorge and Alcoy Hospital in Alcoy, Spain, (January 2002 and November 2008).

Result Of them eight patients who has suffered from a very gastroesophageal dysmotility and reflux disease postoperatively and needed a specific treatment besides regular PPI's were identified (1.1%).

Conclusion The common to all eight patients who suffered from a severe gastroesophageal dysmotility and reflux was a dilated upper part of the sleeve. The sleeve volume, the bougie size, and the starting point of the antral resection do not seem to have an effect in this complication. Operative treatment was needed in only one case out of eight, in the rest of the patients medical modalities were successful. More knowledge is required to understand the underlying mechanisms.

O-024 Management of Gastroesophageal Reflux After Sleeve Gastrectomy

Presenter: P. Frank (University of Southern California, Los Angeles, United States of America)

Co-authors: P. Crookes¹

¹University of Southern California, Los Angeles, United States of America

Background In contrast to gastric bypass for morbid obesity, sleeve gastrectomy (SG) does not reliably reduce symptoms or complications of Gastroesophageal Reflux Disease (GERD) and may actually induce or exacerbate GERD. Patients after isolated SG and SG as part of a duodenal switch (DS) procedure were studied to identify the presence and assess the optimal treatment of GERD postoperatively. Previous experience of GERD after DS has shown that endoscopic treatments (Stretta and Enteryx) were ineffective: therefore conversion to RouxY Gastric Bypass was performed.

Methods Of 119 patients after open SG, 35 reported symptomatic GERD preoperatively, 17 of whom required Proton Pump Inhibitors (PPI). Postoperatively, 13 of these 17 patients continued to require PPI, and 12 further patients reported symptoms of GERD who did not require PPI preoperatively. 11 patients were converted to RYGBP, and 7 had DS, and six further patients are scheduled to undergo RYGBP. Of these 24 patients, GERD symptomatology was a major factor propelling the decision in 15, and confirmed by endoscopy and 24 hr pH monitoring in all.

Result Conversion to RNY and DS was accomplished without significant morbidity (no leaks) though one patient had severe diarrhea after conversion to DS. Relief of heartburn and regurgitation and cessation of PPI use occurred in all patients undergoing RNY, but three of seven converted to DS continued to report symptoms. PPI were not tolerated in two severely symptomatic patients because of diarrhea.

Conclusion Severe GERD symptoms are present in 14% of morbidly obese patients but were corrected by SG in only 3%, and GERD was actually induced by SG in 10%. Symptomatic control by PPI may be ineffective or limited by side effects. Conversion to RNY abolished GERD more effectively than conversion to DS and was accomplished with minimal morbidity.

O-025 Fluoroscopy as a Routine for Gastric Band Adjustments: Unexpected Findings

Presenter: J. A. Lopez-Corvala (Hospital Angeles Tijuana Bariatric Group, Tijuana, Mexico)

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Background Adjustable gastric banding has shown to be safe and effective in the surgical treatment for morbid obesity. Its success, though, depends on patient compliance and a full knowledge in the management of its adjustability.

Methods From September 2008 to March 2009, a total of 168 patients underwent gastric band adjustments (fill or unfill) under fluoroscopic guidance. We considered indicators for adjustment: loss of restriction, hunger between meals and weight loss interruption. Patients with acid reflux

symptoms underwent gastric band deflation also by fluoroscopic guidance to determine the causing problem.

Result One hundred and sixty eight patients were taken to the X-Ray office: 25 male and 143 female. Thirty three patients with fluoroscopic findings (19.64%). Twelve patients with reflux symptoms, 2 patients with liquid intolerance, the rest of the patients with clinical indicators for gastric band adjustment (loss of restriction, hunger between meals, weight loss interruption or weight regain). The findings were: esophageal dilatation in 6 patients, gastric pouch dilatation in 11 patients, 5 patients with fluoroscopic images that suggest esophagitis, 5 patients with inverted access ports, 2 patients with band slippage, 2 patients with reflux, 1 patient with access port leak and 1 patient with erosion signs. Patients with esophageal and pouch dilatation, signs of esophagitis, reflux and slippage underwent gastric band deflation. The patient with indirect signs of erosion was referred to endoscopy to confirm diagnosis. The patient with port leakage was referred to the surgeon for port replacement, one patient with an inverted access port was also referred to the surgeon for port repositioning. The rest of the patients underwent a successful band adjustment.

Conclusion As there is no specific timing or fluid volume to use as a strict guideline to adjust gastric bands, we use the fluoroscopic guidance as a routine for gastric band adjustments. This study proves the importance of the radiologic image in band adjustments and its utility in diagnosing late asymptomatic complications.

O-026 Gastric Banding: Clinical Results After 10 Years

Presenter: Y. Matussiere (Espace Medico Chirurgical de la Sauvegarde, LYON, France)

Co-authors: Y. Matussiere¹, V. Frering², E. Fontaumard³, S. Rode⁰

¹Espace Medico Chirurgical de la Sauvegarde LYON France

Background Gastric banding is a common procedure in bariatric surgery. The aim of this study was to describe weight loss and complications 10 years after gastric banding.

Methods From January 1999 to December 1999, 478 patients had laparoscopic gastric banding with Lapband (Inamed). There were 58 men and 420 female. Mean age was 38.4 years (range 18–64). Mean BMI was 42.5 (Range 35–71).

Result Ten years after, mean BMI loss is 13.7 kg/m². During this time 83 (17.3%) had redo surgery: 5 to replace the band, 65 to remove the band, 13 to change the portsite. Band removal was done in 45 cases for slipping or erosion, and 16 for band leakage. Out of them, 20 had a new band, 13 gastric bypass and 32 no other surgery following patient wish.

Conclusion Weight loss after gastric banding remain stable. High rate of redo surgery can be related with technical aspect in the beginning of experience.

O-027 Laparoscopic Adjustable Gastric Banding – A ‘True Day Case’ Procedure

Presenter: P. Super (Heart of England HNS Foundation Trust, Birmingham, United Kingdom)

Co-authors: R. Singhal¹, M. Kitchen¹, S. Bridgwater¹, P. Super¹, S. Bridgwater¹, P. Super¹

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Background Laparoscopic adjustable gastric banding is one of the most commonly performed bariatric procedures. Few studies have reported performing LAGB as a short stay procedure, discharging patients within 23 hours. The aim of this study was to assess the feasibility and safety of performing LAGB as a ‘true day case’ procedure.

Methods This was a prospective study of patients who underwent LAGB as a ‘true day case’ in our unit from January 2007 to August 2008. The inclusion criteria were BMI 60, weight 160 kg, ASA I – II and a fully independent patient with a carer at home. Perioperative protocol included standardised anaesthetic, anti-emetic and analgesic regimes. Patients were discharged on the same day within 10 hours of admission if they satisfied the discharge criteria.

Results During this period, 671 band insertions were carried out. Of these, 165 patients were performed as day cases. The mean age was 42 (range 17–68). The mean preoperative weight and BMI were 134.4 kg (range 95–182) and 51.3 kg/m² (range 38–72) respectively. The mean duration of the procedure was 41 minutes. 161 out of 165 patients (97.6%) were discharged within 10 hours of admission. 4 patients stayed overnight and 1 stayed in for 2 days. There were no intra-operative or early postoperative complications. There were no re-admissions.

Conclusions It is feasible, safe and cost-effective to perform gastric banding as a day case. Careful patient selection, preoperative counselling and a well trained day case team are the key elements to achieve good results.

O-028 Day-Case Laparoscopic Gastric Banding for Morbid Obesity: Results in 50 Consecutive Patients

Presenter: C. Vons (Hopital Jean Verdier, Bondy, France)

Background Laparoscopic adjustable gastric banding (LAGB) has usually been performed as an inpatient procedure with an average hospital stay of 2–4 days. The purpose of this work was to evaluate the feasibility and outcome of elective LAGB for morbid obesity as a day-case procedure in a French university Hospital.

Methods Since the creation of a surgical day-care centre in November 2007, day surgery was offered to an increasing proportion of patients undergoing gastric banding for morbid obesity. Eligibility for outpatient surgery was evaluated by a multidisciplinary team. Exclusion criteria were: ASA classification of III or IV, need for anticoagulant treatment and sleep apnea syndrome. Inclusion criteria were, living within a reasonable distance from the hospital and adult company at home. The surgical and anaesthetic procedures followed a predefined written protocol. Patients were admitted and operated on in the morning hours and discharged after a double check by the surgeon and an anaesthetist, 4 to 6 hours later. They were contacted by telephone the day subsequent to surgery and were seen in the outpatient unit 8 to 10 days after surgery.

Result Between January 2007 until May 2009, 43 women and 7 men underwent outpatient LAGB. Mean age was 36 years (range 18–52) and mean BMI was 38.4 kg/m² (range 35–43). The proportion of day-case management increased during the seventeen months period from 2% to 99%. Twenty patients had obesity-related co morbidity. Seven patients had undergone previous abdominal surgery. The average operating time was 116 minutes (range 60–240). The mean time lapse between the end of the operation and discharge from hospital was 442 min (range 300–590). There were three unplanned admissions (12%) for persistent abdominal pain and nausea. These patients were discharged the day after. There was one unplanned readmission (2%) in the fourth day after surgery for slipped band; this was replaced during subsequent laparoscopy. There was no unplanned postoperative consultation. The mean of duration of day off work was 16.3±6 days. The patients’ satisfaction with the ambulatory LAGB procedure was high.

Conclusion These results suggest that LAGB for morbid obesity can be performed as a day case-procedure.

O-029 The Autofill Phenomenon in Gastric Banding – Case Report and Review

Presenter: C. Magee (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral

Background The laparoscopic adjustable gastric band (LAGB), although a safe procedure, has a relatively high incidence of postoperative problems. The autofill phenomenon occurs when the fluid volume within the band is greater than the amount of fluid that has been added by the surgeon. This can present with symptoms of increasing restriction in the absence of fills.

Methods A 60 year-old female presented with a 2-month history of increasing dysphagia, regurgitation and reflux symptoms. She had undergone LAGB placement 4 years previously but had requested loosening of the band one year earlier after successful weight loss. Despite this she presented with complete dysphagia to solids and could only tolerate sips of water. Her BMI

was 21. Gastrograffin imaging showed pouch dilation with hold-up at the band. The band was correctly orientated with no evidence of slippage. The band was deflated and 6 ml of fluid was removed with complete resolution of symptoms. We investigated the incidence and symptoms of LAGB autofill in our unit. A prospective database of all patients undergoing LAGB was analysed.

Result Three hundred and forty-three patients underwent LAGB. Ten patients had a recorded autofill (3%) after presenting with symptoms of increasing restriction. In all cases partial deflation removing the excess volume was curative. In response to these findings we have changed the fill medium to an iso-osmolar x-ray opaque medium.

Conclusion LAGB autofill is an uncommon complication. The use of iso-osmolar fill media may help prevent osmosis of fluid into the band and reduce autofill events.

O-030 Effect of Age and Body Mass Index on Weight Loss After Laparoscopic Adjustable Gastric Banding

Presenter: A. Madan (University of Miami Miller School of Medicine, Miami, United States of America)

Co-authors: J. Martinez¹, D. Tichansky²

¹University of Miami Miller School of Medicine Miami United States of America; ²Thomas Jefferson University Philadelphia United States of America

Background Laparoscopic adjustable gastric banding is one of the surgical options for the treatment of morbid obesity. Unfortunately, weight loss varies among patients who have undergone laparoscopic adjustable gastric banding. This investigation sought out to test the hypothesis that younger patients with lower body mass index (BMI) would have better weight loss than their counterparts.

Methods Consecutive patients who underwent laparoscopic adjustable gastric band placement were included in this study. Adjustments were performed by a bariatric surgeon. Last follow-up visit weight and BMI were recorded. Percentage of excess BMI lost (%EBMIL) was calculated for each patient. Pearson correlation and t-tests were utilized for the statistical analysis.

Result There were 93 patients in this series. Average follow-up was 1.8 years. The average age was 44 years old. The average preoperative BMI was 50 kg/m² patients; while, the average %EBMIL was 48%. There was an inverse correlation between preoperative BMI and %EBMIL ($r = -0.39$; $p < 0.0001$). However, there was no correlation between age and %EBMIL ($r = -0.02$; $p = 0.84$). When patients were divided between “younger” ($n = 62$) and “older” ($n = 31$) patients (cutoff = 50 years old), no difference were noted (younger: 49% versus older: 46%; $p < 0.58$). Patients whose BMI was greater than 50 had less relative weight loss than their counterparts (%EBMIL: 37% versus 58%); however, had a wide range of %EBMIL (10% - 85%).

Conclusion Patients with higher BMI have less change in %EMIL which is not surprising since they have more to lose. Interestingly, younger patients had the same weight loss than older patients after laparoscopic adjustable gastric banding. While patients who have a higher BMI may have less relative weight loss, some patients in this cohort do extremely well (85% EMBIL) with a laparoscopic adjustable gastric banding.

O-031 Randomized Controlled Study Comparing LAGB with Bioring (Cousin) and Lapband (Allergan): One Year Outcome

Presenter: F. Pattou (University Lille Hospital, Lille, France)

Co-authors: F. Pattou¹, G. Dezfoulian¹, L. Arnalsteen¹, H. Verhelst², I. Lefebvre³, J. M. Chevallier⁴

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Background Bioring (Cousin Biotech) is a new laparoscopic adjustable gastric band (LAGB) developed for the surgical treatment of severely obese patients. The aim of this randomized controlled study was to compare the outcome of LAGB with Bioring (Cousin Biotech) with an already available device.

Methods 68 patients (62F/6 M) with no previous surgery for severe obesity were enrolled in three distinct European centers in this randomized controlled study. After the indication for LAGB was confirmed following a thorough

evaluation by multidisciplinary team, patients were randomized in two groups. Group B ($n = 34$) received a Bioring (Cousin Biotech, Verwick, France) and Group L ($n = 34$) received a Lapband Vanguard (Allergan, Irvin, CA). Operative procedures were identical in both groups, using the pars flaccida approach. Main outcomes of this preliminary analysis were postoperative complications and weight loss at one year.

Result Baseline characteristics of patients were similar in both groups. (Female gender: 94% in G1 vs 88% in G2; Age 34 ± 8 years in G1 vs 36 ± 6 years in G2; BMI 40 ± 4 kg/m² in G1 vs 40 ± 4 kg/m² in G2, Waist circumference 118 ± 10 cm in G1 vs 116 ± 12 kg/m² in G2). Comorbidities and professional and marital status were also similar in both groups. Follow up at one year was completed in 85% of patients. No post operative death was observed. One patient in G1 (4%) and 5 patients in G2 experienced at least one complication since screening visit ($p = 0.19$). Weight loss appeared similar in both groups higher after GBP at one year, (G1: 42 ± 21 %EWL vs G2: 36 ± 19 %EWL; $p < 0.26$). The proportion of patients who lost at least 50% EWL was 39% in G1 and 20% in G2 (0.10). Satisfaction of the patients regarding the surgery was similar in both groups.

Conclusion The preliminary analysis of this randomized controlled study showed similar outcome at one year after LAGB with Bioring (Cousin Biotech) or with Lapband Vanguard (Allergan).

O-032 The Efficacy and Safety of the Laparoscopic Adjustable Gastric Band (LAGB) at Two Years: A Retrospective Study in Five Centers

Presenter: T. Ehrlich (Fairfield County Bariatrics, Norwalk, United States of America)

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Background Clinical research with LAGB has consistently reported over 50% excess weight loss (%EWL) 2-3 years post-band placement. The objective of this study was to assess the %EWL and complication rate for a real-world cohort of patients followed for two years.

Methods Patients receiving a LAGB between Jan 1, 2000 and Feb 29, 2008 from five sites were pooled and analyzed via a retrospective, longitudinal study design. Patients were 18 years of age at surgery date and had 1 recorded post-surgery visit with a weight measurement. Demographics, % EWL, and LAGB-related complications were assessed at two years post surgery for those patients with 2 years of follow-up.

Result Of the 7,445 LAGB patients who met the inclusion criteria, 3,770 were available for analysis at two years. Most of these patients were female (77.2%) with a mean age of 42.6 years and a baseline BMI of 45.7. Mean and median %EWL at two years was 45.7 and 45.0 respectively. Almost 42% of the patients experienced a %EWL of over 50% at two years. LAGB-related complications (erosion, slippage, port-related problems, band leakage) were reported for 4.1% of patients at two years.

| | LAP-BAND | |
|----------|----------|---------|
| | N | Percent |
| %EWL 0 | 75 | 2.0% |
| 1<%EWL20 | 493 | 12.8% |
| 21%EWL30 | 471 | 12.3% |
| 31%EWL40 | 594 | 15.5% |
| 41%EWL50 | 601 | 15.7% |
| 51%EWL60 | 556 | 14.5% |
| %EWL>60 | 1,049 | 27.3% |

Conclusion This pooled retrospective study demonstrates that a large proportion of patients are experiencing substantial weight loss with the LAGB at two years post surgery with minimal risk of complications.

O-033 Results From a French Prospective Multicentric Study of Heliogast Adjustable Gastric Band

Presenter: S. Msika (Hôpital Louis MOURIER, Colombes, France)

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Background Gastric banding is a common surgical technique for obesity treatment. However, few results are available on prospective evaluation of the Heliogast Band. Furthermore Quality of life and comorbidity evaluation are rarely described for this technique.

Methods A prospective study has been performed in 25 french centers to evaluate the effectiveness and the safety of the Heliogast band. 250 morbidly obese patients have been included for 24 months extensive follow-up. The main criteria analysed is excess weight loss (EWL, %). Secondary criteria recorded were comorbidities, tolerance, complications and quality of life data. **Result** Preoperative clinical data are 87% women, 13% men: Average weight = 116.9 kg, Average BMI = 43.7, medically treated comorbidities : HTA (16.7%), pain (5.2%), SAS (3.8%).

After 12 month follow up, Excess weight loss was (46%), BMI loss (8.3 kg/m). After 24 month follow up, Excess weight loss was (56%), BMI loss (10.1 kg/m), band related complications: 9.4% (slippage).

A per-protocol analysis shows resolution of 50% of HTA and more than 80% of pain and Type 2 diabetes. Thus, self measured articular pain drop off more than 50% after 12 month and 74% after 24 month.

Conclusion The population studied was representative of the usual treated patients. After 24 months Heliogast bands showed a good efficiency, low complication rate with only three band removals. The self-measured QOL and comorbidities were significantly improved.

O-034 Early Myocardial Contractile Improvement After Bariatric Surgery: Personal Experience

Presenter: F. P. Cariello (Clinica Tricarico, Belvedere Marittimo (CS), Italy)

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Background Obesity is one of the causes of early alteration at myocardial level and can induce contractile dysfunction that can be easily investigate through Strain Rate (SR) and by diastolic function parameters. Particularly SR investigates the contractile function of the myocardial fibrocell independently by the volume load and ejection fraction. Aim of this study is to evaluate the cardiac function in a population of obese patients treated with bariatric surgery.

Methods 18 obese patients (mean BMI 45.2±7.5) candidate to bariatric surgery were been evaluated. All pts. underwent electrocardiogram (ECG) and cardiac Ecocolor Doppler before and after surgical procedure. Patients with ischemic, valvular heart disease and heart failure were excluded.

Result Increase of length of QRS (80±12) during ECG, left atrium dilation, Left Ventricular Mass Index (LVMI) increase, SR and diastolic function reduction during ecocolor Doppler were statistically significant compared to normal weight control population. Ejection fraction were resulted not statistical significant respect to the control population. At time of follow up, mean 9±3 months, (mean WL 26±13.8 Kg) a significant improvement of SR and diastolic function were diagnosed. Duration of QRS, left atrium dilation and LVMI do not show significant modification in obese patients to follow up.

Conclusion Excess weight cause myocardial contractile and diastolic dysfunction. Weight loss induced by bariatric surgery can bring significant improvement of these parameters.

O-035 Midband: Experience in the University Hospital of Crete

Presenter: M. Daskalakis (University Hospital of Herakleion Crete, Herakleion, Greece)

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Background Laparoscopic adjustable gastric banding represents the least invasive bariatric technique. The aim of this study was to investigate the outcome of morbidly obese patients treated with MIDBAND, in our institution. **Methods** In a 36 months period (2005-2008), 151 patients (30 males and 121 females), subjected to MIDBAND implantation with at least 12 months postoperative follow up, were analyzed. Their median age was 40 years (17-74), the median weight 117 kg (83-115) and the BMI was 42.67 kg/m² (28.72-60.41). Excess weight loss 25% was considered successful.

Results Postoperatively the BMI was 37.28 kg/m² (21.51-52.73) at 6 months (n=151), 33.65 kg/m² (23.94-48.83) at 12 months (n=151) and 32.0 kg/m² (21.97-46.87) at 24 months (n=98). %EWL was 26.24 (6.1-106) at 6 months, 42.94 (15.1-89.43) at 12 months and 50.14 (14.3-100.23) at 24 months. There was no statistical difference between males and females in age and pre- or postoperative BMI or at % EWL. Only 12.7% of the patients failed to reach 25% of EWL at 12 and 24 months. Regarding the complications recorded thus far, 1 patient developed acute dysphagia, 1 patient was admitted due to small bowel obstruction and 2 patients presented with late dysphagia all treated conservatively. One patient had the band removed due to intolerance. GERD, not clinically present preoperatively, developed in 34% of the patients postoperatively, 69% of our patients were consuming gas producing beverages before and only 17% continued after the procedure. 72% of the hypertensive, 67% of the diabetic and 90% of those patients with sleep apnea were treated postoperatively. There was no mortality in our series. 79% of patients were satisfied with their result and 74.4% stated that they would do the operation again.

Conclusion Our results indicate that MIDBAND is a safe and effective bariatric operation. These data are consistent with the previously published results of larger series.

O-036 Influence of Technical Variations in Sleeve Gastrectomy: Are We Talking About the Same Technique?

Presenter: R. Sanchez-Santos (SECO (Spanish Society of Bariatric and Metabolic Surgery), Pontevedra, Spain)

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Background Reports on short and mid term weight loss results following laparoscopic sleeve gastrectomy (LSG) are heterogeneous (%EWL 33-90%). There is a lack of consensus about tube size and technical details in LSG. A National Registry has been created in Spain to achieve information of LSG. **Methods** Data were obtained from 17 centres and collected in a database. Technical issues, hospital stay early and late complications and short and mid term weight loss were analyzed.

Results 540 patients were included. 76% were women. Mean BMI was 48.1 ± 10 . Mean age was 44.1 ± 11.8 . Bougie was used in 76.1% (calibre: 32F(1.7%), 34F(53.4%), 36F(0.4%), 38F(20%), 48F(0.7%), 54F(1.7%), 60F(0.4%). The staple line started close to the pylorus in 58, 8% and in 41% at more than 5 cm from the pylorus (9% 6–8 cm). Staple-line reinforcement was performed in 70,6% of the patients (three different types of reinforcement). Hospital stay 4.8 ± 8.2 days. Mean follow up was 16.5 ± 10.6 months (1–73). Morbidity rate was 5.2% and mortality rate 0.36%. Mean excess BMI loss (EBL) at three months was 38.8 ± 22 , 55.6 ± 8 at 6 months, 68.1 ± 28 at 12 months and 72.4 ± 31 at 24 months. Bougie calibre was an inverse predictive factor of %EBL at 12 and 24 months (RR: 23.3(11.4–35.2)). Staple line reinforcement was related to a lower complication rate (3.7vs8.8%; $p=0.039$).

Conclusion Technical variations when performing sleeve gastrectomy may influence significantly in complications and weight loss results. Prospective studies about tube size and technical details are necessary previous to conclude about the role of sleeve gastrectomy in bariatric surgery

O-037 Results of Sleeve Gastrectomy—Data From a Nationwide Survey on Bariatric Surgery in Germany

Presenter: C. Stroh (Municipal Hospital SRH Wald-Klinikum Gera gGmbH, Gera, Germany)

Co-authors: C. Stroh¹

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Background Background Beginning January 1, 2005, the status and outcomes of bariatric surgery were examined in Germany. Data are registered in cooperation with the An-Institute of quality assurance in surgery at the Otto-von-Guericke- University Magdeburg. The objective of this study was to examine the morbidity and mortality rates secondary to sleeve gastrectomy (SG) in Germany since 2006.

Methods Data collection occurred prospectively in an online data bank. All primary bariatric procedures performed were recorded as were all re-operations in patients that had already undergone a primary operation. Specific data compiled on the sleeve gastrectomy procedure were evaluated with a focus on operative details and complication rates.

Result The total study cohort contains more than 6000 patients. From January 2006 to December 2008, more than 500 sleeve gastrectomy procedures were performed in the 17 hospitals participating in the study. The mean body mass index (BMI) of all patients was 48.8 kg/m^2 . The BMI of patients undergoing SG was 54.5 kg/m^2 . In total, 73.8% of the patients were female and 26.2% of the patients were male. There were no significant differences between patients undergoing SG. The general complication rate after SG was 14.1%, and the surgical complication rate was 9.4%. The postoperative mortality rate was 1.4%.

Conclusion The complication rate during the first 3 years after SG in Germany is similar to that published in the literature. In order to improve the quality of bariatric surgery, an evaluation of data from a German multicenter trial is necessary to evaluate the position of SG in the bariatric algorithm.

O-038 Sleeve Gastrectomy in Italy: a Nationwide Survey on 698 Patients

Presenter: L. Angrisani (S.Giovanni Bosco Hospital, Naples, Italy)

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Background Sleeve Gastrectomy is the most rapidly developing operation in Italy with an incremental growth of 140% between 2006 and 2007. All the others bariatric procedures (approximately 5000 annually) continue to be performed without significant change.

Methods Data have been recruited by the web-based Registry belonging to the Italian bariatric society (SICOB) analyzing: patients age, sex, BMI, EW, %EW, %EWL, indication (Primary, Staged, Revision), surgical access, pylorus

distance, staple line reinforcement, complications, cause of death, 1, 2 and 3 years weight loss outcome.

Result From April 2002 up to March 2009, 830 sleeve gastrectomies were performed in 32/79(41%) officially recognized Italian centers. Detailed information were available on 698 patients (223 male, 475 female, mean age 45 ± 11.45 years, preoperative BMI $49.16 \pm 9.22 \text{ Kg/m}^2$, weight $134.44 \pm 28.87 \text{ kg}$, %EW 74.78). Indication for Sleeve as Primary, Staged and Revision operation in percentage were 52, 41 and 7, respectively, majority of revised procedure being Adjustable Gastric Banding. Laparoscopy was the preferred technique in 97% of the cases. 65% of the patients received staple line reinforcement (suture, Peri Strips, Seamguard and fibrin sealant). Distance of the transection line from the pylorus was 5–7 cm in 86% of the patients. Perforation and leaks(3.15%), intraluminal bleeding(2.72%) and hemoperitoneum(2.15%) were the more frequent complications, out of the total complication rate of 11.46%. Mortality was reported in 6/698(0.85%) patients, 3 of which received multiple reoperations and subsequently died of respiratory complications and sepsis. Weight loss, BMI, %EWL, follow-up rate(%) at 1,2 and 3 years were 35.86Kg, 38.21 Kg/m^2 , 46.99, 56%; 42.95Kg, 37.22 Kg/m^2 , 50.47, 43% and 53.42Kg, 36.22 Kg/m^2 , 58.11, 31% respectively.

Conclusion Sleeve Gastrectomy as Primary operation is increasingly being performed in many bariatric centers. Preventable deaths are mostly related to patients suffering gastric perforation with multiple re-operations. Future effort should concentrate in the area of staple line reinforcement and second stage operations like Duodenal Switch and Bypass.

O-039 Laparoscopic Sleeve Gastrectomy is a Safe and Effective Bariatric Surgical Option for Patients with a High BMI

Presenter: M. Pellen (Castle Hill Hospital, Hull, Cottingham, United Kingdom)

Co-authors: P. Jain¹

¹Castle Hill Hospital, Hull, Cottingham, United Kingdom

Background We present our early learning curve experience with Laparoscopic Sleeve Gastrectomy compared with Laparoscopic gastric bypass (LGBYP).

Methods We have performed over 800 laparoscopic gastric bypass procedures since 2002 at our institutions. Between November 2006 and December 2008. LSG was performed in 56 patients. Our outcomes were compared with 56 case-matched patients undergoing LGBYP by the same surgeons, during the same time period.

Results The median preoperative weight (LSG vs LGBYP) was 166(91–218)kg vs 154(118–215)kg. The median BMI was $57(34–79) \text{ kg/m}^2$ vs $55(38–75) \text{ kg/m}^2$. There were 28(50%) vs 30(54%) females. The median age was 43(25–61) vs 40(23–66) yrs. The median post-operative stay was 3(2–5) days vs 3(2–10) days. Median excess weight loss at 12 months was 57(49–64)% vs 58(26–82)%. There was one conversion in the LSG group. There were 3 staple-line leaks in the LSG group. There were no leaks when the staple-line was oversewn ($p = \text{ns}$, Chi-square). There was no significant morbidity in the LGBYP group.

Conclusion LSG is a viable alternative to LGBYP and results in similar weight loss at intermediate follow-up. Similar to LGBYP early learning curve morbidity is likely, even in experienced institutions.

O-040 Laparoscopic Sleeve Gastrectomy as a Bridge to Surgery – Comorbidity and Risk Reduction in a UK Specialist Unit

Presenter: C. Magee (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, M. Arumagasamy¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

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Background DeMaria's obesity surgery mortality risk score (OSMRS) stratifies the risk of postoperative mortality (male gender, BMI > 50, age > 45 and risk of venous thromboembolism [VTE]). Laparoscopic sleeve gastrectomy (LSG) as an initial procedure can reduce weight and comorbidities to allow a safer definitive second procedure. The aim of this study was to identify weight loss and risk reduction in this population of patients.

Methods Patients with an OSMRS of 4–5, male patients with BMI > 60 or female patients with BMI > 65 were offered initial LSG. Those with a follow-up of at least

1 year were identified from a prospective database. Data were analysed by means of the Mann-Whitney U (MWU) and Chi Squared test using SPSS 16.0. *Result* Sixty-nine patients underwent LSG (30 day and 90 day mortality zero, VTE incidence zero). LSG reduced median BMI at 12 months (68 v 52, $P < 0.001$ MWU). Median excess weight loss at 12 months was 40%. At 12 months LSG caused a significant reduction in the OSMRS (3 v 2, $P = 0.008$ Chi Squared). Following LSG, patients with BMI < 50 increased from 2% to 30% ($P < 0.001$ Chi Squared). Improvement or resolution of diabetes and hypertension was seen in 23% and 25% of cases respectively. Mortality during the second stage procedures was zero.

Conclusion LSG reduces the OSMRS significantly, achieves excellent weight loss and improves diabetes and hypertension. LSG is an ideal bridge to surgery for the high-risk bariatric patient.

O-041 Second International Consensus Summit for Sleeve Gastrectomy (ICSSG) Questionnaire

Presenter: M. Deitel (Editor-in-Chief Emeritus Obesity Surgery, Toronto, Canada)

Co-authors: M. Gagner¹, M. Deitel²

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Background Laparoscopic SG is the sleeve part of the duodenal switch (DS), but with a narrower sleeve. It began 9 years ago for poor-risk or super-obese patients, as a simpler first-stage operation, but many patients lost adequate weight with this first stage. A number of surgeons have come to perform SG as their standard procedure.

Methods A questionnaire was filled out by attendees at the Second ICSSG March 19-22 in Miami.

Result Findings are based on 105 questionnaires by bariatric surgeons experienced in SG, representing a total of 10,449 SGs (omitting prior DS experience). In 83%, SG was intended as the sole operation, but in 9% of these, a further weight-loss operation has become necessary. In 15%, the SG was intended as first stage to a second operation. The laparoscopic operation had to be converted to open in 0.4%. Mean %EWL: 1 yr 64, 2 yr 69, 3 yr 68, 4 yr 65, longer 55. Bougie size was 30-60 Fr (mean 36). Standard bariatric operation when not SG was RGBP 43%, GB 20%, both 16%, DS 11%. Technically, SG commenced with section up the lesser curvature (followed by greater curvature dissection) in 7%, as opposed to mobilization first of the greater curvature in 93%. The dissection commenced 1-8 cm (mean 4.3) proximal to the pylorus. Staple-line was reinforced in 72% (oversewn 37%, buttress 35%). Estimated % of fundus removed was 99% - many expressed caution to avoid involving the esophagus. At end of the SG, 47% leave a drain. Post-op, a high leak occurred in 0.7% and a lower leak in 0.2%, hemorrhage in 0.4%, splenic injury in 0.4%, later stenosis in 0.2%, and post-op GE reflux (about 3 mons) in 15%. Leaks were highest in re-do operations. High leaks were treated early by reoperation, drainage, TPN, later NJ feeding, stent, glue, Roux loop, if necessary. Mortality was 0.067% (7 deaths). Post-op, multivitamins were given by 72%, B-12 in 70%, PPIs 87% (usually 2-3 mons). With a HH, crural approximation was done; with a prior HH repair, another bariatric operation was selected.

Conclusion SG for morbid obesity is very promising thus far.

O-042 Buttressing the Staple Line During Laparoscopic Sleeve Gastrectomy: Randomized Study Between Three Different Techniques

Presenter: G. Dapri (Saint-Pierre University Hospital, Brussels, Belgium)

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Background Gastric leak and hemorrhage are the most important challenges after laparoscopic sleeve gastrectomy (LSG). In order to reduce these complications, the staple line can be reinforced by absorbable sutures or by the use of glycolide copolymer onto the linear stapler (Bioabsorbable

SeamGuard; W.L. Gore & Associates, Inc, Flagstaff, AZ). To our knowledge there are no randomized study showing the utility of staple line reinforcement during LSG. The purpose of this study is to randomly compare in LSG the absence of staple line reinforcement (group1), buttressing of the staple line with Seamguard (group2), and staple line suturing (group3).

Methods Between January 2008 and February 2009, 75 patients were prospectively and randomly enrolled in the three different techniques of staple line reinforcement during LSG. The patient's groups were similar (NS). *Result* Mean operative time to perform the stomach sectioning was 15.9+5.9 min (group1), 20.8+8.1 min (group2), 30.8+10.1 min (group3) ($p < 0.001$). Mean total operative was 47.4+10.7 min (group1), 48.9+18.4 min (group2), 59.9+19.6 min (group3) ($p = 0.02$). Mean blood loss during stomach sectioning was 19.5+21.3 mL (group1), 3.6+4.7 mL (group2), 16.7+23.5 mL (group3) ($p < 0.001$). Mean total blood loss was 48.9+67.1 mL (group1), 32.5+46.5 mL (group2), 61.9+69.4 mL (group3) ($p = 0.03$). Mean number of stapler loads used was 5.6+0.7 (group1), 5.7+0.7 (group2), 5.8+0.6 (group3) (NS). Postoperative leak affected 1 patient (group1), 2 patients (group2), 1 patient (group3) (NS). Mean hospital stay was 3.6+1.4 days (group1), 3.9+1.5 days (group2), 2.8+0.8 days (group3) ($p = 0.01$).

Conclusion During LSG, buttressing the staple line with SeamGuard statistically reduces blood loss during stomach sectioning as well as total blood loss. Absence of staple line reinforcement statistically decreases the time to perform stomach sectioning and the total operative time. No significant difference is evidenced in term of postoperative leak between the three techniques of staple line reinforcement.

O-043 Laparoscopic Sleeve Gastrectomy for the Treatment of Morbidly Obese Patients – Partially Results of a Prospective Study (400 Pts)

Presenter: C. Copaesu (St John Hospital, Bucharest, Romania)

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Background Morbid obesity is affecting a large number of patients in Romania.

Aim To evaluate the results of laparoscopic sleeve gastrectomy (LSG) for morbidly obese patients.

Methods A prospective analysis a continues series of 400 patients who underwent LSG was performed.

Result There were 236 women and 164 men with a mean age of 42 years (range 11 to 74). Mean preoperative weight was 142 kg (range 88 kg to 299 kg), with a mean preoperative body mass index of 49.1 kg/m² (range 32, 6 to 86,6 kg/m²). The follow up period does not ended.

LSG was indicated as a first step procedure (36%) or as a single restrictive procedure in (64%). LSG was performed after the failure of another procedure in 14pts. Mean operative time was 85 min (25-160 min). No patient required conversion. There were 9 postoperative laparoscopic explorations (bleeding or abdominal sepsis). There were no postoperative deaths. The follow up period was 3 to 41 months. Average EWL and BMI at 6 months were respectively 42,7% and 34, 6 kg/m² and at 12 months 56, 6% and 31, 2 kg/m². 362pts experimented a significant diminishing of the hunger sensation at 3 po months. The evolution of the co-morbidities was spectacular. 7 patients required the second step (LGBP/BPDDS).

Conclusion LSG is safety and efficient used as a first-step procedure for the high risk patients.

As a one step restrictive procedure the initial results are very promising for the pts with low BMI.

O-044 Intermediate Term Results of Sleeve Gastrectomy for Morbid Obesity

Presenter: A. Raziel (ICBS - Israeli Center for Bariatric Surgery, Tel Aviv, Israel)

Co-authors: A. SZOLD¹

¹Assia Medical Tel Aviv Israel

Background Sleeve Gastrectomy (SG) is gaining popularity as a restrictive bariatric procedure. There is little data regarding the intermediate and long-term results of this procedure.

Methods Prospective data was collected for patients undergoing SG in a multi-disciplinary bariatric center in Israel.

Results 250 patients underwent bariatric surgery in 2006-2008: 200 Patients (80%) underwent SG, 25 Gastric Banding (10%) and 25 Gastric Bypass (10%). Among the SG patients there were 143 females (71.5%) and 57 males (28.5%). Mean weight was 121 Kg (83-202), and mean BMI 43.47 (35-62). In 188 (94%) patients SG was the primary bariatric procedure and in 12 (6%) a revisional procedure: 5 following Silicon Ring Vertical Gastroplasty (SRVG) and 7 following Gastric Banding.

192 (96%) patients were operated laparoscopically. In 8 (4%) open procedures were required: 5 with previous bariatric surgery, one with previous stomach surgery, one with a huge liver, one with severe adhesions.

33 (16.5%) patients underwent an accompanying procedure: 16 cholecystectomies, 10 hiatal hernia repairs, 3 ventral hernia repairs, 2 umbilical hernia repairs, one lateral sphincterotomy and one excision of lipoma.

The mean operative time was 80 minutes (45-120). There was no mortality. Early Morbidity was in 5 patients (2.5%) who had 7 (3.5%) early complications: Two leaks, one postoperative bleeding, one mesenteric vein thrombosis, one empyema of gallbladder, one pneumonia and one recurrent vomiting. The mean hospital stay was 2.5 days (1-52).

During the first year after SG 8 patients were operated: 3 cholecystectomies, 1 appendectomy, 1 ventral hernia repair, 1 right colectomy for incarceration in traumatic diaphragmatic hernia. Two patients were converted to gastric bypass - one for recurrent vomiting and one for insufficient weight loss.

The mean excess body weight loss was:

| Time (months) | Mean EBWL% (Range) | Follow up % (Number) |
|---------------|--------------------|----------------------|
| 1 | 24.87% (5-54%) | 100% (200/200) |
| 3 | 42.14% (16-77%) | 88% (144/164) |
| 6 | 58.62% (26-101%) | 89% (109/123) |
| 9 | 65.16% (26-121%) | 63% (64/102) |
| 12 | 70.04% (25-126%) | 100% (80/80) |
| 18 | 71.94% (36-134%) | 100% (34/34) |
| 24 | 71.77% (37-112%) | 100% (28/28) |
| 30 | 88.46% (75-102%) | 100% (2/2) |

Conclusions Sleeve gastrectomy is a safe and efficient bariatric procedure with results that equal the results of RYGB. It can be used as a primary or revisional surgery. The question whether these results are maintained over longer periods of time remains to be proven.

O-045 Laparoscopic Sleeve Gastrectomy with Duodenal Jejunal Bypass

Presenter: K. Kasama (Yotsuya Medical Cube, Tokyo, Japan)

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Background Laparoscopic Sleeve Gastrectomy (LSG) is thought to be one of good options as single procedure for Asian population. Compared with Laparoscopic Roux en Y Gastric Bypass (LRYGBP), over all % Excess Weight Loss (%EWL) of LSG is much inferior to that of LRYGBP. But confining group to BMI less than 50, %EWL of LSG is good enough in my Japanese series. But regarding anti-diabetic effect, cure rate after LRYGBP was better than that of LSG for Japanese.

Gastric cancer in Asia is one of the frequent diseases on which to perform treatments. One of the problems of LRYGBP is remnant stomach which is not easy to be examined by common methods.

We introduced the technique of Laparoscopic sleeve gastrectomy with duodenojejunal bypass (LSG/DJB) for patients with a risk of gastric cancer and evaluated our initial series.

Methods Twenty-one patients underwent an LSG/DJB from April 2007. The mean preoperative weight and BMI were 108.0 kg and 41.0 kg/m², respec-

tively. Operations were performed with 5 ports. Initially SG and dissection of posterior wall of duodenum were carried out. Subsequently DJB was added with 50-100 cm of biliopancreatic tract and 150-200 cm of alimentary tract. DJB consisted of a jejunojejunostomy created by a linear stapler and hand sewing closure and duodenojejunostomy by hand sewing with 2 layers.

Results The weight loss and excess BMI loss at the 3-, 6-, 9-, 12-, 18-months follow-up points were 18±4.5, 25±7.5, 27±6.2, 31±8.2, 37±5.0 kg and 47±29, 63±23, 66±23, 78±24, 96±10%, respectively. These data were similar to our results for laparoscopic Roux-en-Y gastric bypasses. There was no mortality, however, one patient had leakage from a staple line of esophagogastric junction in an early series, and required drainage and stenting. No dumping, stenosis or marginal ulcer was observed during postoperative follow-up. Postoperative 75 g OGTT reveals that LSG can improve HOMA-IR (Insulin resistance) but LSG/DJB can improve both HOMA-IR and Insulogenic Index (Insulin secretion).

Conclusion LSG/DJB is safe and feasible procedure for treatment of morbid obesity and type 2 diabetes.

O-046 Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy. Two-Year Clinical Results

Presenter: A. Sánchez-Pernaute (Hospital Clínico San Carlos, Madrid, Spain)

Co-authors: E. Pérez-Aguirre¹, P. Talavera¹, Ó. Cano Valderrama¹, I. Domínguez¹, L. Cabrero¹, A. Barabash¹, L. Díez Valladares¹, M. Rubio Herrera¹, A. Torres¹

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Background Single Anastomosis Duodeno-Ileal Bypass with Sleeve Gastrectomy (SADI-S) is a mixed bariatric operation, in which restriction is made through a sleeve gastrectomy and malabsorption is carried out through a duodeno-ileal bypass. Only one anastomosis is made, shortening operation time and decreasing postoperative obstruction probability.

Methods Over the past 2 years, 40 patients have been operated on. Mean preoperative weight was 118. Mean BMI was 45 kg/m² and mean excess weight 54 kg. Eighteen patients were diabetic, 18 had hypertension and 12 obstructive apnea. Five patients were operated through a median laparotomy and the rest laparoscopically. Through 4 portals, the stomach is tubulized over a 54 French tube. The duodenum is sectioned at the gastroduodenal artery, and an antecolic, isoperistaltic end-to-side duodeno-ileal anastomosis is performed 200 cm up from the cecum.

Results One radiological and one clinical gastric tube leaks presented. One patient had an endoluminal gastric bleeding, endoscopically treated, and one suffered an acute trocar-site hernia, which needed surgical repair. Mean excess weight loss was 73% at 6 months, 102% at 1 year, 109% at 18 months and 110% at 2 years. All patients reach a BMI of 25 kg/m² 12 months from the operation. All type 2 diabetics are cured, and only one patient is under hypotensive medication.

Conclusion SADI-S is an excellent operation for morbid obesity and its comorbidities which simplifies previous techniques with promising results. Gastric restriction, exclusion of the duodeno-pancreatic axis and anastomosis to the ileum (a potent ileal break) are the basis of its success.

O-047 Combined Laparoscopic Sleeve Gastrectomy and Bowel Bypass: A New and Effective Option in the Treatment of Morbid Obesity

Presenter: A. Hassn (Princess of Wales hospital, Bridgend, United Kingdom)

Co-authors: G. Morris-Stiff¹

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Background Several options for weight loss surgery are present, however each has a significant side-effect profile and is thus suboptimal. The aim of this study is to report a new technique which utilises the benefits of combining a sleeve gastrectomy with bowel bypass whilst minimising the negative aspects of each procedure.

Methods During the period December 2005 to December 2007, we have performed the above operation on 41 morbidly obese patients. It consisted of

laparoscopic sleeve gastrectomy plus division of jejunum 75 cm from D.J. flexure and anastomosing the proximal limb to ileum 75 cm from the caecum thus bypassing most of jejunum and ileum.

Result The cohort consisted of 29 females and 12 males with a mean age of 42.5 +/- 6.3 years. The mean baseline weight and BMI were 128 +/- 19 kg and 48 +/- 4 respectively. Based on achieving a target BMI of 25, the mean excess weight for the cohort was 62 +/- 14 kg. There were no mortalities and no major complications. To date, 41 patients had 1-year, 33 had 2-years and 13 patients had 3-years follow-up. At 1-year, the mean weight was 81 +/- 13 kg, mean BMI was 31 +/- 3 and mean % of excess weight loss was 77 +/- 9%. The figures were maintained at 2 and 3-years follow-up. Only 32% of patients had mild deficiency of vit. B12 and/or vit. D at 1-year follow-up and this was corrected by oral vitamin supplementation. All other minerals, vitamins and trace elements were within normal levels.

Conclusion It appears that, this is an ideal operation for treatment of morbid obesity because it is relatively easy, safe and achieves durable weight loss. Also, it enables access to remaining stomach and biliary system, causes no dumping and preserves duodenum and proximal jejunum for absorption.

O-048 Randomised Clinical Trial of Laparoscopic Roux-En-Y Gastric Bypass and Laparoscopic Vertical Banded Gastroplasty; Long Term Weight, Dietary Intake and Body Composition

Presenter: M. Werling (Dep of Gastro Surgical Research at Sahlgrenska University Hospital, Gothenburg, Sweden)

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Background Short time results from this study demonstrated a superior outcome for laparoscopic Roux-en-Y Gastric Bypass concerning weight loss, body composition and eating patterns.

Methods 82 patients were randomised for laparoscopic Roux-en-Y Gastric Bypass (LGBP) (n=37) and laparoscopic Vertical Banded Gastroplasty (LVBG) (n=45) during 2000-2001. Mean preoperative BMI were for LGBP 41.9 (SD 4.2) kg/m² and for LVBG 42.2 (SD 4.2) kg/m².

Result Postoperative BMI after 6.8 years was 30.8 (SD 5.5) kg/m²; EBMI loss 66.1 (SD 31.5) % for the LGBP group (n=33) and 33.7 (SD 5.3) kg/m²; EBMI loss 50.2 (SD 29.7) % for the LVBG group (n=22). DEXA revealed that the LGBP group had lost significantly more adipose tissue in relation to total tissue compared to the LVBG group (10.1% vs. 4.3%) (p=0.01) and the lean tissue mass loss was significantly less in relation to total tissue mass loss for the LGBP patients then for the LVBG patients (24.5% vs. 53.6%) (p=0.021). Bone mineral content was reduced with 10% after LGBP. Percent calorie intake as fat was significantly higher in the LVBG group compared to LGBP (40% vs. 34.3%) (p=0.01). More than 2/3 of LVBG patients has been or is planned for conversion to GBP due to vomiting and food related pain. 18 are converted at mean 3.75 years after their primary surgery. After conversion the mean BMI decreased from 36.4 (SD 7.4) kg/m² to 30.2 (SD 5.6) kg/m². Follow up rate was 89%.

Conclusion LGBP is superior to LVBG in treating morbid obesity. Weight loss is greater and body composition and eating pattern advantageous. The frequency of conversion to Gastric Bypass after LVBG is high but results in equally good results as after primary Gastric Bypass.

O-049 Laparoscopic Gastric Bypass Versus Laparoscopic Adjustable Gastric Banding for Morbid Obesity: a Single Center Matched-Pair Study on 200 Cases

Presenter: N. Corigliano (Hôtel Dieu. AP-HP, Paris, France)

Co-authors: N. Veyrie¹, A. Aissat¹, C. Ciangura¹, J. L. Bouillot¹

¹Hôtel Dieu. AP-HP Paris

Background Laparoscopic adjustable gastric banding (LAGB) and laparoscopic gastric bypass (LGB) are currently the most widely used bariatric procedures. The indications for these two treatment options are imprecise and still subject to

debate. This single-center matched-pair study compares weight loss, impact on weight-related comorbidities and complications of both procedures.

Methods One hundred patients who underwent laparoscopic gastric bypass were matched to 100 patients with laparoscopic gastric banding, according to sex, age, and body mass index (BMI). We used our prospective database including 550 bariatric procedures performed since May 1998. Postoperative complications, excessive weight loss (EWL), and modifications of weight-related comorbidities were evaluated and compared.

Result Both groups were comparable in terms of sex, age, BMI. No mortality occurred in either group. Early complications were significantly more frequent after LGB rather than LAGB (19% vs 1%; p<0.001), and caused a reoperation in 11 patients (11%) and one patient (1%), respectively (p=0.005). There was not significant difference in the late complication rate between the two groups (20% vs 25%; p=0.50). A late reoperation has been necessary in 17 patients (17%) in the LGB group and 23 patients (23%) in the LAGB group (p=0.38). EWL was significantly greater after gastric bypass rather than after gastric banding (p<0.001) at every time points of the follow up: 32.3% versus 14.6% after 3 months, 45% versus 22.1% after 6 months, 56.7% versus 31.9 % after 1 year, and 60.8% versus 38.3% after 2 years, respectively. Two years after the operation, 69.6% of patients in the LGB group were treated successfully (EWL>50%) versus 23.5% of the patients in the LAGB group (p<0.001). Gastric bypass achieved a significantly better reduction of sleep apnea syndrome (p<0.01), diabetes (p<0.04), and arthritis (p<0.03) when compared with the gastric banding.

Conclusion Laparoscopic gastric bypass results in increased weight loss and reduction of comorbidity compared to laparoscopic gastric banding. On the other hand, it is associated with a higher incidence of early complications, but no mortality. We believe the laparoscopic gastric bypass is the surgical treatment of choice for morbid obesity.

O-050 Laparoscopic Gastric By Pass for Morbid Obesity: Wicth Type of Anastomosis? Our Experience

Presenter: P. Millo (regional hospitale , Aosta, Italy)

Co-authors: R. Allieta¹, R. Brachet Contul¹, M. Fabozzi¹, M. Nardi¹

¹regional Hospital 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 December 2008 one surgeon performed 286 consecutive LRYGBP, 87 mechanical anastomosis according Gagner's procedure (A), 109 using Kocklerling 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.

O-051 Banded Versus Non Banded Micro-Pouch Roux-En-Y Gastric Bypass: Long Term Results

Presenter: K. Gawdat (ain shams school of medicine, cairo, Egypt)

Background Roux-en-Y gastric bypass is currently the most commonly performed bariatric procedure in the world. There are many variables as the pouch size, stoma size, limb lengths involved. Varying combinations of these give different weight loss results and change eventual outcomes. The Fobi-Capella modification of the Roux-en-Y gastric bypass entails placing a prosthetic band around the gastric pouch to limit the pouch dilatation and improve results.

Methods Aim of work: is to compare two anatomically identical Roux-en-Y procedures in terms of pouch, stoma size and alimentary limb length with the only

difference is the placement of a Fobi-Capella band around the gastric pouch. **Materials and methods:** From March 2000 to March 2004 294 patients had a laparoscopic Roux-en Y procedure, follow up ranged between 5 to 9 years. All patients had identical gastric pouch size (micro-pouch) and similar gastrojejunostomy size and had a 120 cm alimentary limb length. In Group I patients (97) the gastric pouch was not banded while in Group II patients (197) the gastric pouch was banded using an identical size prolene mesh. The two groups were compared in terms of early and late complications, weight loss and food tolerance. **Result** The 2 groups had similar early & late complications rate except for band erosions (1.3%) for group II patients. Group II showed better short and long term weight loss with 61 %EBWL for group 1 at 36 months compared to 89% EBWL for group; ¹¹At 60 months group I showed 59 % EBWL compared to 82% for group II. Group I patients had less vomiting and food intolerance. **Conclusion** Laparoscopic Banded Micropouch Roux-en-Y gastric bypass gives superior and more durable weight loss than the non-banded gastric bypass both in the short and long term. And that weight loss justifies its use despite the higher late complications and food intolerance rates.

O-052 Standardization of the Fully Stapled Laparoscopic Roux-En-Y Gastric Bypass for Obesity Reduces Early Immediate Postoperative Morbidity and Mortality: a Single Center Study on 2606 Patients

Presenter: B. Dillemans (Sint Jan Brugge-Oostende, Bruges, Belgium)

Co-authors: S. Van Cauwenberge¹, N. Sakran², T. Sablon¹, B. Defoort¹, E. Van Dessel¹, F. Akin¹, N. Moreels¹, S. Lambert¹, J. Mulier¹, R. Date³, M. Vandelanotte¹, T. Feryn¹, L. Proot¹

¹AZ Sint-Jan Brugge-Oostende AV Brugge; ²Hillel Yaffe Medical Center Hadera; ³Lancashire Teaching Hospital NHS Foundation Trust Lancashire

Background Various techniques of laparoscopic Roux-en-Y gastric bypass have been described. We completely standardized this procedure to minimize its sometimes substantial morbidity and mortality. This study describes our experience with the standardized Fully Stapled Laparoscopic Roux-en-Y gastric bypass (FS-LRYGB) and its influence on the 30-days morbidity and mortality. **Methods** We retrospectively analyzed 2606 patients who underwent FS-LRYGB from May 2004 to August 2008. Operative time, hospital stay and readmission, re-operation and 30-day morbidity/mortality rates were then calculated. **Results** There were 539 male and 2,067 female patients. Mean age was 39.2 years (range 14-73), mean BMI 41.44 kg/m (range, 23-75.5). The mean hospital stay was 3.35 days (range 2-71). Mean total operative time was 63 minutes (range 35-150). One patient died of pneumonia within 30 days of surgery (0.04%). One hundred and fifty one (5.8%) patients had postoperative complications as follows: gastrointestinal haemorrhage(n=89, 3.42%), intestinal obstruction (n=9, 0.35%), anastomotic leak (n=5, 0.19%) and others (n=47, 1.80%). In 66 patients, the bleeding resolved without any surgical re-intervention. One haemorrhage resulted in hypovolemic shock with subsequent renal and hepatic failure. **Conclusion(s)** The systematic approach and the full standardisation of the FS-LRYGB procedure contribute highly to the very low mortality and the low morbidity rates in our institution. Gastrointestinal bleeding appears to be the commonest complication, but is self limiting in the majority of cases. Our approach also significantly reduces operative time and turns the technically demanding laparoscopic Roux-en-Y gastric bypass procedure into an easy reproducible operation, effective for training.

O-053 Prevention of Staple Line Complications in Gastric Bypass

Presenter: K. Miller (Hallein Clinic, Hallein, Austria)

Co-authors: K. Miller¹, A. Pump¹

¹Hallein Clinic Hallein Austria

Background Staple-line failure, although uncommon, can result in significant morbidity and even mortality. Staple-line buttressing has been developed to improve staple-line strength, decrease bleeding and minimize the risk of leak. Many different products are currently available. However, most have not been proven in clinical trials for their clinical relevance.

Methods From April 2004 to March 2005, 48 morbidly obese patients with laparoscopic Y-Roux gastric bypass (LGBP) were enrolled in the study. Patients were randomly allocated to 2 groups according to the use of polyglucolide acid and trimethylene carbonate (Seamguard™ Group A, n=24) or not (Group B, n=24) by an investigator initiated study. All patients had a barium x-ray 3 months and 12 months postoperatively.

Results Peri- and postoperative mortality were absent. Intra-operative methylene blue test was positive in one patient (Group B). No conversion to laparotomy was observed. No patient were re-operated or transfused because of extraluminal bleeding and no anastomotic leak were detected in both groups postoperatively. Mean number of clip instruments used was significantly lower in Group A patients (2 vs 22, P<0.0001, OR 121,0 95% CI 12.5-1491). The operating-time was significantly less in Group A (115±30.0 minutes (range 85-210) vs Group B 150±51.7 minutes (range 90-240), P<0.05). The postoperative Hemoglobin was significantly higher in Group A 12.47±1.7; 9.2-14.8 vs. Group B 11.1±1.9; 8.1-14.6 (p<0,05). Gastro-gastric fistula formation could be detected in 3 patients (12.5 %) only in Group B with no statistical difference (p=0.2).

Conclusion Reinforcement material minimize staple-line bleeding and saves operating time with no animal source contamination. No adverse events could be observed related to the resorbable buttressing material.

O-054 Robotic Assisted Roux-En-Y Gastric Bypass: Combined Results of Two High Volume Centers

Presenter: T. Wilson (University of Texas at Houston, Houston, United States of America)

Co-authors: E. Wilson¹, B. Snyder¹, M. Toder², B. Leong¹

¹University of Texas Houston United States of America; ²East Maine Medical Center Bangor United States of America

Background The World Health Organization (WHO) estimates there are 300 million obese people worldwide. Bariatric surgery is the most effective therapy for morbid obesity and obesity's many related comorbidities. Of the currently excepted techniques, the Roux-en-Y gastric bypass (RYGB) is one of the most used procedures. With the dramatic increase in the number of RYGBs done and the advent of laparoscopic techniques and improved technology, we continue to see the good results of the surgery with ever decreasing complications. This study reviews the combined results of robotic assisted Roux-en-Y gastric bypasses conducted at two high volume centers.

Methods All bariatric procedures at the University of Texas Medical School at Houston and at the Eastern Maine Medical Center are tracked in prospective databases. These databases were searched for patients receiving robotic assisted Roux-en-Y gastric bypasses and the associated morbidities, mortalities, and weight loss results were recorded.

Result 529 patients received a robotic assisted Roux-en-Y gastric bypass with an average starting BMI of 48.2 kg/m². Average post operative BMI's were 31.5 kg/m² at 12 months and 32.0 kg/m² at 24 months. There were 23 total major complications with 12 internal hernias, no mortalities, no gastrojejunal anastomotic leaks, and 2 gastrojejunal bleeds. Operative time varied between the institutions with an average of 192 min in Houston and an average of 113 minutes for the last forty done in Maine.

Conclusion The robotic assisted Roux-en-Y gastric bypass has good clinical weight loss outcomes while maintaining a low rate of major complications.

O-055 Laparoscopic Mini-Gastric Bypass Versus Roux-En-Y Gastric Bypass: 5-Year Results and Final Report of a Randomized Trial

Presenter: W. J. Lee (Min-Sheng General Hospital, Taoyuan, Taiwan)

Co-authors: J. Chen¹, K. Ser¹

¹Min-Sheng General Hospital, Taoyuan, Taiwan

Background We had previously reported a randomized study evaluated the surgical morbidity and 2-year results of laparoscopic mini-gastric bypass (LMGBP) versus laparoscopic Roux-en-Y gastric bypass (LRYGBP). We now reported the final result after 5-year follow-up.

Methods 282 patients received LMGBP for the treatment of morbid obesity were recruited from our comprehensive obesity surgery center and compared with 40 patients received LRYGBP who were included in the previous randomized trial. Minimum follow-up was 5 years (from 5 to 8 years). The changes in body weight loss, BMI, quality of life and late complication were determined at follow-up. Changes in quality of life were assessed using the Gastro-Intestinal Quality of Life Index (GIQLI).

Result There was no difference in preoperative clinical parameters between the two groups. All procedures were successfully carried out with no deaths in either group. Surgical time was significantly longer for LRYGBP (205 minutes vs. 148 minutes for LMGBP, $p < 0.05$). The complication rate was higher for LRYGBP (20% vs. 7.5%, $p < 0.05$). Excess weight loss and mean BMI at 5 years for LRYGBP and LMGB were 60.1% vs. 72.1%, $p = 0.072$ and (29.2 vs. 27.1, $p = 0.30$) separately. Post-operative GQILI increased significantly after operation in both groups without difference. Late complications and revision rates were similar in the two groups. Follow-up study disclosed an improvement of obesity-related clinical parameters in both groups without significant difference. **Conclusion** This study demonstrates that LMGBP is an effective treatment for morbid obesity and can improve quality of life similar to LRYGBP. LMGBP is simpler and safer procedure than LRYGBP and no proven disadvantage after five year follow-up. LMGBP can be regarded as a simpler and safer alternative surgical procedure to LRYGBP.

O-056 Two-Year Results of Laparoscopic Mini-Gastric Bypass

Presenter: G. Chakhtoura (Hôpital Européen Georges Pompidou, Paris, France)

Co-authors: G. Chakhtoura¹, F. Zinzindohoué¹, J. M. Chevallier¹

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Background After a long experience with bariatric surgery, we began in October 2006 an evaluation of the efficiency of Laparoscopic Mini-Gastric Bypass (LMGB), an operation reported as being as effective as, yet simpler, than LRYGB. **Methods** From October 2006 to May 2009, 264 patients (61 males and 203 females) underwent LMGB. Mean age was 41.6 ± 11 years (17.5–65.7), preoperative mean weight was 134 ± 24 kg (75–221) and mean BMI 48.1 ± 7.8 Kg/m² (32.8–80.2). 61 patients (23.1%) had previous restrictive procedures: 48 Gastric Banding, 10 Vertical Banded Gastroplasty and 3 Sleeve Gastrectomy.

Result All procedures were completed laparoscopically. Mean operative time was 124 min and mean hospital stay 6.8 days. There was no mortality. 12 patients (4.5%) presented major early complications: 3 re-operations for incarcerated herniation of small bowel to the trocar wound, 2 re-operations for perigastric abscess, 2 re-operations for anastomotic fistula, 1 re-operation for intra-abdominal bleeding requiring splenectomy, 2 endoscopic haemostasis for anastomotic bleeding and 2 patients presented purulent drainage that healed with antibiotics. At two years, mean BMI was 29 ± 5.5 Kg/m² and mean %EWL was 72 ± 18 %. 16 patients (6%) complained of diarrhea of which 6 require regular Loperamide. 8 patients (3%) presented biliary reflux ameliorated by weight loss and prokinetic drugs.

Conclusion After two-year regular follow-up, Mini Bypass seems an attractive alternative in the surgical treatment of morbid obesity.

O-057 Evaluation of Results and Complications of Three Different Bariatric Surgical Procedures in a High Volume Obesity Centre

Presenter: J. M. Zimmermann (Private Hospital CLAIRVAL, Marseille, France)

Background New surgical procedures recently appeared beside the most performed and standardized techniques like LAGB, RYGBP, BPD/DS, and the number of centre performing it are rapidly increasing.

Aim Of this study is to evaluate the differences in terms of efficacy and complications between the two most performed bariatric procedures, LAGB and RYGBP and the most recent Sleeve Gastrectomy (SG).

Methods Data of patients operated from 1995 to 2009 were analyzed: LAGB patients were allocated in group A, RYGBP in group B and SG in group C. Items considered were: pre-operative BMI, complications. Data were expressed as mean.

Result From 1995 to 2009, were performed 2317 LAGB, 396 GBP and 87 SG. Mean preoperative BMI was 44.53(36-78), 46.32(38-78) and 47.3(40-75) kg/m² respectively in group A, B and C. Mean preoperative weight in group A, B and C was 115.92(51-230), 128.8(76-240) and 132(110-245) kg correspondingly. Complications in group A were: slippage 276/2317(11.9%) of which 20.2% after perigastric band placement and 4.3% after pars-flaccida placement; Intra-gastric migration 34/2317(1.4%) and port related complications 431/2317(18.6%). In Group B complications were: bleedings 2/396 (0.5%), fistulas 4/396(1%), occlusions 18/396(4.5%), internal hernia 10/396 (2.5%), anastomotic stenosis 9/396(2.2%). In group C the complications were: fistula 3/87(3.4%) and one gastric stenosis (1.1%). Mortality was 1/2317(0.04%), 3/396(0.75%) and 1/87(1.1%) in group A, B and C. Mean excess weight loss was for group A: 20%(3.5%-37.6%) at 6 months 48%(10%-70%) Kg at 1 year, 47% (32%-71%) at 5 years and 44% (31%-60%) at 12 years follow-up, for group B 40% (10%-60%) at 6 months, 67% (21%-80%) at 1 year, and 65%(33%-90%) at 5 years follow-up, for group C 35% (32-52%) at 6 months, 65% (35%-75%) at 1 year and 63% (42%-78%) at 3 years follow-up.

Conclusion Our series demonstrated that more than the achievable weight loss, the surgical procedures to be performed should be chosen considering the mortality rate and the complication rate and graveness.

O-058 Internal Hernia After Laparoscopic Gastric Bypass

Presenter: F. D. L. Cruz Vigo (12 de Octubre University Hospital, Madrid, Spain)

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Background The most frequent cause of late bowel obstruction after open bariatric surgery are adhesions; in laparoscopic surgery is the internal hernia, being considered an almost specific complication of this kind of surgery. The incidence, characteristics, treatment and prevention of the internal hernia in our experience on laparoscopic gastric bypass (LGBP) is analyzed.

Methods Since 1999 until 2009, 1156 patients have been operated by laparoscopic antecolic gastric bypass. Fourteen patients have suffered postoperative bowel obstruction (1.2%), thirteen internal hernias and one retrograde bowel invagination at the jejuno-jejunal anastomosis. Two internal hernias appeared the second and fourth days; the rest, lately (mean 15 months, maximum 40 months, 75% during the first two years). Among the initial 276 cases, with retrocolic-retrogastric Roux-en-Y limb, four transmesocolic hernias were diagnosed. In the following 880 patients, the limb was passed antecolic-antegastric and nine Petersen's hernias (1%) arose. In the last 115 cases, the Petersen's space has been also closed without any hernia. Two laparoscopic explorations have been done because of hernia suspicion.

Result Two cases were reoperated by laparotomy in other Hospitals, one of them needed a bowel resection. Eleven were reoperated by us, ten of them by laparoscopy (91%). After the reduction of the hernia content, a non-absorbable suture of the defect has been the only surgical maneuver. No recurrence has been detected. Mortality.- One patient (massive bronchial aspiration during the reoperation for postoperative transmesocolic hernia).

Conclusion During LGBP, potential hernia sites must be closed. Bariatric surgeons must have a low threshold for reoperation before an internal hernia suspicion.

O-059 Results of Endoscopic Stent Placement in 34 Gastric Leaks After Gastric Bypass

Presenter: A. Salinas (Hospital de Clinicas Caracas, Caracas, Venezuela)

Co-authors: A. Baptista¹, H. Salinas², A. Parilli¹, M. Antor¹

¹Hospital de Clinicas Caracas Caracas Venezuela; ²Mount Sinai School of Medicine New York United States of America

Background Gastric leaks are a major complication after gastric bypass (GBP). We present our experience with the use of the expandable metal stents (SEMS) to treat them.

Methods Since 2003, 34 patients (19 males and 15 females, mean BMI 43.44 kg/m², mean age 37 yrs, range from 23 to 60 yrs) with gastric leaks after GBP underwent an endoscopic SEMS placement between 3 and 90 days after surgery. Of these, 11 were laparoscopic, 10 primary open, and 13 revisional procedures. Only laparoscopic and revisions had abdominal drains placed at surgery. Patients tolerated oral feeding between 3 and 17 days. Of the 34 cases, 13 (38%) were reoperated for drainage, 3 (9%) were drained percutaneously, and 18 (53%) were drained endoscopically at the time of stent placement without further surgical intervention. All the stents were removed endoscopically 6 to 24 weeks after placement.

Result 31 patients (91%) had a total resolution of the leak, 18 patients (53%) required between 1 and 3 endoscopic dilatations of either the gastrojejunostomy or distal esophagus. One patient remained with a gastrogastic fistula. One stent migrated to the splenic flexure and was removed colonoscopically. The leak was completely resolved. One patient persisted with a contained leak that drained to the skin and spontaneously closed after one week. Two patients had esophageal mucosal lacerations after stent removal which were repaired with endoclips.

Conclusion Early SEMS placement results in complete resolution of more than 90% of leaks with more than 50% reduction in reoperation rate.

O-060 Gastric Bypass Surgery and Food Choice

Presenter: H. Ashrafian (Imperial College London, London, United Kingdom)

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Background The mechanisms of weightloss after gastric-bypass were initially proposed to include stomach-restriction and malabsorption. Although satiety is achieved with a small stomach-pouch, there is no clear evidence for ‘caloric-malabsorption’. Anecdotal evidence following gastric-bypass led to our hypothesis that these operations modify food-choice – so-called “I don’t like burgers anymore” syndrome. To test this, we performed a randomized food-choice study in rodents before-and-after surgery.

Methods 26 Obese-male-Wistar rats were randomized to either gastric-bypass (n=13) or sham-control (n=13) procedure. Rats were exposed to equal quantities of 3 types of food: (1)standard high-fat, (2)flavoured high-fat and (3)flavoured low-fat chow. The flavoured high-fat and low-fat chow was the same. Consumption of each food type was measured over 48-hours pre-operatively and then over 48-hours at day-10 post-operatively.

Result Gastric-bypass rats lost an average of 10% body-weight at 5-days and 14% at 10-days. Sham rats were on average the same as their preoperative weight at 5-day after surgery, and gained 5% body-weight at 10-days. Both pre-operative groups demonstrated significant preferences for flavoured and standard high-fat chow compared to low-fat chow (p<0.005). Post-operatively, sham operated rats maintained the same preference for high-fat over low-fat chow. Post-gastric bypass rats had a significant decrease in their preference for high-fat chow (p<0.005) and a significant increase in preference for low fat chow (p<0.01).

Conclusion Our findings suggest that gastric-bypass alters food-choice in this rodent-model by increasing the preference for low-fat food and decreasing the preference for high-fat food. Future work includes a translational experiment of food-choice in humans following gastric-bypass.

O-061 A Comparison of the Percent Excess Weight Loss with the Laparoscopic Adjustable Gastric Band (LAGB) Among Patients with and Without Diabetes: A Retrospective Study in Five Centers

Presenter: G. Fielding (New York University Medical Center, New York, United States of America)

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Background Diabetes is highly prevalent among the obese population; however little is known about the comparative efficacy in terms of percent excess weight loss (%EWL) of the LAGB in patients with and without diabetes. This study aims to assess and compare the efficacy of LAGB in diabetics versus non-diabetics within 7 years of follow-up.

Methods Patients receiving a LAGB between Jan 1, 2000 and Feb 29, 2008 from five sites were pooled and analyzed via a retrospective, longitudinal study design. Patients were 18 years of age at surgery date with a valid baseline weight. Patients with 1 recorded post-surgery visit with a weight measurement were included in efficacy analyses. Demographics, comorbidities, %EWL, and complications were assessed and compared among a stratified cohort of patients with and without diabetes.

Result Of the 7,445 LAGB patients, 11% were diabetic (N=826). Diabetic patients were significantly older and more likely to be male than non-diabetic patients. Baseline mean BMI was similar between diabetics and non-diabetics (46.1 and 45.7, respectively). Diabetic patients had significantly greater rates of hypertension, cardiovascular disease, high cholesterol, sleep apnea, cerebrovascular disease, osteoarthritis, and depression compared to non-diabetics. The %EWL was not statistically significant between the two groups and peaked at years 4 and 5 post-surgery. LAGB-related complications were reported for 4.2% of diabetics and 5.1% of non-diabetics (NS).

| Years Post-Surgery | Diabetics %EWL | | | Non-Diabetics %EWL | | | P-value |
|--------------------|----------------|------|--------|--------------------|------|--------|---------|
| | N | Mean | Median | N | Mean | Median | |
| Baseline | 822 | - | - | 6,527 | - | - | - |
| <1 | 662 | 37.7 | 37.5 | 4,99 | 39.1 | 38.0 | 0.0755 |
| <2 | 469 | 45.0 | 44.0 | 3,301 | 45.8 | 45.0 | 0.4892 |
| <3 | 324 | 46.5 | 44.5 | 1,944 | 47.2 | 47.0 | 0.5936 |
| <4 | 174 | 45.5 | 43.0 | 976 | 48.0 | 48.0 | 0.2038 |
| <5 | 76 | 45.8 | 45.5 | 421 | 47.9 | 48.0 | 0.5187 |
| <6 | 23 | 40.3 | 37.0 | 104 | 46.1 | 45.0 | 0.6425 |
| <7 | 2 | 34.0 | 34.0 | 13 | 54.4 | 61.0 | 0.1147 |

Conclusion This study demonstrates that despite the high rate of comorbidities among diabetics, these patients experience similar %EWL with LAGB as non-diabetics and experience minimal LAGB-related complications. Future research is warranted to assess the impact of the weight loss on the resolution of diabetes.

O-062 Laparoscopic Duodeno-Jejunal Bypass (LDJB) as a Surgical Treatment for Type 2 Diabetes Mellitus in Non Obese Patients

Presenter: M. Berry (Clinica Las Condes, Santiago, Chile)

Co-authors: P. Lamoza¹, L. Urrutia¹, R. Lahsen¹, H. Coñoman¹, R. Villagran¹

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Background All bariatric surgical techniques resolve diabetes (T2DM), 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 in non obese patients. In this work we are trying to confirm LDJB as a new treatment for a subset of T2DM in non obese patients

Methods 11 T2DM patients underwent a LDJB. Surgical technique: transection of the duodenum 2 cm. distal to the pylorus, duodeno-jejunal anastomosis

sis, biliopancreatic limb of 150 cm, alimentary limb 100 cm. Barium swallow on the second postoperative day. All patients are taking metformin upon discharge for at least 6 month after surgery.

Results 10 Male, 1 Female patient. Mean age: 45 yo(34-54). Mean years of T2DM 5(1-10), 2 patients were insulin users, Mean Preop BMI 28,7(26,8-31), Postop BMI: 6 month 27,5(27-27,9), Pre-op Fasting Blood Glucose 165(128-251), Post-op Fasting Blood Glucose: 1 month 113,9(95,5-130). 3 months: 129(101-165). 6 months: 108,5(97-120). Pre-op HbA1c: 8,3(6,9-9,3), Post-op HbA1c: 1 month: 6,6(5,9-7,5), 3 month: 6,86(6,1-8,4), 6 month: 6,65(6,2-7,1). No patient on insulin postop. OR time: 150 min. Morbidity: 1 duodeno-jejunal anastomotic leak resolved, gastroparesis in 2 cases. No mortality.

Conclusion These early results are encouraging, showing improvement or remission of T2DM. Longer follow-up is needed.

O-063 Sleeve Gastrectomy Versus Gastric Bypass for the Treatment of Non-Morbid Obese Diabetic Patients: a Randomized Trial

Presenter: W. J. Lee (Min-Sheng General Hospital, Taoyuan, Taiwan)

Co-authors: J. Chen¹, K. Ser¹

¹Min-Sheng General Hospital, Taoyuan, Taiwan

Background Bariatric Surgery leads to a dramatic improvement in morbid obesity associated type 2 Diabetes Mellitus (T2DM) but the mechanism remains speculative. This study compared the laparoscopic sleeve gastrectomy (LSG) and mini-gastric bypass (LMGB) in the treatment of T2DM, and to test the "fore-gut" hypothesis.

Methods Patients aged 30 to 60 years, with poorly controlled T2DM (HbA1C > 7.5%) and BMI between 35 and 25 were included and randomized to LSG and LMGB. The end point is T2DM resolution, defined by fasting plasma glucose < 126 mg/dl and HbA1C < 6.5%.

Results 40 patients with a mean BMI 29 (24-34), age 45 (34-58) and HbA1C of 10.0% (8.0-15) were randomized to either LSG (n=20) or LMGB (n=20). All procedures were successfully carried out with no deaths or major complication in either group. Minor complication occurred in 4 patients (10%). There was no difference in basic and peri-operative clinical parameters between the two groups. Minimum follow-up was 12 months (from 14 to 28 months). After surgery, both groups experienced a rapid decrease in fasting plasma glucose and insulin at 1st week. Body weight rapidly decreased up to 6 months and stabilized to 12 months in both groups. However, T2DM resolution rate was significant better in LMGB than LSG (90% vs 50%, p<0.05). The T2DM resolution rates in LSG for those with pre-operative C-peptide < 3, 3-6 and > 6 ng/ml were 1/7(14.3%), 7/11(63.6%) and 2/2(100%); p <0.05, separately.

Conclusion Although both are effective for T2DM with BMI < 35, LMGB is more effective than LSG. C-peptide > 3 ng/ml is the most important predictor for a successful treatment for LSG. Duodenum exclusion does play a role in surgical treatment of low BMI T2DM patients.

O-064 Improvement in Beta-Cell Function Following Gastric By-Pass in Obese Subjects with or Without Type 2 Diabetes

Presenter: M. Anselmino (Azienda Ospedaliera Universitaria Pisana, Pisa, Italy)

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Background In morbidly obese patients with type 2 diabetes restores euglycaemia and the acute insulin response to glucose. Aim of this study was to analyse the mechanisms underlying the improvement in glucose tolerance in morbidly obese T2DM patients undergoing gastric bypass (GBP). **Methods** We evaluated glucose tolerance by a standard 75-g OGTT, insulin sensitivity by the OGTT-derived OGIS-index, β -cell function by modelling analysis of the C-peptide response to OGTT in 9 non-diabetic subjects (NGT) and 12 T2DM subjects before and 45 days after surgery.

Result Post-GBP, BMI decreased similarly in NGT and T2DM subjects (43.7±4.9 vs 36.9±4.4 kg.m-2 and 47.5±7.2 vs 40.4±7.2 respectively, p<0.0001). GBP improved glucose tolerance in all subjects (p<0.0001) but especially in T2DM (p<0.01) (mean-glucose-OGTT: 7.2±0.6 vs 6.3±0.7 in NGT and 11.6±2.5 vs 9.0±2.6 mM in T2DM). At baseline, insulin sensitivity was reduced in T2DM as compared to NGT (279±33 vs 368±43, p<0.0001). Following surgery, insulin sensitivity improved significantly in all subjects (to 332±54 ml.min-1.m-2 in T2DM and to 412±54, in NGT, p<0.0001). At baseline, β -cell glucose sensitivity was severely impaired in T2DM (41±23 pmol.min-1.m-2.mM-1 vs 80±33 NGT, p<0.01). After GBP, β -cell glucose sensitivity improved in all subjects (to 67±43 pmol.min-1.m-2.mM-1 in T2DM and to 131±55 in NGT, p=0.0005), although it remained impaired in T2DM (p<0.01).

Conclusion Following gastric bypass surgery, glucose tolerance improves as a result of an increase in both insulin sensitivity and β -cell glucose sensitivity. These changes are of rapid onset and roughly proportional to the weight loss regardless of initial glucose tolerance.

O-065 Gastric Bypass Improves Cognition

Presenter: J. Morton (Stanford University, Stanford, United States of America)

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Introduction Morbid obesity and diabetes are increasingly prevalent with higher glucose and insulin resistance levels associated with cognitive impairment and dementia. Bariatric surgery is the most effective and enduring treatment for the combination of morbid obesity and Type 2 Diabetes. We hypothesize that gastric bypass (GB) will increase glycemic control and cognition scores for both diabetic and non-diabetic patients.

Methods 36 patients underwent laparoscopic gastric bypass by a single surgeon at an academic medical center with no complications. Inflammatory and glycemic markers and cognition scores were assessed preoperatively and at three and six months postoperatively. The battery of tests covered six broad areas of cognition: verbal memory and learning, attention, visuospatial performance, processing speed and executive function. All tests were administered by a trained psychometrician.

Results For all cognition tests, morbidly obese patients performed worse than societal norms. GB is associated with significant improvement in attention and memory (p-value<0.002), processing speed (p<0.03) and verbal learning (p<0.04) after 6 months in both patient populations. In addition, executive functioning and verbal fluency results show trends toward significance.

Conclusion(s) These results demonstrate an additional comorbidity that is improved by GB and enhance our knowledge of the relationship between obesity, diabetes and cognition and may provide insight into other cognitive diseases such as dementia.

O-066 Early Insulin-Resistance Changes After Sleeve Gastrectomy

Presenter: N. Basso (University of Rome, Rome, Italy)

Co-authors: G. Casella¹, E. Soricelli¹, M. Rizzello¹, F. Abbati¹, G. Alessandri¹, A. Fantini¹

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Background Biliopancreatic diversion and Gastric bypass are associated with a rapid improvement in insulin resistance few days after surgery. The purpose of this study was to evaluate the short-term effects in insulin resistance following Sleeve Gastrectomy (SG).

Methods Between December 2007 and September 2008, 17 consecutive obese T2DM patients (3 males, mean age 51.1 years, mean BMI 44,76 Kg/m2) were submitted to SG. Fasting serum glucose, insulin concentration and HOMA IR were drawn preoperatively and at 5, 15, 30 and 60 postoperative days. In 7 of these patient insulin sensitivity was evaluated on postoperative day 1,2,3,4.

| | Before SG | 3 p.o. * | 5 p.o. | 15 p.o. | 30 p.o. | 60 p.o. |
|-----------------------|------------|------------|------------|-------------|------------|----------|
| EWL% | - | - | - | 14.7±2.2 | 23.6±3.4 | 32.2±3.2 |
| Serum Glucose (mg/dl) | 120± 4.4 | 104.5± 8.2 | 114.8± 4.1 | 118.7± 27.2 | 111± 24.4 | 99± 20.6 |
| Serum Insulin (g/L) | 41.8± 13.2 | 12.6± 3.2 | 14.8± 7.9 | 26.3± 13.7 | 20.4± 10.9 | 22.8± 20 |
| HOMA IR | 12.3± 3.4 | 3.2± 2.9 | 4.1± 3.4 | 7.6± 4.0 | 5.6± 2.8 | 5.5± 2.3 |

Results In all patients a sharp (5 days) and significant reduction of serum glucose and insulin concentration and HOMA IR values was observed. In seven patients, serum glucose and insulin concentration and HOMA IR values were significantly lower at 3th p.o. day. At the 15th p.o. day both serum glucose and insulin concentration and HOMA IR remained significantly lower in absence of significant weight modifications. At 30 and 60 postoperative days these values remained substantially unchanged in spite of a greater weight loss. **Conclusions** After SG the improvement of insulin action occurred rapidly and independently of EWL. The results of the present study confirm that an hormonal mechanism may contribute to changes in insulin resistance following SG.

O-067 Efficacy of Laparoscopic Sleeve Gastrectomy and Laparoscopic Gastric Bypass for the Treatment of Type 2 Diabetes Mellitus in Severe Obese Patients. Results of a Multicenter Prospective Study at 1 Year

Presenter: D. Nocca (CHU Montpellier, montpellier, France)

Co-authors: P. Noel¹, A. Wotjusciszyn², G. Fabre², M. Picot², R. Schaub², M. Chauvet², V. Salsano², C. De Seguin², P. Lefebvre², M. Baccara Dinet², S. Jaber², E. Renard², J. Bringer², J. Fabre²

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Background The impact of the bariatric procedures on the regulation of glycemia has been emphasized by many studies. Gastric bypass (GB) has proved its efficacy for 30 years in this indication. Recently, Laparoscopic Sleeve Gastrectomy (LSG) has been validated as a sole restrictive procedure and interesting results have been described concerning the evolution of type 2 diabetes mellitus (T2DM).

Methods Between 2005 and 2008, 3 French bariatric centers have prospectively collected the data of T2DM patients treated by LGBP and LSG. Effects on Hb1ac, pharmacological treatment and excess weight loss after 1 year of surgery have been analyzed.

Result 35 patients were included in the LGP group and 33 in the LSG group. All patients were treated with ADO or insulin before surgery (32 ADO and 3 Insulin in LGBP group and 27 ADO and 6 Insulin in LSG group) The average of BMI in the LGBP group was 47.9 kg/m and 50.6 kg/m in the LSG group. At 1 year after surgery, T2DM had resolved reciprocally in 60% for the gastric bypass and 75, 8% for the sleeve gastrectomy. The improvement of pharmacological therapy has been found in 31, 42% for the gastric bypass and 15, 15% for the sleeve gastrectomy. Percentage excess weight loss was 56, 35% in the LGBP group and 60, 12% in the LSG group.

Conclusion Even if a duodeno-jejunal shunt is not included in the LSG procedure, the impact on the regulation of glycemia is important. At 1 year after surgery the LSG is effective as LGBP in the management of T2DM severe obese patients.

O-068 Metabolic Effects of an Isolated Entero-Omentectomy After Three Years

Presenter: S. Santoro (Albert Einstein Hospital, sao paulo, Brazil)

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Background Adaptive Entero-Omentectomy (AEO) is designed to improve metabolic parameters in metabolic syndrome. It is based on diminishing visceral fat and jejunum. By moving the site of major absorption to lower segments (as if a less refined diet were consumed) the secretion of GLP-1 and PYY is enhanced.

Methods Thirty poorly controlled type 2 diabetic patients with BMI between 28 and 35 Kg/m² were submitted to surgery. An omentectomy and a jejunectomy that left the first 40 cm of jejunum and the last 260 cm of ileum were performed. Metabolic profile studies were made pre and post operatively.

Result Follow-up ranges from 1 to 3 years. Patients present no symptoms. No changes in bowel movements frequency or nutritional parameters were observed. Eleven patients reached 3 years follow-up. Changes: Fasting and post prandial levels of PYY and GLP-1 were significantly enhanced (area under curve; p<0.05); significant diminution in fasting (average 217 to 119 mg/dL; p<0.05) and post prandial (average 281 to 150 mg/dL; p<0.05) blood glucose levels; HbA1c diminished (9.8±2.3 to 6.6±0.46 %; p<0.05). Average Insulin resistance measured by HOMA index, arterial blood pressure and blood lipids, especially triglycerides were diminished. Average Weight loss is 3 kg/m². No patient is below 24 kg/m².

Conclusion Entero-Omentectomy caused an improvement in metabolic profile of all patients, including a better secretion of GLP-1 and PYY. Isolated, the procedure is simple, inexpensive and patients do not need nutritional support. Metabolic improvement may be obtained without malabsorption, restriction neither excluded segments. Entero-omentectomies may also empower other metabolic procedures.

O-069 Type II Diabetes in Morbid Obese Patients Underwent to Laparoscopic Adjustable Gastric Banding in 5 Years Follow-Up

Presenter: M. De Luca (Obesity Center Vicenza Padova Italy, Vicenza, Italy)

Co-authors: G. Segato¹, L. Busetto¹, D. Ashton², F. Favretti¹

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Background Interest in bariatric surgery as an effective method for long-term metabolic control of morbid obese patients with type 2 diabetes is increasing. We analyzed weight loss and changes in use of anti-diabetes medications in obese patients treated with laparoscopic adjustable gastric banding (LAGB).

Methods Between September 1993 and December 2005, 1791 consecutive morbid obese patients underwent LAGB at our Institution. 394/1791 (22.0%) patients had type 2 diabetes at baseline and 52/394 were treated with anti-diabetes medications. Mean follow-up in drug-treated diabetic patients were 3.3±2.0 years (range: 0.25-9 years).

Results Drug-treated diabetic patients were older (age: 47.6±7.5 vs 37.5±10.7 years, P<0.001), heavier (BMI: 49.1±9.5 vs 45.6±7.5 kg/m², P<0.001) and more frequently affected by comorbidities (hypertension, dyslipidemia, sleep apnoea, heart failure, arthritis) than no-diabetic patients at surgery. Percent of excess weight loss (%EWL) 1 years after surgery was lower (32.4±14.1 vs 41.1±19.9%, P<0.01) in drug-treated diabetic patients than in no-diabetic patients and this difference was maintained over 5 years of follow-up. Both the use of oral anti-diabetic medications and insulin significantly declined after surgery (patients treated with oral anti-diabetic drugs: 52/52 at baseline and 32/52 at the end of follow-up; patients treated with insulin: 6/52 and 2/52). The use of anti-diabetic medications at the end of follow-up was increased in 2/52 (3.8%) patients, unchanged in 9/52 (17.3%), reduced in 16/52 (30.8%), and suspended in 25/52 (48.1%).

Conclusion Weight loss after LAGB was lower in drug-treated diabetic patients than in non-diabetic patients. However, weight loss observed after

surgery was associated to a sustained reduction or abolition in the use of anti-diabetic medications in more than 75% of patients.

O-070 Long Term Follow-Up in T2DM Remission After Bariatric Surgery: a Comparative Study Between LAGB, LGBP and LBPD

Presenter: J. A. Sallet (Sallet Institute of Medicine, sao paulo, Brazil)

Background The surgical treatment of obesity and its effects on diabetes have been notified for 15 years. Therefore, it had motivated many clinical and experimental studies in the last 5 years, aiming to establish surgical techniques to treat T2DM in eutrofic and overweight patients. The proposal of our study is compare the efficacy of three different surgery techniques (LAGB, LGBP and LBPD) in the management of obese T2DM patients.

Methods During November/98 to April/08, we have performed 3.200 bariatric surgery procedures, including 480 LAGB (15%), 2624 LGBP (82%) and 96 LBPD (3%). The prevalence of T2DM was 21% (n=100), 27% (n=708) and 33% (n=32), respectively. The follow-up of these T2DM patients was preserved for 58% of the patients submitted to LAGB, such as 59% for LGBP and 64% for LBPD group. The glucose homeostasis was studied analyzing HbC1.

Results The LAGB group showed 19% of unchanged results, 75% improvement, 47% resolution. The LGBP group showed 3% of unchanged results, 97% improvement and 83% resolution. The LBPD group showed 0% unchanged, 100% improvements and 91% resolution on T2DM. Two patients developed nesiodoblasthoses in LGBP group.

Conclusion The best results in terms of T2DM improvement were in the LBPD and LGBP groups. LAGB group showed good results, but lower than the others, considering the high incidence of reoperation (17%) due to LAGB complications in the long term follow-up.

O-071 Systematic Review of Post-Prandial Hypoglycaemia After Gastric Bypass

Presenter: K. Carswell (King's College Hospital, London, United Kingdom)

Co-authors: A. Belgaumkar¹, A. Patel¹

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Background The gastric bypass procedure (RYGB) can result in remission of type 2 diabetes mellitus in > 80% of patients. This is believed to be due to increased post-prandial incretin secretion and reduced insulin resistance. A minority of patients may experience recurrent symptomatic post-prandial hyperinsulinaemic hypoglycaemia. We aim to review the reported cases of this phenomenon and summarise the various strategies employed to treat it.

Methods A systematic review of electronic databases (Ovid Medline; Pubmed; Embase; Cochrane Library) was performed using search terms including: "bariatrics", "bariatric surgery", "obesity surgery", "hypoglycaemia", "hypoglycaemic", "post-prandial" to identify articles on hypoglycaemia post-RYGB.

Result A total of 966 papers were screened. Exclusions include: editorials, dual-publications, insulinomas, resulting in 15 papers of relevance.

Post-prandial hypoglycaemia after gastric bypass has been reported in 72 patients (M:F=10:61, n=71). These patients presented a median 23 (range 5-252) months post-operatively (n=49) with neuroglycopenic symptoms and correlation with low glucose levels +/- spontaneous resolution of symptoms. Successful management was achieved with the following strategies:- dietary advice (9/26); medications (2/7); revision - restrictive surgery (9/10); reversal of RYGB (0/1); partial pancreatectomy (15/34); 2 undergoing sequential pancreatectomy for symptom control.

Pathology of pancreatic resections: diffuse islet hyperplasia +/- neisidioblastosis (33/34).

Conclusion No consensus with respect to the diagnosis and subsequent management of this condition exists. Since the incidence and recognition of symptomatic post-prandial hyperinsulinaemic hypoglycaemia is increasing, there is a need for comparative trials of the differing management strategies.

O-072 Biliopancreatic Diversion with Duodenal Switch in Patients with Type 2 Diabetes Mellitus: is the Chance of Cure Dependent on Severity and Duration of the Disease?

Presenter: E. Y. Cho (St. Josef Krankenhaus Monheim, Monheim am Rhein, Germany)

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Background To evaluate whether the chance of cure from type 2 diabetes mellitus after biliopancreatic diversion with duodenal switch (BPD-DS) is dependent on severity and duration of the disease.

Methods Biliopancreatic diversion with duodenal switch and gastric sleeve resection was performed in n=74 patients with type 2 diabetes mellitus (mean age 50.0 years, range 26 – 68 years, 44 female). The operation was done as an open procedure. The data were retrospectively divided into 4 groups: 15 patients were treated with oral antidiabetic drugs only (group I), 25, 23 and 11 patients used insulin for less than 5 years (mean 2.6 years, group II), 5 to 10 years (mean 7.5, group III), or longer than 10 years (mean 15.6, group IV), respectively.

Result Preoperatively, patients in group II,III and IV used (mean, min – max) 93 (20-250), 144 (60-370) and 150 (69-300) units insulin per day. At discharge from hospital all patients of group I and II were free of insulin usage, 32% and 73% of the patients of group III and IV used up to 36 units insulin per day. After 1 year also all patients of group III were free of insulin usage but in group IV still 18% used small amounts of insulin. The HbA1c level in group I, II, III and IV was preoperatively 8.6%, 9.5%, 9.6% and 9.7%, respectively. After operation the HbA1c level decreased continuously in all groups but fastest in group I and slowest in group IV. At 2 years after operation the mean HbA1c level was 4.7%, 5.0%, 5.6% and 5.6% in Group I, II, III and IV, respectively.

Conclusion The chance of cure from type 2 diabetes mellitus after BPD-DS seems to be independent on severity and duration of the disease. But the time course of remission takes significantly longer in patients with long-standing insulin-dependent type 2 diabetes mellitus.

O-073 Laparoscopic One Step Gastric Banding Conversion to Roux-En-Y Gastric Bypass: A Review of 172 Cases Due to Weight Loss Failure

Presenter: A. Ramos (Gastro Obeso Center, Sao Paulo, Brazil)

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Background Adjustable Gastric banding(AGB) is a bariatric procedure associated with significant weight loss failure and complications such as slippage, erosion and reflux. One step laparoscopic conversion to Roux-en-Y gastric bypass (RYGB) was offered to most of these patients aiming sustained weight control and treatment of reflux.

Methods 172 patients (53 male; 119 female) underwent one step conversion of gastric banding to Roux-en-Y gastric bypass. The variables studied were operative time, excess weight loss (%EWL) over a 1 year follow-up and complications.

Result Mean operative time was 120 minutes (98-198). This operative time was higher than primary RYGB (120 vs. 88 minutes, p<0.01). After a 1 year follow-up, 93% of the patients achieved successful weight loss(>50% EWL) . Mean EWL was 68% , worse than RYGB series (p<0.05). Complications were gastrojejunostomy stenosis(5,8%), gastrogastic fistula(0,6%) and gastrocutaneous fistula(0,6%). There were no conversions or deaths.

Conclusion One step laparoscopic conversion of AGB to RYGB is a suitable option for these obese patients aiming more predictable and sustained weight control.

O-074 Revisional Surgery for Failed Gastric Banding. An Up-To-Date Systematic Review

Presenter: J. Pujol-Rafols (Clínica Tres Torres, Barcelona, Spain)

Co-authors: R. Villalobos Mori¹, J. Pujol-Rafols¹, S. Bru Piquer¹, A. Galera Murtra¹

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Background Laparoscopic adjustable gastric banding (LAGB) has a failure rate between 7.9 and 58%. Many of these patients will have to be indicated for revisional surgery. The most common revisional strategies are currently re-banding, band removal and conversion to gastric bypass (RYGB) or to bilio-pancreatic diversion (BPDDS). The purpose of this study is to determine which scientific evidence exists about their efficacy and morbidity.

Methods A systematic review has been done using electronic data bases such as Medline and Cochrane library. All papers published in English from 1992 up until now were included. A total of 70 papers about this topic have been found and revised manually.

Result Three cohorts of 115, 307 and 113 banded patients have been revised to re-banding, RYGB or BPDDS respectively. The indications for such operations were mainly band slippage, band migration, band intolerance and inadequate weight loss. 4%, 19% and 39% of the re-banding, RYGB and BPDDS patients had to be operated by an open approach. The operating time and the hospital stay vary depending on the technique; 173 minutes and 3.0 days for the re-banding, 182 minutes and 6.4 days for the RYGBP and 239 minutes and 8.6 days for the BPDDS procedure. Efficacy and morbidity is also technique dependant. Final BMI is 34.6 with the re-banding, 31.1 with the RYGB and 31 with the BPDDS. Major complication rates were 2.2, 12.5 and 11.6% respectively. No technique-related mortality has been registered.

Conclusion Revisional surgery after failed LAGB can be performed safely in experienced hands. Its results vary depending on the technique used. RYGB and BPDDS have demonstrated better final results in terms of weight loss but they are also more technical demanding and they report higher complication rates.

O-075 Laparoscopic Re-Banding for Failed Gastric Banding

Presenter: L. Lantsberg (Soroka University Hospital, Beer Sheva, Israel)

Co-authors: Y. Stabholtz¹, B. Kirshtein¹, E. Avinoach¹, S. Mizrahi¹

¹Soroka University Hospital, Beer Sheva, Israel

Background Since 1996 our department has offered LAGB as the preferred therapy for morbidly obese patients. When late complications occurred (slippage, device malfunction, etc.) we performed re-banding operation as the surgery of choice.

We explored retrospectively the outcome of re-banding surgery as a preferable management for these complications.

Methods We evaluated 2471 charts of patients who underwent primary LAGB in our department between 1996 and 2006. Of this group, 345 underwent revisional re-banding surgery. The data collected from their charts included age, sex, BMI at revisional surgery, time since original operation, duration of operation, early postoperative complications, and length of postoperative hospital stay.

Results Of the 345 patients who underwent secondary re-banding, only 54 (15%) required an additional (third) surgery. Of these 54 patients, 39 patients (72%) presented with recurrent slippage that was repaired by band reposition in a third surgery. The remaining 15 patients underwent band removal due to erosion (1), abscesses (4) and patient intolerance (10). The mean period between the second and third revisional surgeries was 23 months. Two hundred ninety-one (84.5%) of the 345 reviewed patients maintained a BMI below 29, and were free of symptoms for at least 4 years post revisional surgery.

Conclusions Laparoscopic re-banding operation for failed gastric banding remains our strategy of choice due to its low morbidity, zero mortality, safety, and efficacy.

O-076 Adjustable Gastric Band Placement After Failed Gastric Bypass

Presenter: A. Ortiz (Obesity Control Center Hospital, Tijuana, Baja California, Mexico)

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Background The Roux-en-Y gastric bypass (RYGB) has been associated with a failure rate of 10 to 20%. The causes of failure can be identified in some

patients when mechanical factors such as pouch or stoma enlargement are recognized on radiological and endoscopic evaluation, but difficult to precise in others when studies are negative. Revisional surgery for failed RYGB is challenging and no treatment strategy has proven to be ideal. We present our experience with adjustable gastric band (AGB) placement for failed RYGB.

Methods Between January 2003 to September 2008 we have performed 53 AGB over RYGB procedures. All patients had a history of inadequate weight loss or regained the weight after initial good results. Preoperative all patients were evaluated with fluoroscopic barium swallow and meal, endoscopy and esophageal manometry in selected cases. Surgical and follow-up information was added prospectively in to our data base.

Result Of the 53 patients were included (46 female, 7 male). Age range 24 to 57 years. Time from initial RYGB surgery to AGB surgery 11.8 years (range 4 to 22 years). 38 patients had a history of open approach and 15 laparoscopic. Mean Surgical time 105 minutes (range 32 to 235 minutes). Surgery could not be completed in 1 patient (unfavorable anatomy findings for AGB positioning). No conversions to open surgery. Complications: 1 port site hematoma (conservative management). Hiatal Hernia repair was performed in 12 patients.

5 patients were lost to follow-up. Mean follow-up 2.7 years (6 months to 6.1 years). Excessive weight loss $49.2 \pm 18\%$. No erosion or slippage have been reported. 2 patients with esophageal dilatation were treated with AGB deflation.

Conclusion The addition of an AGB to a failed RYGB procedure has proven to be a safe and effective management strategy.

O-077 Inadequate Weight Loss After Purely Restrictive Bariatric Surgery: the Added Value of Conversion to Gastric Bypass

Presenter: G. Bonanomi (Chelsea and Westminster NHS Foundation Hospital - Imperial College, London, United Kingdom)

Co-authors: D. Bertocco¹, J. Thompson¹

¹Chelsea and Westminster NHS Foundation Hospital - Imperial College London United Kingdom

Background We hypothesised that conversion to RYGBP can rescue weight loss failure in purely restrictive bariatric procedures such as adjustable gastric banding (AGB) and vertical banded gastroplasty (VBG).

Methods A retrospective review of all AGB and VBG that were revised to RYGBP due to inadequate weight loss (mean %EWL < 20) was performed. Demographic, anthropometric, complications and outcomes data of the primary procedure were collected and compared with those of the secondary conversion to RYGBP.

Result A total of 27 revisions to RYGBP for failure to lose weight were undertaken between 2003 and 2008. Banding complications such as slippages and erosions were excluded. The conversions to RYGBP included 19 AGB, 6 open and 2 laparoscopic VBG. Mean age and BMI at the time of the primary operation and prior to revision were 36 years (range: 22-53) versus 44 years (26-58) and 45 kg/m² (39-59) versus 47.5 kg/m² (37-60), respectively. The mean time between the primary procedure and the revision was 4.5 years (3-10). Revisional surgery was performed laparoscopically and open in 24 and 3 patients, respectively. Major morbidity included 2 anastomotic leaks and 1 postoperative bleeding. No mortality was recorded. Mean %EWL was 30 % after 6 months, 59% after 12 months, 62% after 18 months, 65% after 24 months and 71% after 36 months.

Conclusion RYGBP is an effective revisional procedure for weight loss failure following AGB and VBG. These results support the hypothesis that additional mechanisms to restriction might be responsible for enhanced weight loss in gastric bypass surgery.

O-078 Revisional Surgery After Failed Laparoscopic Adjustable Gastric Banding. Conversion to Roux-En-Y Gastric Bypass Versus Sleeve Gastrectomy

Presenter: D. Awruch (Pontificia Universidad Católica de Chile, Santiago, Chile)

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Background 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). The aim of this study was to evaluate 30 cases of laparoscopic conversion of a LAGB to a Roux-en-Y gastric bypass (RYGBP) or sleeve gastrectomy (SG) as revisional surgery.

Methods A retrospective review of all patients that underwent revisional surgery after failed LAGB with conversion to RYGBP or SG from December 2006 to January 2009 was done.

Result From December 2006 to January 2009, 30 revisional procedures were performed. The median age was 35 years (range;19–56), 26 patients (86,6%) were women. The mean BMI prior to LAGB was 39.2±8.3 kg/m², and decreased to 35±8.9 kg/m² previous to revisional surgery. Revisional procedures included band removal and conversion to SG in 12 patients (40%) and conversion to RYGBP in 18 patients (60%). In 23 patients (76%) the conversion was performed in a single procedure and in 7 patients (24%) in two stages. Mean operative time was 125 min (range, 65–220 min) in RYGBP and 97,5 min (range, 60–180 min) in SG (p<0,04). Mean hospital stay was 3 days (range, 2–5 days). There were no early postoperative complications. On follow-up one patient was reoperated because of intestinal obstruction after conversion to RYGBP and two patients required endoscopic dilation due to gastrojejunostomy stenosis. There were no deaths. The mean follow-up was 13 months (range: 3–28). The mean BMI after 12 month follow up was 25,5±8,7 kg/m² after RYGBP and 26,2±6,2 kg/m² after SG (p = NS). **Conclusion** Conversion of a LAGB to a RYGBP or SG is a feasible procedure and is an excellent alternative of treatment for patients with inadequate weight loss, with a very low complication rate.

O-079 Laparoscopic Revisional Bariatric Surgery: Operations and Outcomes

Presenter: D. Tran (Bluepoint Surgical Group, Woodbridge, United States of America)

Co-authors: D. Halmi¹, E. Kolesnikov¹, R. Nain¹, Y. Mahtemwork¹, H. Pourshojae¹

¹Bluepoint Surgical Group Woodbridge

Background Reoperative surgery for the morbidly obese is becoming increasingly common due to unsatisfactory weight loss, weight regain, or complications from the primary operation. There is no standardized approach to revisional bariatric surgery. This study evaluates the reasons for revision and the outcomes using the laparoscopic approach.

Methods From our data base (n=1017) between February 2006 and February 2009, we identified 69 consecutive patients who underwent laparoscopic revisional bariatric surgery. Indications for surgery, types of operation, complications, and clinical follow-up data were reviewed.

Result Male: 4, female: 65; average age: 45 years (r=27–68); mean original BMI: 47.2 kg/m² (r=35–86); average BMI at the time of the revision: 44.6 kg/m² (r=38–52). The primary bariatric procedures were: Roux-en-Y (RNY) gastric bypass (51), laparoscopic adjustable gastric banding (LAGB), 13), vertical-banded gastroplasty (4), sleeve gastrectomy (1). Average time between the primary and the revisional operation was 128 months (r=36–396) for insufficient weight loss (30 patients) and 29 months (r=1–189) for complications (39 patients). Laparoscopic revisions consisted of resizing the pouch and stoma (17), LAGB (10), RNY gastric bypass (1), conversion to distal gastric bypass (2), and operations to address the various complications (39). Conversion occurred in two patients due to unclear anatomy. Average hospital stay: 1.8 days (r=0–18). Morbidity: 4.3%; one patient died postoperatively of a pulmonary embolus. Average weight loss at 3 months: 9.5Kg; 6 months: 15.1Kg. The resolution of complications from the primary surgery was achieved in all patients.

Conclusion Revisional bariatric surgery can be performed laparoscopically with acceptable morbidity and mortality in experienced centers. More data is needed for a standardized approach to this complex subject.

O-080 Comparative Baroscore for Gastric Bypass First or After Failed Adjustable Gastric Banding

Presenter: R. Arnoux (Clinique Du Tondu, Bordeaux, France)

Co-authors: H. Dabadie¹

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Background Gastric bypass (GBP) performed as a revisional procedure after failed adjustable gastric banding (AGB) is still an increasing option. However, little studies report data comparing results of a primary GBP (GBP1) or after failed AGB (GBP + AGB). The objective of the study is to compare BAROS scores of the two groups GBP1 and GBP + AGB.

Methods This prospective clinical trial includes 478 GBP1 and 85 GBP + AGB. Weight, evolution of comorbidities, quality of life, complications and reinterventions were assessed every 6 months. Analyses were performed using Chi-square test.

Result There was no significant difference between the two groups in terms of sex ratio (M/F: 85/15%), age (GBP1: 41+/-0.52 years vs. GBP + AGB: 38+/-1.72 years), initial weight (GBP1: 119+/-1.03 kg vs. GBP+AGB: 117+/-3.06 kg) and initial BMI (GBP1: 44+0.33 kg/m vs. GBP + AGB: 44+/-0.79 kg/m). There was no perioperative mortality in the two groups.

BAROS score were reported from good to excellent: 83% (GBP1) vs. 50% (GBP + AGB). Mean weight loss at 48 months was 50 kg (GBP1) vs. 30 kg (GBP + AGB). Excess weight loss was 70% (GBP1) vs. 50% (GBP + AGB).

Conclusion Patients treated with a primary GBP had a better 4-year result than those who had a revisional GBP following failed AGB.

O-081 Suture Line Leaks After Sleeve Gastrectomy and Duodenal Switch: Strategies for Management

Presenter: P. Crookes (University of Southern California, Los Angeles, United States of America)

Co-authors: C. Lee¹, N. Hamoui¹

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Background Leaks after Sleeve Gastrectomy (SG) and Duodenal Switch (DS) procedures tend to occur immediately below the Gastroesophageal Junction (GEJ). They are frequently refractory to treatment. We report our experience with nine cases.

Methods The records of patients with GEJ leak after Duodenal Switch (n=6) or sleeve gastrectomy (n=3) between 1999 and 2008 were reviewed. Three were referred from other institutions. All leaks were at the apex of the staple line just below the GEJ. Staple line reinforcement had been used in six. In three patients the procedure was a revision after prior vertical banded gastroplasty. All were treated with multiple attempts at surgical and CT-guided drainage.

Result Only two leaks sealed by drainage alone. Two patients sealed after re-exploration and primary suture. The remaining five patients were treated by endoscopic clipping, injection of fibrin glue and placement of covered stents, all without success. All required re-exploration and total (n=4) or near-total gastrectomy (n=1) with Roux -Y reconstruction. All anastomoses healed primarily without further leakage, though one patient developed a late leak from the distal end of the Roux limb which responded to endoscopic clipping. No long term complications were observed.

Conclusion GEJ leaks after DS or SG are often refractory to conservative methods of treatment and are only reliably abolished by excision of the leaking proximal stomach and anastomosis to healthy tissue above it. Staple line reinforcement is not preventative. The location of the leak may be a watershed area with tenuous blood supply, especially after prior banded gastroplasty.

O-082 Laparoscopic Sleeve Gastrectomy as Revisional Procedure for Failed Gastric Banding and Vertical Banded Gastroplasty

Presenter: A. Iannelli (Centre Hospitalier Universitaire de Nice, Nice, France)

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Background The problem of revision of failed Gastric Banding (GB) and Vertical Banded Gastroplasty (VBG) procedures has become a common situation in bariatric surgery. Laparoscopic Sleeve Gastrectomy (LSG) has been recently used to revise failed restrictive procedures.

Objective To evaluate the results of LSG as revisional procedure for failed GB and VBG.

Methods A prospective held database was questioned regarding patients' demographic, indication for revision, conversion to open surgery, morbidity, % EWL, evolution of comorbidities and need for a second procedure after LSG. **Result** Forty-one patients, 34 women and 7 men with a mean age of 42 years (range 19 to 63) and a mean BMI at 49.9 kg/m² (range 35.9 – 63), underwent laparoscopic conversion of GB (36 patients) and VBG (5 patients) into LSG. Indication for revisional surgery was insufficient weight loss in all the cases. All procedures were completed laparoscopically. There was no mortality and 5 patients (12.2 %) developed complications (high leak 1; intraabdominal abscess 3; complicated incisional hernia 1). At a mean follow-up of 13.4 months % EWL is on average 42.7 % (range 4 – 76.1). Six patients had a second procedure (4 laparoscopic duodenal switch, 1 LRYGBP, 1 laparoscopic biliopancreatic diversion).

Conclusion Conversion of GB and VBG into LSG is feasible and safe. LSG is effective in the short term with a mean EWL of 42.7 % at 13.4 months. Long-term results of LSG as revisional procedure are awaited to establish its efficacy in the long term.

O-083 Laparoscopic Sleeve Gastrectomy: An Option for the Treatment of Secondary Esophagitis Due to Dysfunctional Gastric Band in Patients with Morbid Obesity

Presenter: M. Dorantes Lagos (Centro de Cirugia Laparoscopica y Tratamiento Integral de la Obesidad de Veracruz, Veracruz, Mexico)

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Background Laparoscopic Gastric Band (LGB) is one of the less invasive restrictive methods and totally reversible for the treatment of Morbid Obesity (MO), its positioning technique is relatively simple and it has turned this bariatric procedure in one of the most popularly used in our country. Some authors have reported good short term results in the reduction of the excess of weight, nevertheless, the dysfunction incidence and/or long term failure is high. At the moment, the removal of the band is the most used method, even though these resolve the complications, it is also associated with a fast recovery or persistence of the obesity. Laparoscopic Sleeve Gastrectomy (LSG) is a restrictive method for the treatment of MO, Several authors have demonstrated good results and benefits comparing it with other restrictive techniques, LSG advantages include: normal gastric emptying, absence of malabsorption and its effects, lowering of serum ghrelin and leptin levels with the consequent sensation of early satiety, absence of strange material or adjustments. The aim of this intervention is to show our initial experience in 18 patients with persistent MO+symptomatology (pyrosis, reflux, dysphagia and/or vomit) secondary to a dysfunctional LGB in whom a laparoscopic removal of the GB and conversion to LSG was performed at the same surgical time and with a follow up to 1, 3 and 6 months.

Methods From September of 2005 to April of 2008, 18 patients with persistent MO + symptomatology (pyrosis, reflux, dysphagia and/or vomit) secondary to a dysfunctional LGB confirmed by endoscopy and contrasted study, were operated on by laparoscopic route of retirement and conversion to LSG in the same surgical time. Data Include: demographics, preoperative Body Mass Index (BMI), symptomatology and associated preoperative morbidity, surgical time, duration of hospital stay and postoperative weight loss t to 1, 3 and 6 months.

Result The age average was 35,7 years (19-50), BMI average: 42.0 kg/m² (35,1 - 57,2). The previous symptomatology: 18 (100%) pyrosis, 15 (83,3%) reflux, 8 (44,4%) dysphagia and 8 (44,4%) occasional vomit. 10 (55,5%) referred progressive increase in the rations of food getting to be similar to the previous one at the positioning of the BG. The associate morbidity: Diabetes Mellitus 5 (27,7%), Hypertension: 4 (22,2%), sleep apnea: 6 (33,3%). The operating time was 161 (125-210) minutes. 5 or 6 trocars were used. The removal of the band was made by dissection of the gastric plication, exposition and cut of the safety pin and extraction. The gastrectomy began at 5 cm. of the pylorus with 36 Fr. calibration bougie. In one patient (5,5%) cholecystectomy due to lithiasis was made during the same procedure. All cases were completed by laparoscopic approach. In all of them water soluble gastrography was done 48 hours after surgery. The hospital stay was 2,38 (1-4) days. 1 patient (1,1%) presented a non-complicated pneumonia that required re-hospitalization for 72 hours. 1 (1,1%) had an infection in the drum site of the previous gastric band. 1 (5,5%) presented dehiscence at a 12 mm trocar site. All the patients indicated improvement of the esophagus-gastric group of symptoms, 2 patients (11,1%) declared to have dyspeptic symptoms. 8 patients (44,4%) have said yes to control endoscopy to the 6 months with substantial improvement of the esophagitis. Mortality was 0. The follow up was made every month during the first 6 months. The loss percentage of weight excess was: 3 months 36,4%, 6 months 55,6%.

Conclusion The conversion to LSG is an effective option for the treatment of the associated esophageal symptoms due to dysfunctional and/or insolvent LGB, with short term favorable results in weight loss.

O-084 Gastric Banding (LAGB) Removal and Laparoscopic Sleeve Gastrectomy (LSG) in One Surgical Time

Presenter: M. Berry (Clinica Las Condes, Santiago, Chile)

Co-authors: R. Villagran¹, P. Lamoza¹, L. Urrutia¹, H. Coñoman¹

¹Clinica Las Condes Santiago Chile

Background The main indications for revisional surgery in LAGB include: problems of the band, such as slippage or rupture, pouch erosion, esophageal dilation, dilation of the proximal pouch, low or inadequate weight loss and port site infection and intolerance. According to the EWL in some cases is necessary to perform a new procedure to get the expected results in terms of weight loss and resolution of comorbidities. In this work we evaluate peri and post-operative results of LSG after LAGB removal.

Methods Prospective study. Patients who underwent simultaneous LAGB removal and LSG, since June 2007 until November 2008. Analysis of age, Pre banding BMI, preoperative %EWL, cause of banding failure, Pre Sleeve BMI, Operating room Time, post-operative complications, EWL and %EBMIL at 6 months follow up.

Results 9 patients, 5 female and 4 male. Mean age: 39.5 (20-50) years. Pre banding BMI 36.9±3.1 (33.1-40.8). The main indication for banding removal was the unsatisfactory weight loss (8 cases, %EWL 10.9±13.1 [0-34]) accompanied with intolerance (5 cases), 1 case of intolerance with adequate %EWL (78.9%). Mean Preoperative BMI: 34.2±3.7 (28-41) Kg/m². Mean EW: 25.6±9.3 (8.4-38.8) kg. Mean Operating room time: 127±33.5 (60-165) min. There were no post-operative complications. The mean EWL at 6 months 17.2±7.9 (5.7-29.4) kg and mean %EBMIL 67±18.2 (42.5-100.2)%.

Conclusions The most frequent indication for LAGB removal corresponds to unsatisfactory weight loss. In our series there was no morbidity and no mortality. The laparoscopic procedure of simultaneous banding removal and LSG demonstrated to be safe, with satisfactory weight loss in the short-term. Longer follow up is necessary.

O-085 Long Term Results of Laparoscopic Gastric Bypass: Failure Rate in Morbidly Obese (BMI)

Presenter: L. Angrisani (S.Giovanni Bosco Hospital, Naples, Italy)

Co-authors: L. Angrisani¹, P. Cutolo¹, G. Vitolo¹, M. Battagliani Ciceriello¹, G. Nosso², G. Saldamacchia², V. Borrelli³, V. Borrelli³

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Background Long term weight loss results of Laparoscopic Roux en Y Gastric Bypass (LRYGB) in morbidly obese (MO) and super obese (SO) patients are not available as yet. This is a retrospective study on long term (5 years) weight loss failures in an Italian series with a high follow-up rate.

Methods Patients were recruited by the hospital data base from January 2000 to November 2003. Demographics, pre-operative Intra-gastric Balloon, re-operation, death, 5 years follow-up rate, post-operative mean BMI, %EW, %EWL, BMI were considered. Intra-gastric Balloon (BIB Allergan) insertion was performed under conscious sedation. For LRYGB, pouch was calibrated on a 30 ml balloon gastric bougie, gastrojejunostomy was performed by circular stapler. Bilio-pancreatic Limb (BL) was created 40-60 cm from the angle of Treitz, Alimentary Limb (AL) measured 150 cm. Weight loss failure was considered BMI > 35 and %EW > 50 according Reinhold-MacLean criteria. Data are expressed as the mean ± standard deviation. Student *t* test was used for statistical analysis.

Result 61 MO Pts (13 male, 41±10 years, 121±15 Kg, BMI 44±3, %EW 98±22, 5 diabetics) and 20 SO Pts (1 male, 35 ±8 y o, 147±19 Kg, BMI 56 ±6, %EW 141±30) entered the study. BIB was used in 5/61(8.1%) MO and 12/20(60%) SO. Re-operation were required in 7/81 (8.6%) Pts, with overall mortality of 1.2%. Follow-up rate was 96% (3/80 Pts were lost). At five years mean weight, BMI, %EW, %EWL, BMI were 82±14 Kg, 30±4, 34±22, 66±21, 14±5 and 92±16 Kg, 35±6, 50±28, 62±19, 21±7 in MO and SO Pts respectively. BMI, %EW and BMI were statistically different (*p*<0.05). Failure rate was 4/57 (7%) and 8/20 (40%) in MO and SO respectively.

Conclusion Long term failure rate of LRYGB in SO Pts is disappointing. LRYGB with these limbs construction should not be offered to Super-Obese Pts.

O-086 Reinterventions for Weight Regain After RY Gastric Bypass

Presenter: R. Steffen (Hirslanden Clinic, Berne, Switzerland)

Co-authors: A. Guweidhi¹, F. Horber²

¹Lindberg clinic Winterthur Switzerland; ²Hirslanden clinic Bern Switzerland

Background Severe Obesity is a neuroendocrine disease which by itself is not cured by any bariatric surgery technique. Therefore weight regain is a constant threat after whatever technique had been chosen as initial surgical therapy.

Methods 208 patients in the fourth year after lap. standart roux-en-y gastric bypass (10-15 cc tubular pouch along the lesser curvature, 25 mm circular anastomosis, 60 cm biliopancreatic- and 100 cm alimentary limb) were prospectively followed up (rate: 91% "eye-to-eye"). EWL of less than 50% and unmet therapeutic expectations was defined as failures and submitted to reinterventions. Dieting and behavioral modifications along with occasional medical antiobesity treatment were attempted before surgery. Loss of restriction was reported in 37 out of 39 patients. In total 39 (21%) reinterventions were necessary. 21 (11%) endoscopic sclerosing of the anastomosis, 15 (7.8%) surgical revisions (Fobi ring or SAGB +/- pouch size reductions) and 2 cases with addition of malabsorption.

Results There was no mortality nor major complications in the surgically treated patients.

Mean EWL in patients without reinterventions: 71%

Mean EWL in patients with reinterventions in %

| | Nadir of weight loss | pre | reintervention | post |
|---------------------|----------------------|-----|----------------|-------------------|
| Sclerosing alone | 73 | 58 | 60 | (n.s.) |
| Surgical revision | 76 | 42 | 68 | (<i>p</i> <0.05) |
| Malabsorption (n=2) | 75 | 27 | 50 | (n.a.) |

Conclusions Weight loss failures after roux-en-y gastric bypass are much less likely than weight regain.

Surgical revisions but not endoscopic anastomosis sclerosing were successful. The main strategy for weight regain after roux-en-y gastric bypass was restoration of restriction

O-087 Weight Regain After Gastric Bypass; Minimally Invasive Approach to Reduce Pouch and Gastrojejunostomy Size

Presenter: D. Halmi (Bluepoint Surgical Group, Woodbridge, United States of America)

Co-authors: D. Tran¹, E. Kolesnikov¹, A. Moazzez¹

¹Bluepoint Surgical Group Woodbridge United States of America

Background Roux-en-Y Gastric Bypass (RYGB) is one of the most effective bariatric operations. Loss of the restriction after 18-24 months due to dilatation of the gastric pouch and the gastro-jejunostomy leads to weight regain in a number of Patients. The aim of the study was to identify a safe and effective minimally invasive method to reduce the size of the dilated pouch and the gastro-jejunostomy.

Methods Between January 2000 and December 2008 1631 morbidly obese patients underwent RYGB. Female; 1330 Male; 301, average age; 41.3 years, average BMI; 46.8 kg/m². Weight regained Patients underwent endoscopic and radiological studies for evaluation of the size of the pouch and the gastro-jejunostomy. Patients were evaluated by a Bariatric Nutritionist for eating behavior changes and for subjective symptoms of loss of restriction.

Results 28 patients with dilated gastric pouch and gastro-jejunostomy underwent revision. Male: 1, Female: 27, Age; 32-67 years, BMI; 37-55 kg/m². Combined laparoscopic and endoscopic approach was used in 12 revisional surgeries. For dilated pouch and gastro-jejunostomy the restrictive component of the RYGB operation was reinforced with: adjustable gastric band (9), non-adjustable gastric band (5), endoscopic gastric plication(7) and laparoscopic plication of the gastric pouch(7). Hospital stay: 1-5 days. No reoperation and no major complication occurred. Average weight loss at 3 months; 8.2 kg, at 6 months; 14.6 kg.

Conclusion Minimally invasive revisional operations done by laparoscopy or by endoscopy are safe and effective in reducing the pouch or stoma size and induce weight loss in post RYGB patients.

O-088 Laparoscopic Insertion of an Adjustable Gastric Band for Weight Regain Following Laparoscopic Roux-En-Y Gastric Bypass: A Video Presentation of the Operative Technique

Presenter: G. Bapat (Whittington Hospital, London, United Kingdom)

Co-authors: D. Heath¹, P. Sufi¹

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Background Significant weight regain occurs in 30%- 50 % patients 24 months following Roux-en-Y gastric bypass for obesity. This weight regain may occur for a variety of reasons including pouch dilatation and dilatation of the gastro-enteric anastomosis. One method of encouraging further weight loss, following weight regain, is to place an adjustable gastric band around the gastric pouch. In this video presentation we demonstrate, for the first time, the technique of placing an adjustable gastric band around the lower gastric pouch¹.

Method A 38 year male (BMI 42.1 kg/m²) underwent Roux-en-Y gastric bypass. After good initial weight loss (84.5 kg, BMI 27.9 kg/m²), at 42 weeks he reported a loss of restriction and weight regain (95 kg, BMI 31 kg/ m²). Attempts to place a Swedish adjustable gastric band (SAGB) around the upper pouch were abandoned as likely to cause perforation of the gastric pouch or remnant. However, it was possible to place the SAGB around the lower gastric pouch with relative ease.

Results 9 ml of fluid was required to achieve adequate restriction. Four months following SAGB placement the patient's weight was 82.1 kg (BMI 26 kg/m², excess weight loss 90%).

Conclusion Placement of a gastric band around the lower gastric pouch was successful in reversing the weight regain following RYGB.

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O-089 Laparoscopic Reversal of Gastric Bypass with Sleeve Gastrectomy for the Treatment of Recurrent Rint (Retrograde Intussusception)

Presenter: S. Simper (Rocky Mountain Associated Physicians, Salt Lake City, United States of America)

Co-authors: J. Erzinger¹, R. McKinlay¹, S. Smith¹

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Background We reported on our experience of 23 patients with RINT in 2007. That experience has grown to 39 patients. Surgical resection of the jejunojejunostomy appears to be the most effective treatment. We treated 5 patients with recurrent RINT despite resection, by reversing their gastric bypass with sleeve gastrectomy to avoid weight regain. These are our results. **Method** The medical records of 5 patients, treated for suspected recurrent RINT with reversal of their gastric bypass followed by a sleeve gastrectomy were reviewed to evaluate outcome, complications, weight loss, and relief of symptoms. **Results** All five patients were female ages 27–55 years. BMI at time of reversal ranged from 26.2–35.2 (average 29.7); follow up ranged from 8–19 months (average 11.8); BMI at last visit ranged from 21.2–27.6 (average 24). Major complications occurred in 4 patients; patient #1 developed a gastric fistula 6 weeks after surgery after a dilatation; patient #2 had a delayed splenic bleed requiring splenectomy on the 2nd post operative day; patient #3 developed a superior mesenteric vein thrombosis 2 weeks post operative. 3 of 5 patients required several dilatations of the gastrogastronomy. All of the patients to date have not had symptoms of recurrent RINT nor have they regained their weight. **Conclusion** Laparoscopic reversal of gastric bypass with sleeve gastrectomy for recurrent RINT carried a significant risk of complications in this small group of patients but appears to be effective for relieving symptoms of RINT with minimal risk of weight regain, at least in the short term.

O-090 Secondary Placement of a Non-Adjustable Band and Re-Establishment of the Gastrojejunostomy for Weight Regain After Laparoscopic Non-Banded Gastric Bypass

Presenter: F. B. Langer (Medical University of Vienna, Vienna, Austria)

Co-authors: A. Bohdjalian¹, S. Shakeri-Manesch¹, F. Felberbauer¹, G. Prager¹

¹Medical University of Vienna, Department of Surgery Vienna Austria

Background Secondary weight regain after gastric bypass is observed in some patients in the longer follow-up and can occur due to a loss of restriction. Several studies have proven the superiority of the banded gastric bypass over the non-banded bypass comparing weight loss in the long term. We analysed the effectiveness of the re-establishment of the gastrojejunostomy and the secondary placement of a non-adjustable band above the gastrojejunostomy in this indication. **Methods** A total of 5 patients underwent surgery for weight regain of more than 10 kg after non-banded laparoscopic gastric bypass. The mean interval between gastric bypass and revisional surgery was 32 months. Depending on the anatomical situation, surgical intervention was planned as re-establishment of the gastrojejunostomy using a 21 mm circular stapler, pouch resizing and placement of the new A.M.I. Soft Gastric Bypass Band above the anastomosis. **Result** In one patient with a significant pouch dilation, pouch resizing and band placement was performed. Two patients underwent re-establishment of the gastrojejunostomy combined with band placement. In another two patients, only the re-do of the gastrojejunostomy was performed, as the gastric pouch was too short for a proper band placement above the anastomosis. After intervention, all the patients reported an increase of restriction and achieved a weight loss of more than 5 kg at three months follow-up. **Conclusion** Secondary placement of a non-adjustable band and the re-establishment of the gastrojejunostomy can re-induce weight loss in patients with weight regain following gastric bypass. A prospective study is needed to assess the effectiveness of this procedure in the longer follow up.

O-091 BMI > 60 and Laparoscopic Sleeve Gastrectomy: Specific Aspects? Results on a Prospective Data Base of 230 Interventions

Presenter: P. Verhaeghe (CHU Amiens, Amiens, France)

Co-authors: A. Dhahri¹, D. Fuks¹, O. Brehant¹, A. Hanes¹, J. Régimbeau¹

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Background Laparoscopic sleeve gastrectomy (LSG) is a recent safe and relevant technique becoming more and more popular but its indications are yet discussed: will it take place between band and RYGB replacing most of these interventions or must it be considered as a less dangerous intervention for BMI > 60?

Methods A prospective data base was opened in 2004 with 90 items. In December 2008 the 31th, it collects 230 LSG beyond them 213 were performed for morbid obesity (BMI > 40). Patients were separated in three groups: BMI < 49.9, 50 < BMI < 59.9, BMI > 60. Matched, gender, age, maximal BMI during life, actual BMI, EWL were studied before bariatric surgery and three years post operatively.

Result BMI > 60 is observed for 7.5 % of the patients. Significantly ($p < 0.05$) patients with BMI > 60 are elder (38, 38, 46 years). Gender does not appear to be a risk factor (NS): males=11.4 % versus females =6.7%. BMI > 60 gets a longer anteriority of obesity (15.7, 18.8, 19.8 years) and is factor of hospitalization prolongation (7, 7, 15 days). BMI > 60 is a clear risk factor ($p < 0.02$) of fistulisation (3% versus 18.7 %). According to EWL LSG is successful if BMI < 60 but not if BMI > 60; It is interesting to observe that most (80%) informed patients of the second procedure consequences consider that benefice-risk balance is not favorable and prefer not to do it !

| EWL % / months | 12 | 24 | 36 |
|-----------------|------|------|------|
| 40 < BMI < 49.9 | 71.2 | 76.6 | 59.3 |
| 50 < BMI < 59.9 | 56 | 51.6 | 49.4 |
| BMI > 60 | 37.3 | 38.3 | 23.5 |

BMI > 60 is a cause of specific operative difficulties well known by bariatric surgeons. BMI is not the exclusive explanation of these difficulties: thickness of subcutaneous fat handicap much mobility of instruments which are “fixed” and this mechanism can be observed with BMI > 60 but also for some BMI > 50. In our serie all fistulas occurred at the upper part of the stitches lines: Is it not an argument to consider that a technical problem explains most of the fistula and not the stapler? Considering EWL, LSG must be considered as standalone procedure if BMI < 60 but is the less risky first step (before Duodenal switch or RYGB ?) if BMI > 60.

Conclusion Super-super obesity (BMI > 60) induce longing operative time, hospitalization length and is a risk factor of post operative fistulisation. LSG seems per operatively less risky than RYGB which explains why bariatric surgeons evolve that way. A randomized study comparing the two techniques could answer definitively.

O-092 Five Year Outcome of LAGB in Super Obese Patients

Presenter: R. Caiazzo (Lille University Hospital, Lille, France)

Co-authors: R. Caiazzo¹, C. Gronnier¹, A. Cracco¹, L. Arnalsteen¹, M. Pigeyre², H. Verkindt¹, M. Romon³, F. Pattou^{1, 2}

¹Endocrine surgery, INSERM U859 Lille; ²Nutrition Lille

Background Laparoscopic adjustable gastric banding (LAGB) is generally considered as poorly efficient in patients with super obesity (BMI > 50 kg/m²) but long term data are lacking. We report here the 5 year outcome of LAGB in super obese patients and compared them with those of less severely obese patients.

Method 143 consecutive patients receiving LAGB between 5/1997 and 1/2003 in a single center were enrolled in this case control study. We compared surgical complications (Clavien score), and 5 years outcome (weight loss and co-morbidities) of super obese patients (group 1, n=51, 55±5 kg/m²) and in obese patients (group 2, n=92, 44±3 kg/m²).

Results Patient demographics and baseline metabolic parameters (insulin resistance, dyslipidaemia and hepatic steatosis) were not significantly different between groups. There was no perioperative death and no significant difference in the frequency or severity of surgical complications between the two groups

(Clavien score). There was no significance difference in weight loss between the two groups at 5 years ($G1=42\pm 26\%$ EWL; $G2=48\pm 30\%$ EWL, $p=0.25$). Comorbidities were significantly reduced in both groups regardless of their initial BMI. Only 22% of superobese patients had a BMI < 40 kg/m² at 5 years.

Conclusion Weight loss after LAGB was similar in patients with a BMI < or > 50 kg/m² and associated with a significant and comparable reduction in comorbidities. LAGB may be considered as an effective and safe alternative in the super obese patients with a high surgical risk.

O-093 Laparoscopic Gastric Banding for Super and Super Super Obese Patients. Ten Years Clinical Experience

Presenter: E. Avinoah (Ben Gurion University, Soroka Medical Center, Metar, Israel)

Co-authors: L. Lantsberg¹, S. Mizrahi¹

¹Ben Gurion University, Soroka Medical Center Beer Sheva Israel

Background Super and super-super obese are considered high risk patients for bariatric surgery. In addition they are difficult for surgical success. During the last twelve years we performed more than 6000 gastric banding considering it as the first line long term restrictive operation. We disclose here our clinical approach and clinical experience with the challenging above 50 and above 60 BMI's patients.

Methods During the last 10 years we had 433 patients whose BMI was above 50 (mean BMI 54 ± 4) followed for three to ten years after surgery. Their mean age was 40 ± 12 (range 12 to 72), 107 of whom (25%) were males. 374 patients (86%) had mean BMI over 50 (mean 54 ± 3) and 59 (14%) had BMI over 60 (mean 63 ± 4). All had laparoscopic gastric banding no conversion to open surgery. Only two patients needed one overnight ICU care. Mean operative time was 25 minutes. Mean postoperative hospital stay was less than 24 hours. Postoperative follow-up was performed by the surgeon including band adjustments.

Result There were no major complications and no mortality. 139 of the super-obese patients are seven to ten years after surgery. Their present mean BMI is 31 ± 5 . 15 (11%) patients had band revision operation because of ruptured or slipped band. 11 (8%) patients regained weight, band was removed or converted to other operation.

Conclusion We conclude that laparoscopic gastric banding is safe and long-term effective operation even for super-obese patients. It significantly improves quality of life, metabolic syndrome, and indicated as first line obesity surgery.

O-094 Treatment of Super Superobesity by Sleeve Gastrectomy

Presenter: J. M. Catheline (Hopital Avicenne, Bobigny, France)

Co-authors: M. Sodji¹, C. Angelakov¹, B. Faber¹, F. Mecheri¹, J. Fournier¹, M. Perez¹, J. Benichou¹

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Background The sleeve gastrectomy is a restrictive procedure that reduces stomach capacity by 75%. We present here our experience for patients with super super morbid obesity (body mass index (BMI) > 60 kg/m²).

Methods A prospective study of the initial 24 patients who underwent laparoscopic sleeve gastrectomy was performed. Study evaluated operative time, complication rates, hospital length of stay and percentage of excess weight loss (%EWL). There were 18 women and 6 men, with a mean age of 33 years (range 18 to 58 years), with mean preoperative BMI of 66 kg/m² (range 60 to 85 kg/m²). Mean preoperative weight was 168 kg (range 140 to 258 kg). One patient had situs inversus totalis and another three had previous restrictive surgery.

Result Mean operative time was 130 minutes (range 90 to 220 minutes). No patient required conversion. We noted a postoperative complication in three patients (1 case of subdiaphragmatic abscess and 2 cases of subdiaphragmatic hematoma treated by laparoscopic drainage). Median hospital stay was 8 days (range 4 to 28 days). There were no mortality. Average weight loss at 24 months was 61 kg (range 28 to 134 kg). Average %EWL and BMI at 24 months were 55% (range 21 to 84%) and 23 kg/m² (range 10 to 39 kg/m²) respectively. A failure of slimming after 24 months (%EWL < 25) was noted among 5 patients whose only two accepted the realisation of a gastric bypass.

Conclusion These results suggest that the sleeve gastrectomy is associated with few perioperative complications and offers rapidly effective treatment for super super morbid obesity. It can be a one-stage restrictive procedure if long-term results are good or a first stage procedure before gastric bypass.

O-095 Successful Weight Loss in the Super Obese (Bmi > 50) – Laparoscopic Duodenal Switch is Superior to Laparoscopic Roux-En-Y Gastric Bypass

Presenter: J. Barry (Gravitas, Wirral, United Kingdom)

Co-authors: M. Conor¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral United Kingdom

Background Significant weight loss can take place after laparoscopic Roux-en-Y gastric bypass (LRYGB) but super-obese patients (BMI > 50) may still be significantly overweight and at risk of obesity related illness. The aim of this study was to assess whether laparoscopic duodenal switch (LDS) provided greater weight loss in the super-obese patient.

Methods A prospective database of all patients undergoing bariatric surgery was analysed. All patients with a BMI of > 50 who underwent LDS with a follow-up of at least 1 year were identified. These were matched to a similar cohort of LRYGB patients. Data were analysed by the Mann-Whitney U (MWU) using SPSS 16.0.

Result One hundred and thirty-eight super-obese patients were identified (66 LDS, 72 LRYGB). Median BMI was 58 and 56 respectively ($P=0.014$ MWU). At 12 months follow-up percentage excess weight loss (EWL) for LDS and LRYGB was 69% and 65% respectively ($P=0.1$ MWU). At 24 months the LDS patients continued to lose weight with median EWL of 91% (48-130) versus 71% (20-102) for LRYGB ($P<0.001$ MWU).

Conclusion LRYGB and LDS are effective procedures in the super-obese, with about 65-70% excess weight loss at one year. However, weight loss in super-obese LRYGB patients plateaus at 1 year, whereas those undergoing Lap DS continue to lose significant amounts of weight, achieving excellent 91% EWL at 2 years.

O-096 Outcomes of Bariatric Surgery in Super Obese Asian Patients (BMI> = 50 Kg/M2): Data at the End of 1 Yr

Presenter: J. Todkar (Ruby Hall Clinic, Pune, India)

Co-authors: S. Shah^{1,2,3,4,5}, P. Shah⁶, J. Gangwani⁶

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Background Bariatric surgery in Asia is on the rise in the last few years, But data on outcomes in super obese Asians (BMI> = 50 KG/M2) is scarce.

Methods From 2004 to 2008, 415 laparoscopic bariatric procedures were done at our center. We evaluated the outcome of super obese patients retrospectively (N=60, M:27, F:33). We analyzed weight(kg), BMI (kg/m²) and co-morbidities, preoperatively and at 18 weeks for 60 subjects. 9 patients out of 60 had LAGB, 14 patients out of 60 had LRYGBP, 36 patients out of 60 had LSG, 1 patient out of 60 had BPD. BMI distribution was: 41 patients between BMI 50 to 59.9 kg/m², 17 between BMI 60 to 79.9 kg/m² and 2 above BMI 80 kg/m².

Result The mean % EWL was 58.34%, %EBL was 57.83%. 45 patients had more than 3 associated co morbidities. All co morbidities showed resolution in 40/60 patients. Diabetes resolution/improvement in medication doses in 30/30, obstructive sleep apnoea reversal in 31/31, improvement in symptoms of osteoarthritis in 34/40, hypertension in 30/34. One patient had perioperative mortality due to acute myocardial infarction on day 5 post operatively.

Conclusion Short term results of bariatric surgery in super obese Asians was encouraging in terms of % EWL, resolution of co morbidities and safety. Long term results awaited.

O-097 Endoluminal Therapy with Intra-gastric Balloon: Brazilian Multicentric Study Group

Presenter: J. A. Sallet (Sallet Institute of Medicine, sao paulo, Brazil)

Background Intra-gastric balloon has been used in obese patients as a restrictive gastric procedure inducing early satiety and weight loss. This prospective study assesses both the safety and effectiveness of intra-gastric balloon (BIB) in the treatment of obese patients.

Method From november 2000 to march 2009, after brazilian ministry of health's approval of bib protocol, 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±10.7 kg/m²) and 832 female patients (BMI=35.5±7.8 kg/m²) mean (BMI=38.5±9.8 kg/m²). All patients were encouraged to take part in a multidisciplinary program involving clinical, psychiatric, physical training and dietary approaches.

Results After a 6-month follow-up, subjects showed significant reductions in percent excess weight (%EW=44.8±30.5%) and percent of total weight loss (%TWL=12.5±6.7%). The main side effects were nausea/vomiting (521 cases, 42%), epigastric pain (260 cases, 21%), requiring prosthesis removal in 25 patients (2,01%). Minor complications were reflux esophagitis (136 cases, 11%) and symptomatic gastric stasis (99 cases, 8%) which were clinically controlled. Balloon impaction occurred in 2 cases (0.16%) and in one patient (0.08%) there was spontaneous deflation of the balloon leading to a small-bowel sub occlusion which was solved by laparoscopy.

Conclusion The intra-gastric balloon (BIB) is effective to temporarily control obesity, inducing a %ewl of approximately 45%. It is not associated with mortality and shows minimal risk of major complications. Results regarding subsequent follow-up (after bib removal) are necessary to a better assessment of its effectiveness.

O-098 Thirteen-Years Experience with 1181 Patients Treated with Three Different Kind of Bioenteric Intra-gastric Balloon

Presenter: C. Wahlen (Clinique de l'Espérance, Montegnée, Belgium)

Background BioEnterics Intra-gastric Balloon (BIB) is currently positioned as temporary treatment for weight loss or before bariatric or other surgical procedures requiring a mandatory weight loss. Aim of this study is to evaluate the results of three different version of BIB compared in terms of technical failure and weight loss.

Methods Patients were recruited from our institution data-base. From June 1995 to July 2008, 1.181 patients underwent BIB positioning (966F/214 M; mean age: 36±10.83, range: 13–71yo; mean BMI: 33.88±5.39, range: 21.1–62.9). These patients were allocated into three group according to the kind of balloon positioned: 300 cc BIB (Group A=764) (1995-2000); 600 cc BIB (Group B=275)(2001- 2004); 600 cc new valve BIB (Group C=182) (2005-2008). Pre-treatment mean BMI was without significant differences among groups. BMI, BMI loss and complications morbidities were evaluated among groups. Results are expressed as mean±standard deviation. Statistical analysis was done by Fisher's exact test (p<0.05 was considered significant).

Result At time of balloon removal (40.8±20.3 weeks) BMI and BMI loss differences among groups were absent: Group A(n=764): 30.8±5.7 and 4.1±3.5 Kg/m²; Group B(n=275): 29.5±5.4 and 5±17.3; Group C(n=182): 28.9±5.1 and 4.6±4.1 respectively. Significantly higher rate of balloon deflation was observed in group A 276/764(36.1%) (p<0.001), than group B 19/235 (8%) and C 4/182 (2.1%).

Conclusion BIB is an effective tool with satisfactory weight loss. Different kind of BIB were used during the years and results in terms of weight loss were comparable while disturbing complications of the device as balloon early deflation were significantly improved.

O-099 From Overweight to Super-Obesity: The Efficacy of Air Filled Balloon

Presenter: A. Giovannelli (Cliniche Humanitas Gavazzeni, Bergamo, Italy)

Co-authors: A. Giovannelli¹

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Background Intra-gastric balloon may be used in overweight, morbid obesity and even in super-obesity as a pre-surgical weight-loss procedure. An

interdisciplinary approach is related with the best results and weight loss maintenance.

Methods More than 800 air-filled balloon implantations have been studied till now. 602 treated patients data are available from multiple case series in Europe. Our aim is to assess the efficacy of the Heliosphere balloon in the three main indications: BMI below 35, BMI between 35 and 50 and BMI above 50. All cases were recorded in the same database.

Results Balloon insertion and removal were successful in all the procedures. Tolerance was excellent with less than 3% of early removal for abdominal pain or psychological intolerance. At removal, the 167 patients with BMI below 35 have lost an average of 12,2 kg±1,14 (62% of excess weight loss). The 353 patients with BMI between 35 and 50 have lost an average of 19,8 kg±1,2 (51,3% of EWL). The 63 patients with BMI above 50 have lost an average of 15,9 kg±2,6 (BMI reduction of 5,88 kg/m).

Conclusion Air-filled intra-gastric balloon may be used in weight loss control in each level of overweight or obesity. The procedure is efficient and safe. The new generation of Heliosphere intra-gastric balloon makes the procedure even safer. To obtain the best results in a long term, a multidisciplinary nutritional and psychological follow-up is required.

O-100 Intra-gastric Balloons for Preoperative Preparation of the Super-Obese Patients

Presenter: Y. Yashkov (Center of Endosurgery and Lithotripsy, Moscow, Russian Federation)

Co-authors: V. Danyushin¹

¹Center of Endosurgery and Lithotripsy Moscow Russian Federation

Background Intra-gastric Balloons (BIB) provides mostly short-term weight loss results non-comparable with other bariatric procedures. Some high-risk super-obese (SO) patients need first-stage preoperative weight loss to be prepared for bariatric operation.

Methods 36 high-risk SO patients were proposed preoperative BIB-treatment. Their mean BMI was 64,4±7,5 (51,8-80,9) kg/m², mean body mass - 194,3+24,6 (162-262) kg, male-female rate - 21:15. Balloon inflation volume was higher then in the "usual" 78 patients treated with BIB(568,9 vs. 542,6 ml, p<0,01).

Result Absolute weight loss was higher in the SO group (20,1+13,4 kg vs. 13,2+7,0 kg p<0,001), although %EWL was lower (16,9+10,0% vs. 31,8+16,4 % p<0,0001). In these 36 patients there were no cases of early BIB removal for poor tolerance vs. 11,1 % in the "rest" group. 20 patients were operated after successful BIB course (17-BPD/DS, 1-Sleeve Gastrectomy (SG), 2- LapBand placement). BIB-removal during BPD/DS and SG was done intraoperatively with resected part of stomach. There was no mortality, 6,9 % developed wound infections. 7 pts have refused from operation receiving satisfactory result with BIB, 9 were not operated because of poor result with BIB and remaining high risk.

Conclusion 72,4 % of SO patients could be successfully prepared by BIB for the consequent bariatric surgery. %EWL in this group was lower but SO-patients demonstrated good tolerance of BIB treatment. Patients treated by BIB should be operated soon after weight stabilization to prevent further weight regain. First-stage BIB treatment may optimize preoperative selection of high-risk SO candidates for bariatric surgery.

O-101 Intra-gastric Balloon Followed by Diet vs Intra-gastric Balloon Followed by Another Balloon. A Prospective Study on 100 Patients

Presenter: A. Genco ("Sapienza" University, Rome, Italy)

Co-authors: R. Maselli¹, M. Cipriano¹, E. Paone², V. Bacci², M. Cuzzolaro², M. Lorenzo¹, N. Basso¹

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Background Aim of this study is to compare the efficacy of BioEnterics IntraGastric Balloon (BIB) followed by diet compared to BIB followed by another BIB.

Methods A prospective study was designed: 100 homogeneous obese patients (age ranged: 25-51, BMI ranged 40.0-44.9, M/F ratio 1/4) were allocated into two groups: BIB (6 months) followed by diet therapy 7 months (group A=50 pts), BIB positioning followed by another BIB after 1 month (group B=50 pts). Baseline demographics were similar in both groups (Group A: 10 M/40F; mean age: 38.4±6.8; mean weight: 106.3±12.5 Kg; mean BMI: 42.6±2.7 Kg/m²), (Group B: 10 M/40F; mean age: 37.8±7.1; mean weight: 107.1±11.9 Kg; mean BMI: 42.9±2.3). In both groups weight loss parameters (Kg, BMI and %EBL), comorbidities and alimentary behaviour changes were considered. Statistics were by Fisher's exact test ($p < 0.05$) was considered significant.

Result At time of 1st BIB removal weight loss parameter in both groups were not significantly different: Group A: mean weight was 83.7±19.1 (range: 52-151); mean BMI: 34.9±3.9 (range: 32.4-43.8); and mean %EBL: 43.5±21.1 (range: 0-68). Group B: mean weight was 84.9±18.3 (range: 50-148); mean BMI: 35.1±3.3 (range: 32.4-43.8); and mean %EBL: 43.3±19.8 (range: 0-68). At the study end weight loss parameters were significantly lower in group B patients ($p < 0.001$): mean BMI was 34.0±7.2 (range: 26-40), and 32.0±8.7 (range: 25-42); mean %EBL was 45.1±20.8 (range: 0-100) and 57.6±24.6 (range: 0-100) in group A and B respectively. Comorbidities and alimentary behaviour were better controlled in Group B ($p < 0.001$).

Conclusion Double balloon treatment is better than one balloon+diet treatment, achieving good weight loss better comorbidities and alimentary behaviour control.

O-102 Gastric Balloon Efficiency on Weight Loss (WI) with a Multidisciplinary Medical Follows Up

Presenter: V. Costil (Centre des médecins spécialistes de la Défense, Paris la Défense, France)

Methods Since 30 months, 137 patients are included in a prospective, comparative and non-randomized study. The average of initial BMI was 33.9 kg/m with the mean excess weight of 25.1 kg.

Both types of gastric balloons were implanted for 6 months then removed. Throughout their use and after extraction, medical follow-up by a gastroenterologist, nutritionist and psychiatrist were done to help modify alimentary habits and behavior. **Results** From the 108 extractions done, EWL was 54.7±1.0 %, WL was 10.5±1.5 kg and BMI decrease was 4.1 kg/m. For the patients who are compliant with the multidisciplinary follow-up, their weight still decreases (WL 16 kg after 12 months). Between both HELIOSPHERE[®] and BIB[®] gastric balloons, the weight loss was similar (9.6 kg vs 11.4 kg N.S.) but adverse events, such as nausea and vomiting ($p < 0.05$) and retrosternal burning (15.6% vs 31.4% N.S.), were less with the HELIOSPHERE[®].

For overweight and obese people which are not indicated for bariatric surgery (BMI too low), gastric Balloon is a good way to lose weight significantly. Results show that the compliance during 12 months to a regular multidisciplinary following-up is essential to avoid weight regain or to continue losing weight. However, if the long-term follow-up is neglected, weight regain can be significant.

Conclusion Gastric balloon can help overweight and obese patients, for whom bariatric surgery may be contraindicated, to reduce weight. Behavior change is essential to avoid weight regain.

O-103 Age is Not a Contraindication to Malabsorptive Bariatric Surgery

Presenter: C. Magee (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral

Background Morbid obesity is increasing in incidence in an increasingly ageing population. Malabsorptive bariatric surgery (laparoscopic duodenal switch [LDS] and laparoscopic Roux-en-Y gastric bypass [LRYGB]) is associated with greater weight-loss than restrictive procedures but is associated with greater operative risk. Increasing age presents a theoretical increased risk in morbidity and mortality. Do patients over the age of 50 years have a poorer outcome following malabsorptive bariatric surgery?

Methods A prospective database of all patients undergoing malabsorptive bariatric surgery was analysed. All patients with follow-up of at least 1 year

were identified. Data were analysed by the Mann-Whitney U (MWU) and Chi-squared tests using SPSS 16.0.

Result Malabsorptive surgery was performed in 194 patients (76 LDS, 118 LRYGB). We identified 48 patients over the age of 50 (15 LDS, 33 LRYGB). At 12 months there was no difference in percentage excess weight loss (%EWL) in the under 50 years and over 50 years groups for LDS (74% and 83% respectively, $P = 0.73$ MWU) or LRYGB (77% and 74% respectively, $P = 0.78$ MWU). Results were equivalent at 24 months for LDS (88% and 97% respectively, $P = 0.27$ MWU) and LRYGB (80% and 73% respectively, $P = 0.66$ MWU). There was no difference in mortality, thromboembolism or nutritional deficiencies at 12 and 24 months.

Conclusion At 24 months follow-up the malabsorptive procedures give excellent weight loss. Patients over the age of 50 can expect an equivalent outcome compared to their younger counterparts. These results suggest age should not be an automatic discriminator against malabsorptive bariatric surgery.

O-104 Laparoscopic Gastric Banding in Over 60 s: Effects on Health, Quality of Life, Medication Use & Longevity with Comparison to a Non-Surgical Control Group

Presenter: A. Clough (Australian Institute of Weight Control, Lane Cove, Australia)

Co-authors: L. Layani¹, A. Shah², W. Lucas²

¹Australian Institute of Weight Control Tugun Australia; ²Bond University Brisbane Australia

Background This is a retrospective controlled cohort study assessing changes in health, quality of life and life span after gastric banding in an obese population over 60 years of age.

Methodology A prospectively kept database was reviewed from January 1999 to September 2008 identifying patients over 60 who underwent gastric banding and patients over 55 who did not. Baseline and follow-up SF-36 survey scores were compared longitudinally. Co-morbidity resolution, survival and medication use were assessed by questionnaire and electronic record review.

Results 113 patients constituted the banded group and 86 patients the controls. Excess BMI loss was 44.1% and 12.1% for bands and controls respectively after five years ($p = 0.094$). Combined mean SF-36 quality of life scores (out of 100) improved 22.1 points in the bands vs. 2.9 in controls. Diabetes improved in 74.2% of bands with hypertension, hyperlipidaemia and depression improving in 57.1%, 51.1% and 35.9% of cases. A significant drop in medication use was not seen and survival curves out to 6 years were similar for bands and controls with cancer causing all deaths over the follow-up period. No surgical mortality was incurred.

Conclusion Gastric banding can markedly improve quality of life for morbidly obese over 60 s. Health gains are significant but medication use is not substantially altered. Longevity is not improved compared to controls over 6 years of follow-up. Gastric banding is an ideal weight loss operation for this age group due to its safety and efficacy and the primary goal should be quality of life improvement.

O-105 Bariatric Surgery Outcomes in Patients Age 65 and Older at an American Society for Metabolic and Bariatric Surgery Center of Excellence

Presenter: K. O'keefe (Grand Rapids Medical Education/Michigan State University, Grand Rapids, United States of America)

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Background Although morbid obesity rates in patients age 65 is increasing, few centers have reported weight-loss surgery outcomes in elderly patients, resulting in a paucity of literature on peri-operative mortality and morbidity.

Methods A retrospective analysis was performed on 198 consecutive patients age 65 who underwent weight-loss surgery from January 2000 through December 2007. Primary data points included 30-day and one-year mortality

rates, length of stay (LOS), percent excess weight-loss (EWL), and change in daily medication use and quality of life (QOL).

Result The mean patient age was 67.3±2.3 years (range 65 – 78) with 71.1% being female. Average preoperative weight and BMI was 131.9 kg and 48.1 kg/m², respectively. The average daily medication use was; ⁸Procedure types included Roux-en-Y gastric bypass (79.3%), adjustable gastric banding (17.2%), and vertical sleeve gastrectomy (3%). Ninety-seven percent were performed laparoscopically. Average length of stay was 1.98± 2.11 days.

Average weight, BMI, and daily medication use were statistically reduced at 6 months and 1 year (p<0.0001), with patients achieving an average EWL of 44.5% and 55.1% at 6 months and 1 year, respectively. QOL scores improved at 6 months (p<0.0001) and 1 year (p=0.049).

Thirty-day and one-year mortality rates were 0% and 1%, respectively. Reoperation rates at 30-day and one-year were 2.5% and 5.1%, respectively. At one year, 20.2% required upper endoscopy, 21.7% required emergency department evaluation, and 15.2% were readmitted. Total major and minor complication rates at one year were 6.1% and 24.2%, respectively.

Conclusion Weight-loss surgery is effective in patients age 65, producing significant EWL and reduction in daily medication use, and improvement in QOL. Surgery is also associated with a low mortality rate and an acceptable morbidity profile.

O-106 6-Year Baros of 1895 Primary Bariatric Operations

Presenter: R. Steffen (Hirslanden Clinic, Bern, Switzerland)

Co-authors: N. Potoczna¹, A. Guweidhi¹, F. Horber¹

¹Lindberg Clinic Winterthur

Background Comparative long-term results with high follow-up rates after primary bariatric operations are scarce.

Methods We analyzed and compared our 6 years BAROS after 57 vertical gastroplasties (VBG), 152 biliopancreatic diversions (BPD), 1245 adjustable gastric bandings (AGB) and 441 standard RY gastric bypasses (RY). Standard techniques were used for VBG, AGB and RY. BPDs are heterogeneous, but have a common channel of 100 cm or less. VBGs and BPDs were operated mainly through laparotomy, RYs and AGBs were mostly laparoscopic operations. Eye-to-eye follow up was 91 %. All data were recorded prospectively. An intention to treat analyses was performed.

Results

EWL was lowest in AGB patients. Total QoL was similar in all groups, but eating behaviour was significantly better in BPD and RY compared to VBG and AGB- patients. Moreover rate of reoperation during the 6 years of follow up was similar in AGB and RY patients, but more than twice as high in VBG and BPD subjects.

Interestingly improvement in comorbidities was similar in all groups. According to total BAROS, overall 10.1% were considered as failures. Failure rate was highest in VBG and lowest in RY. In contrast rating of good or better by BAROS was highest in BPD patients. Overall procedural and nonprocedural mortality was 19 per 10000 personyears

Conclusion 6 years after bariatric surgery only 10% of subjects were considered as failures, whereas about two third of patients were considered as good or better with the exception of VBG. Overall mortality was 3 times lower as that reported for non operated morbid obese subjects (>50 per 10'000 person years)

O-107 The American Society for Metabolic and Bariatric Surgery Center of Excellence Designation Improves Bariatric Surgery Outcomes

Presenter: N. Hutcher (Bon Secours Medical Group, Richmond, United States of America)

Co-authors: N. Hutcher¹, E. Kantzler¹, S. Allgood¹

¹Bon Secours Richmond United States of America

Introduction In 2004, the ASMBS recognized inconsistent quality outcomes across the United States. The response was formation of the Surgical Review Corporation to set quality guidelines, inspect and recommend programs to the ASMBS for designation as a Center of Excellence. This report is to evaluate the effect of the COE process on an established high volume bariatric surgery program using standard quality indicators.

Methods Bon Secours St. Mary's is a 39 I bed hospital with a Bariatric Surgery Program in place for 25 years. We compared the three years preceding designation as a Center of Excellence to the three years after being granted Center of Excellence designation in November 2005.

Results Total complications in the 1582 pre-Center of Excellence patients were 11.1 percent versus 3.8 percent in the 2445 post COE patients. Readmission rate dropped from 9.8 percent to 3.1 percent. Reoperations dropped from 5.7 percent to 1.1 percent. Leak rates for gastric bypass only in 1443 pre-COE patients versus 9 17 post-COE patients dropped from 1.6 to 0.8 percent. Thirty day hospital operative mortality dropped from 0.56 percent to zero. All of these findings are statistically significant.

| Group | VBG | BPD | AGB | RY |
|----------------------------|-----------------|---------------|------------------|------------------|
| N | 57 | 152 | 1245 | 441 |
| BMI 0 Years | 48 +/- 7 | 53 +/- 8 * | 43 +/- 6 | 46 +/- 6 |
| BMI 6 Years | 33 +/- 7 | 34 +/- 6 | 32 +/- 6 | 31 +/- 6 |
| %EWLoss at 6 years | 61 +/- 23 | 64 +/- 17 | 55 +/- 23* | 63 +/- 19 |
| BAROS points EWL | 1.90 +/- 0.74 | 2.08 +/- 0.71 | 1.74 +/- 0.91 | 2.03 +/- 0.77 |
| BAROS points QoL total | 1.21 +/- 0.82 | 1.13 +/- 0.88 | 1.15 +/- 0.84 | 1.21 +/- 0.88 |
| -physical | 0.29 +/- 0.19 | 0.29 +/- 0.20 | 0.24 +/- 0.20 | 0.23 +/- 0.20 |
| -social | 0.24 +/- 0.23 | 0.25 +/- 0.22 | 0.17 +/- 0.19 | 0.18 +/- 0.19 |
| -labor | 0.25 +/- 0.21 | 0.21 +/- 0.26 | 0.19 +/- 0.21 | 0.20 +/- 0.23 |
| -sexual | 0.03 +/- 0.18 | 0.03 +/- 0.24 | 0.06 +/- 0.20 | 0.05 +/- 0.21 |
| -self esteem | 0.20 +/- 0.19 | 0.26 +/- 0.20 | 0.24 +/- 0.19 | 0.27 +/- 0.20 |
| -eating behaviour | 0.11 +/- 0.15** | 0.25 +/- 0.20 | 0.12 +/- 0.12** | 0.27 +/- 0.20 |
| BAROS, Complications major | 0.31 +/- 0.64 | 0.18 +/- 0.41 | 0.09 +/- 0.32 | 0.11 +/- 0.43 |
| BAROS, Reoperations major | 1.11 +/- 1.16 | 1.14 +/- 0.94 | 0.38 +/- 0.71*** | 0.32 +/- 0.67*** |
| BAROS, Comorbidities | 1.50 +/- 0.97 | 1.50 +/- 0.97 | 1.59 +/- 0.90 | 1.44 +/- 0.73 |
| TOTAL BAROS | 2.85 +/- 2.48* | 3.69 +/- 2.03 | 3.60 +/- 2.14 | 3.75 +/- 1.81 |
| %Failures | 21**** | 10 | 10.5 | 7 |
| %Good or better | 42**** | 71 | 68 | 63 |

* p<0.05 using ANOVA vs all other groups; **p<0.05: ANOVA vs BPD and RY. *** p <0.05: ANOVA GB or RY vs VBG or BDP. ****p<0.05 using nonparametric comparisons by Kruskal-Wallis.

Conclusions Although factors other than the COE process played a role and will be discussed, it is shown that the process necessary to become an ASMBS Bariatric Surgery Center of Excellence improved all quality-driven outcomes.

O-108 Obesity Course for Medical Students Improves Their Knowledge and Attitude Regarding Bariatric Surgery

Presenter: J. Morton (Stanford School of Medicine, Stanford, United States of America)

Co-authors: C. Albanese¹, G. Woodard¹

¹Stanford School of Medicine Stanford United States of America

Background Morbid obesity is the leading public health concern of the industrialized world. The obesity epidemic and growing prevalence of comorbidities such as diabetes, hypertension, hyperlipidemia, sleep apnea, and joint problems are relevant to all medical specialties. However, no United States medical school offers courses specifically dedicated to obesity.

Methods At Stanford Medical School an elective 8 week course entitled "Obesity in America" was offered to preclinical students. 49 students completed a questionnaire on knowledge and attitudes towards obesity pre and post course.

Result Following the course, students scored higher on their awareness of the health burdens, prejudices, and workplace challenges of obese patients. The students improved their scores regarding their own prejudice towards obese patients. Following the course, more students were able to define obesity (90% to 98%), identify risk factors for obesity in children (50% to 80%), give dietary weight loss information (27% to 57%), estimate calories (35% to 50%), recognize qualifications for bariatric surgery (50% to 70%), and identify the many benefits and risks of bariatric surgery. At the conclusion of the course 100% of students felt that their peers in medical school would benefit from taking such a course.

Conclusion A preclinical course on obesity changes medical students' knowledge and attitudes regarding obesity and its treatments. Given the high prevalence of obesity and its affect on all medical specialties, we recommend that medical schools adopt similar courses.

O-109 The National Italian School for Bariatric Surgery: Experience of 5 Years

Presenter: P. Millo (regional Hospital, Aosta, Italy)

Co-authors: R. Allieta¹, R. Brachet Contul¹, M. Fabozzi¹, M. Nardi¹, M. Grivon¹

¹Regional Hospital Aosta Italy

Background The National Italian Bariatric School was started in 2003 under the direction of Dr Umberto Parini and it was organized by the National Association of Surgeon working in general hospital in Italy (ACOI)

Methods The purpose of this school was to teach about surgical technique, multidisciplinary approach, selection of patient, indication to surgery, results evaluation, organization of bariatric center and follow up. The duration of the course was 1 year with theoretical and practical experience in OR and in experimental laboratories in pigs.

Result Between 2003 and 2008, 93 surgeons coming from different regions of Italy attended this School, with 37 teachers and 9 Accredited centers in Italy where they were able to do training in OR for a minimum of 15 days to approach each type of surgical procedure and redo surgery. A supplementary experience of 7 days allowed the surgeons to reproduce bariatric procedure in pigs.

Conclusion The results of this particular experience were evaluated by interviewing each surgeon about satisfaction, capacity to start new type of surgery or to improve their work in this field. 95% answered that this experience was mandatory to organize and manage as well possible obese patients and to stimulate health policy maker and administration to give the right attention to bariatric surgery in Italy.

O-110 Teaching Roux-En-Y-Gastric Bypass by a Stepwise Approach in a Third Level Hospital in México

Presenter: F. López Rosales (Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico city, Mexico)

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Background Whilst laparoscopic Roux-en-Y gastric bypass (LRYGBP) is a technically demanding procedure with a steep learning curve, no standardized program has been described on how to master the technique; nor has it been established if a training program may have undesirable results regarding the morbidity and mortality in patients operated on for morbid obesity.

Methods From March 2006 to February 2009, 186 RYGBP were performed. Four fellows in our Endocrine and Advanced Laparoscopic Surgery program participated in 145 operations. A stepwise approach was designed where fellows participated only as assistants during their initial cases, to eventually performing the jejunostomy (JJ); then the pouch construction (GP), and finally the gastrojejunostomy (GJ); advancing through each step only if they were able to complete the previous one with accuracy and speed. Operative data, morbidity and mortality rates were retrospectively analyzed.

Result The fellows performed at least one step of the procedure in 84 cases (group 1) while the attending surgeons performed the whole procedure in 102 cases (group 2). Fellow A participated in 47 surgeries, 28 as assistant (A) and then performed 16 JJ, 10 GP and 5 GJ respectively, fellow B participated in 30 surgeries (7 A, 23 JJ, 12 GP and 8 GJ), fellow C participated in 31 (13 A, 18 JJ, 7 GP and 4 GJ) and finally fellow D participated in 37 (13 A, 24 JJ, 10 GP and 4 GJ). The comparative analysis is as follows:

Variable Group 1 Group 2 Mean age/weight/BMI 39/129.3/49 36.5/125.9/46 Mean operative time, min/blood loss, ml 247/89 229/96 Conversion rate n (%) 4(4.76%) 5(4.9) Absolute weight loss, kg/excess weight loss (%) at 1 year 41.6/65.51 39.4/64.69 Major Complications, n (%) Gastrojejunostomy leakage Stomal stenosis Internal hernia Pulmonary embolism Pneumonia Rhabdomyolysis Eventration Duodenal perforation 20(23.8) 3 9 1 3 2 1 0 0 19(18.2%) 5 8 1 1 1 0 2 1 Mean hospital stay, days 5.7 5.5 Mean follow-up, months 11.9 14.3 Mortality, n(%) 2(2.38) 2(1.96)

Conclusion Our institution is one of the few teaching hospitals in Mexico with a focused training program in LRYGBP. Whilst a limited number of cases in our program are performed yearly (< 100); the stepwise learning approach seems to be safe and effective, with complication rates similar to those obtained by the attending surgeons.

O-111 Laparo Endoscopic Single Site for Adjustable Gastric Banding. Preliminary Experience

Presenter: M. De Luca (Obesity Center Vicenza Padova Italy, Vicenza, Italy)

Co-authors: G. Segato¹, L. Busetto¹, D. Ashton², F. Favretti¹

¹General Surgery Department Vicenza Italy; ²Healthier Weight Birmingham United Kingdom

Background Laparoscopic Adjustable Gastric Banding (LAPBAND) has proven to be a safe and effective procedure for the management of morbid obesity. It is the most common procedure performed in Europe, Australia and South America and it is increasing exponentially in USA.

In our experience Lap Band is considered first choice operation (with the exclusion of Prader Willy Syndrome, Diencephalic Obesity, patient refusing to be compliant to LapBand program, Metabolic Syndrome).

LaparoEndoscopic Single Site (LESS) has become an exciting area of surgical development.

Methods Our Lap Band series consists of 2480 Patients (Sept 1993-Feb 2009). Mortality 0%. Mean %EWL 49.7. Major complication requiring reoperation 5.7%.

LESS for LAPBAND, in our experience, consists of introducing 3 trocars (2 trocar of 5 mm and 1 trocar of 10 mm) through the same skin incision, but with 3 different fascia incision. According to the BMI and the type of obesity (android or gynoid) the position of the navel has different distance from the subcardial area (site of BAND positioning); consequently the site access is different (navel or left hypoconrium – normal port site of LAPBAND). 1 mm instrument for liver retraction isometimes is required.

From October 2008 to February 2009 total series of patients underwent LESS for LAPBAND were 16.

Results Mean operative time was 65 min (45-105). There were no perioperative complication at 1 month follow up. The Patients did well postoperatively and were discharged during the first postoperative day.

Conclusions Single Site Incision for LAPBAND is technically feasible. We performed the procedure with mostly existing port (STORZ, COVIDIEN), laparoscopic instrumentation (STORZ, COVIDIEN) and visualization platform (STORZ). LESS resulted in a single minimal scar nearly invisible if in the umbilicus. If the procedure by LESS is difficult, there is indication to introduce further trocar. Further study are necessary for the evaluation of clinical results at medium and long-term follow-up.

O-112 A Single Center Feasibility Trial of the Safety and Efficacy of the Valenx Endo Bypass System in Obese Patients. Primary Results

Presenter: R. Rumbaut (Hospital San Jose TEC de Monterrey, monterrey, Nuevo León, Mexico)

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Background The ValenTx Endobypass System (EBS) presents a less invasive alternative to bariatric surgical treatment. It is a 120 cm long polyurethane sleeve that is endoscopically placed with no permanent rerouting of the intestines. A Dacron cuff facilitates its attachment at the gastroesophageal junction. It provides restrictive and malabsorptive elements, achieving weight loss and impact on co-morbidities. The objective is to determine the feasibility of the EBS. The patient's preoperative and post-implant conditions are used to compare the effectiveness of the device. We intend to establish that the device can be safely implanted and removed.

Methods This is an original, applicative, longitudinal, analytic and prospective study. From August to November 2008, the device was implanted in 12 selected patients with laparoscopic assistance. The duration of the implant was planned to be 12 weeks. Any adverse effects related to the implant or removal were registered. We assessed BMI, excess weight and co-morbidities before and after the implantation.

Result There were no complications during implantation. The initial mean BMI was 40.1 (35.4-50.8). In 3 patients, the system was removed prematurely because of intolerance (n=2) and sleeve retraction (n=1). In 3 patients, we decided to delay the removal of the EBS for 6 months due to good functionality. The rest of the patients had the implant successfully removed at week; ¹²At removal, 4 EBS implants were misplaced. The combined average excess weight loss at 12 weeks, was 39.9% (15-64). The average excess weight loss, excluding the 3 patients who had the implant removed, was 58% (27-64). We achieved control of hypertension in 1 of 2 patients, and of diabetes in 3 of 4 patients, without their usual medications.

Conclusion The implantation of the Endobypass System is feasible and safe. It could offer a less invasive procedure as an alternative to bariatric surgical approach.

O-113 Acute Food Intake Reduction Using a Closed Loop Stimulation Device in Obese Subjects

Presenter: T. Horbach (Adipositaszentrum Erlangen-Schwabach, Schwabach, Germany)

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Background The OMS100 (IntraPace, Inc.) is a behavior modification, closed loop device to treat obesity. The system features a transgastric sensor to detect food intake, which directs a stimulator to deliver a tailored gastric stimulation, resulting in early satiety. The system also records subjects' physical activity (using an accelerometer). A one year clinical trial is currently being conducted in Germany.

Methods The study primary endpoints are to assess the OMS100 ability:

- To detect food intake and deliver stimulation
- To reduce food intake when stimulation initiated

The system was laparoscopically implanted in 30 obese subjects (35 BMI 55 kg/m²). Four weeks post-surgery a "meal test" was conducted to determine if the primary endpoints were met. The meal test consisted of identical breakfasts and lunches over the course of two consecutive days. Day 1: food intake was recorded as baseline data. Day 2: the OMS100 was programmed to deliver stimulation in response to consumption and lunch intake was quantified and compared to the baseline lunch.

Results

- For all subjects the OMS100 detected food intake and delivered therapy as programmed
- 28 subjects had a significant reduction of food intake during stimulated lunch (mean, SD) -45.7±27.2% (paired t-test p<0.001)

The study's secondary endpoint is to assess the subject's weight loss. These results will be presented.

Conclusion The OMS 100 detected food intake and delivered the subject's tailored therapy, resulting in a significantly reduced food intake. The ability of the OMS 100 to record continuous data will allow physicians to monitor the subject's behavior regarding food intake and physical activity and optimize their treatment plan.

O-114 VBLOC and Improvements in Co-Morbidities in Obese Subjects During Weight Loss

Presenter: M. Herrera (Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran (INCMNSZ), Mexico City, Mexico)

Co-authors: L. Kow¹, J. Pantoja², M. Knudson³, K. Tweden³, R. Wilson⁴, T. Yurik⁵, J. Touli¹

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Background Excess weight loss has been reported with a medical device that intermittently blocks both vagal trunks near the esophagogastric junction.

Methods Effects of VBLOC therapy on three obesity-related co-morbidities of elevated blood pressure (BP), elevated HbA_{1c} and waist circumference (WC) were examined. Obese subjects were implanted with the Maestro device in a prospective, open-label, multi-center study. At baseline, 1, 3 and 6 months (mo), physical exams and labs were completed. Elevated BP was defined by JNC-7 criteria: systolic BP (SBP) 130 mmHg and/or diastolic BP (DBP) 80 mmHg. For this cohort that met the criteria for elevated BP, changes in mean arterial pressure (MAP) were also evaluated. MAP was calculated as follows: DBP+1/3 (SBP - DBP). Finally, elevated HbA_{1c} was defined as levels 7.0%.

Result At baseline, 22 subjects met JNC-7 BP criteria, and 6 had HbA_{1c} 7.0%. Elevated SBP (n=12, mean = 144±4 mmHg) was reduced by 20±5, 19±5 and 19±6 mmHg at 1, 3 and 6 mo respectively (all p<0.01). MAP (n=22, mean = 101±2 mmHg) was reduced by 9±3 (p=0.002), 7±2 (p=0.01) and 6±2 (p=0.02) at 1, 3 and 6 mo respectively. Elevated HbA_{1c} (n=6, mean = 8.7±0.9%) was reduced by 1.4±0.4%, 1.3±0.3% and 1.7±0.6% at 1, 3 and 6 mo respectively (all p<0.05). WC (n=20, mean=123.4 cm) decreased by 6.4±1.4 and 7.8±1.7 cm at 3 and 6 mo respectively (all p<0.001).

Conclusion In obese subjects with co-morbidities of elevated BP, elevated HbA_{1c} and/or abnormal WC, VBLOC therapy was associated with significant improvements in these risk-related parameters.

O-115 Is the Effect of GBP on Type II Diabetes Mellitus Permanent?

Presenter: M. Fobi (Center for Surgical Treatment of Obesity, Hawaiian Gardens, United States of America)

Co-authors: M. Fobi¹, K. Che-Senge¹, M. Stanczyk¹, J. Naim¹

¹Center for Surgical Treatment of Obesity Hawaiian Gardens United States of America

Background GBP is known to control type 2 diabetes. The question has often been raised as to whether the effect is temporal or a cure. This study on the long term effect of GBP on type II diabetes was undertaken to answer the question.

Methods A retrospective review of the records of all patients who had the BGBP at the Center for Surgical Treatment of Obesity between 1993 and 1995 with a diagnosis of diabetes were reviewed. The immediate and long term outcomes were extracted and analyzed and will be presented.

Result 683 patients had BGBP between 1993-95. 72(8 %) had a diagnosis of type II diabetes mellitus. Of these, 20(28%) were insulin dependent, 29(40%) were on oral anti diabetic agents and 25(32%) were recent onset diabetics. All patients were discharged home on no medications. Within two weeks of discharge 58(80%) were euglycemic and 14(20%) were replaced on lower doses of insulin and/or oral antidiabetic agents. At ten years, of the 41(57%) patients that were available for follow up, 34(83%) were cured. One was on low dose of insulin and six were on oral antidiabetic agents.

Conclusion The 80% remission rate seen within two weeks of GBP is maintained at ten years of follow up. It does appear that BGBP produces a long term remission or a cure in morbidly obese patients with type II diabetes mellitus.

O-116 Long-Term Effects of Bariatric Surgery Upon Liver Injury: A Prospective Study in Patients Without Advanced Liver Disease

Presenter: F. Pattou (Lille University Hospital, Lille, France)

Co-authors: F. Pattou¹, R. Caiazzo¹, L. Arnalsteen¹, A. Hollebecque², G. Dezfoulian¹, M. Pigeyre³, M. Romon³, P. Mathurin²

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Background Long-term effects of bariatric surgery upon liver injury and its mechanisms are unknown. The aims of this prospective study were to evaluate both the evolution of liver pathology at 5 years after surgery, and to progress in comprehending obesity-induced organ injury.

Methods Evolution of liver injury (liver biopsy) and insulin resistance (IR) prior to and at 1 and 5 years after bariatric surgery (gastric band, gastric bypass, or biliointestinal bypass) were prospectively evaluated in 381 morbidly obese patients.

Results Fibrosis slightly increased (from 0.27±0.55 to 0.36±0.59), but 95.7 % of patients maintained a fibrosis score < F1. NAS score (1.97 to 1), steatosis (37.4% to 16%) and ballooning (0.2 to 0.1) decreased 5 years after surgery, but inflammation remained unchanged. Between baseline and 5 years, the number of patients with probable or definite NASH significantly decreased, from 27.4 to 14.2%. Kinetic evolution of IR paralleled that of steatosis and ballooning, with the greatest improvement occurring within the first year and which was sustained five years later. In terms of mechanisms, persistence of steatosis (73.9 vs 36.2 %) and ballooning (25 vs 4.3%) at 5 years was more frequent in patients with a "refractory IR profile" (defined as persistence of a high IR index 1 year after surgery). In multivariate analysis, the refractory IR profile was an independent predictive factor of persistence of steatosis and ballooning at 5 years.

Conclusion In this 5 year prospective study, the NAS score improved. Steatosis and ballooning were closely linked to IR, and their long-term evolution may be predicted by early improvement in IR.

O-117 Gastric Bypass Reduces Cardiac Risk Factors in the Adolescent Morbidly Obese

Presenter: J. Morton (Stanford University School of Medicine, Stanford, United States of America)

Co-authors: T. Boussard¹

¹Stanford University School of Medicine, Stanford, United States of America

Background Coronary artery disease (CAD) is the leading cause of death in the industrialized world with obesity as a leading risk factor. Biochemical cardiac risk factors (BCRF) have been identified to predict future risk. Increasingly, the adolescent obese population has been noted to have abnormal BCRFs with some advocating their treatment. Our study aim is to demonstrate that gastric bypass improves BCRFs in the adolescent morbidly obese population.

Methods At a dedicated adolescent bariatric center in a free-standing children's hospital, 32 adolescents underwent laparoscopic Roux en Y gastric bypass with average age of 16 (14-18) and BMI 55 (44-88). BCRFs were measured pre-operatively and at 3, 6, and 12 months post-operatively. BCRFs measured included total cholesterol (TC), low density lipoprotein (LDL), high density lipoprotein (HDL), triglycerides (TG), fasting insulin (IN), homocysteine (HC), lipoprotein A (LpA), and high sensitivity C-reactive protein (CRP). No patients were on statin therapy and results were compared with Wilcoxon signed rank test with p<.05 as significant.

Result At 12 months, there was uniform improvement in all BCRFs from preop levels with all differences as significant. The improvements are as follows: (preop/12 months): Total Cholesterol (155/134), LDL (103/64), HDL (38/61), Triglycerides (91/47), fasting insulin (40/5.5), homocysteine (8.6/6.2), Lipoprotein A (14/10.5), and CPR (6.1/0.3).

Conclusion Gastric Bypass uniformly improves biochemical cardiac risk factors in the adolescent morbidly obese population particularly for fasting insulin and high sensitivity C-reactive protein. Bariatric surgery may provide tertiary prevention of CAD in the morbidly obese adolescent.

O-118 Systematic Review of Pregnancy Related Internal Hernia After Gastric Bypass – Lessons to Learn?

Presenter: K. Carswell (King's College Hospital, London, United Kingdom)

Co-authors: A. Belgaumkar¹, A. Patel¹

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Background Infertility is an increasingly common motivator for bariatric surgery, leading to improvements in rates of conception and reduced gestational complications. We have systematically reviewed the literature for reports of pregnancy related internal hernia (IH) after gastric bypass (RYGB) and their outcomes.

Methods A systematic review of electronic databases (Ovid Medline, Pubmed, Embase, Cochrane Library) was performed using search terms including: "gastric bypass", "internal hernia" and "pregnancy". Data are reported as median (range).

Result A total of 12 relevant papers were found out of 402 screened.

15 cases of pregnancy-related IH post-RYGB were reported. Patients were aged 30 years (23-41, n=12), with a gestational age of 30 weeks (11-37, n=11). Patients were 18 months (8-108, n=13) post-bypass.

Laparoscopic RYGB was reported in 10/14 cases, with a retrocolic anastomosis in 4/7.

Diagnosis was delayed in 7/14 cases and abdominal CT scan demonstrated internal herniation in 8/9 cases.

Therapeutic laparoscopy was undertaken in 4/13 patients (1 converted to open). Ischaemic bowel was resected in 4/13 with synchronous caesarean section in 4/13.

Sites of internal herniation were:- transverse mesocolic defect 1; Petersen-type hernia 5; jejunojejunal mesenteric defect 3 (n=8).

Maternal mortality occurred in 1/15 cases and foetal mortality in 3/15 cases. 6 patients proceeded to uneventful deliveries at term.

Conclusion Acute abdominal pain in a pregnant patient post-RYGB is a life-threatening emergency. Surgeons should have a low threshold for urgent imaging studies and diagnostic laparoscopy irrespective of gestational age, to minimise potential maternal and foetal mortality.

O-119 Sleeve Gastrectomy and Transit Bipartition: A Neuroendocrine Procedure. Long Term Results

Presenter: S. Santoro (Hospital Israelita Albert Einstein, São Paulo, Brazil)

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Background In 2003 we started a series with Transit Bipartition (TB). It creates a gastro-ileal anastomosis in the antrum after a sleeve gastrectomy with neuroendocrine goals. The duodenum is left open, with its transit maintained; therefore, the stomach remains with two exits. A partial biliopancreatic derivation (BPD) is constructed.

Methods 1144 patients were submitted to a TB; 439 cases were submitted also to an omentectomy and proximal jejunectomy, (always keeping bowel length within normal range). Jejunum was laterally anastomosed to ileum usually at 80 cm of the cecum (60 to 130 cm - "the common channel").

Result Maximum follow-up 6 years. Average EBML% was 77% in the first year; 89% in the second year; 87% in the third year; 82% in the fourth year. Three patients died (0,26%). Other surgical complications were 8%, all resolved without sequela. Patients present early satiety and excellent improvement in pre-surgical comorbidities, especially hypertriglyceridemia and diabetes (the later with 93% of remission, 7% improvement without duodenal exclusion). Previous studies showed that postprandial GLP-1 and PYY were enhanced ($P < 0.05$); Ghrelin, Resitin, PAI-1 and post prandial lipemia were reduced ($P < 0.05$). Alimentary transit occurs mainly through gastroileostomy. Signals of malabsorption or hypoalbuminemia are very rare and temporary. Most patients present no symptoms at all.

Conclusion TB maintains the positive neuroendocrine changes and efficiency of a BPD however, with complete endoscopic access, avoiding blind loops, mechanical restriction and malabsorption. TB is simple and highly effective as a bariatric and metabolic procedure, even for very heavy patients and in the long term.

O-120 Alkaline Reflux After Laparoscopic Roux-En-Y-Gastric Bypass in Morbid Obesity: a Frequent Event and a Risk Factor for Long-Term Complications

Presenter: M. Toppino (University of Turin, Turin, Italy)

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Background Recent studies have shown a significant effect of alkaline reflux on cellular physiology in terms of development of chemical esophagitis, Barrett's metaplasia and esophageal adenocarcinoma. Aim of the study was to evaluate the incidence of alkaline reflux and related complications in patients submitted to laparoscopic Roux-en-Y-gastric bypass (LRYGB) for morbid obesity.

Methods Between May 2006 and May 2007 65 patients underwent a LRYGB (100 cm limb length) and were included in a prospective controlled clinical study. Primary endpoint was the incidence of alkaline reflux at 24H multichannel intraluminal impedance pH monitoring (MII-pH) and 24H intraluminal bile monitoring (IBM) at 12 months follow-up. Secondary end point was to evaluate reflux morbidity. The follow-up also included Gastroesophageal Reflux Health-Related Quality of Life scale (GERD-HRQOL) evaluation at 1,3 and 12 months, esophageal manometry and endoscopy with biopsy at 12 months.

Results Forty patients out of 65 (62%) completed the protocol. Bivaried analysis showed no significant modification of GERD-HRQOL but significant increase in alkaline exposure of distal esophagus both on 24H MII-pH

(22.53 ± 16.01 vs 37.04 ± 20.72 , $p < 0.001$) and on 24H IBM (total time abs > 0.14 min, 103.75 ± 123.93 ; fraction time abs > 0.14 %, 9.83 ± 8.80). Data were confirmed at endoscopy: micro or macroscopic esophagitis was present in 8 (18%) of patients preoperatively vs 22 patients (55%) postoperatively ($p < 0.001$). **Conclusions** Patients submitted to LRYGB presented an increased exposure of distal esophagus to alkaline reflux with a high rate of esophagitis but with limited symptoms. Long term follow-up is warranted to exclude the onset of severe complications such as Barrett's esophagus or adenocarcinoma.

O-121 Bariatric Surgery for Obese Adolescents in France: A New Rightful But Necessarily Supervised Challenge in French Pediatric Surgery. An Applied Plan

Presenter: D. Weil (Paediatric Surgery, Angers, France)

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Background Morbid paediatric obesity has sharply recently risen in France and failure of medical treatment is usual. If paediatric bariatric surgery is increasingly used all around the world, it is not allowed in our country but not specifically forbidden. Although a few obese children have been operated on by adult surgeons, selected surgical program has not been yet established for French teenagers.

Our aim was to define a multidisciplinary approach to build a safe supervised and supportive surgical plan for these patients.

Methods A working multidisciplinary paediatric team held meeting once a month for 3 years. Based on a review of paediatric literature, they collegially defined criteria for surgery, patients' journey modalities, type of surgery, and expected outcomes.

Result Improving quality of life and social insertion seemed as important as weight loss and resolution of obesity-associated comorbidities. A psychological and dietary monthly support, weekly physical group sessions, and visits in an Adolescent Unit were included for 6 month prior to surgery. Long term postoperative follow up had to be accepted by the applicant through a signed written consent.

We decided to use Adjustable Gastric Banding, because of its lesser morbidity, and its reversibility in an educational project. Other procedures have not been formally excluded.

As such procedures are not authorized in France for minors, we have had our project validated by our Institutional Ethic Committee, health insurance agencies, and adult French bariatric experts.

Twenty patients are included in the program, five of them have been operated on.

During a monthly multidisciplinary session, patient cases are discussed, and assessed. We progressively learn how to surround the numerous unpredictable psychological difficulties these patients encounter.

Conclusion Bariatric surgery could be safely used in French paediatric adolescents though they differ from their adult counterparts.

It needs a multidisciplinary paediatric team, careful and strict preoperative assessment, long term follow up, reversible technical procedure, and referent units.

O-122 Laparoscopic Gastric Banding for Morbidly Obese Adolescents- Ten Years Clinical Experience

Presenter: E. Avinoah (Ben Gurion University, Soroka Medical Center, Metar, Israel)

Co-authors: L. Lantsberg¹, S. Mizrahi¹

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Background Although bariatric surgery is an effective treatment for morbid obesity there is relative little experience with the surgical treatment for the

morbidly obese adolescents. This study describes our long-term clinical experience with the laparoscopic gastric banding in adolescents.

Methods During the last ten years 378 morbidly obese adolescents had laparoscopic gastric banding 180 of whom are five to ten years after surgery. Their mean age was 16 ± 1.4 (range - 9 to 18) years. 8%(15 pts.) of the adolescents had comorbidities including hypertension, asthma and sleep apnea. Their mean preoperative height 165 ± 7 , mean weight 119 ± 15 kg. with a mean BMI of 43 ± 3 . Seven patients (12%) were superobese whose BMI was over 50. They had laparoscopic gastric banding performed through the pars flaccida, with no gastro-gastric sutures. Mean operation time was 25 minutes and hospital stay did not exceed 24 hours.

Result Perioperative complications rate was lower than 1%. Late complications included slippage of band in 18 (10%) patients who had laparoscopic reposition. 93% of the patients report of significant improvement in their quality of life. Three to six years after surgery their mean lowest BMI was 27 ± 3 and stabilized at a BMI of 30 ± 2.5 . The superobese reduce their BMI to 32 ± 4 . There were no metabolic or nutritional disorders.

Conclusion We found that despite their young age the obese adolescents had similar dimensions as adults obese. We conclude that gastric banding is well tolerated by young morbidly obese patients. It induces long term significant weight reduction with significant improving quality of life.

O-123 Results and Complications After Swedish Adjustable Gastric Banding – 10 Years Experience

Presenter: R. Mittermair (University Hospital, Medical University Innsbruck, Innsbruck, Austria)

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Background Bariatric surgery is currently the only effective treatment for morbid obesity. The main advantage of laparoscopic adjustable gastric banding is that this operation is minimally invasive to the stomach, totally reversible and adjustable to the patient's needs. Few long-term studies on Swedish adjustable gastric banding (SAGB) have been published. We here report our 10-year experience with 785 SAGB procedures.

Methods Between January 1996 and January 2006, 785 consecutive patients (81% women, 19% men) underwent SAGB. All demographic and morphologic, operative, and follow-up data were prospectively collected in a computerized data bank. The procedure was performed by 30 different surgeons.

Result Mean total weight loss was 26 kg after one year and reached a total of 40.5 kg after eight years. Mean EWL was 65.5% after eight years, and BMI decreased from 42.9 to 28.3 kg/m². 396 patients (50.4%) suffered from 688 complications. The most common complications were esophagitis (28.8%), pouch dilation (15.3%), esophageal dilation (12.5%), port problems (11%), band migration (6.5%), and band leakage (6.4%). Overall, 251 reoperations (32%) were performed. There was no mortality.

Conclusion From our experience we can state that SAGB is an effective bariatric procedure for achieving long-term weight loss. Because of the high complication and reoperation rate careful patient selection seems necessary.

O-124 Comparison of Outcome of LAGB and Gastric Bypass in Young Adults and Adolescents

Presenter: G. Becouarn (Clinique de l'Anjou, ANgers, France)

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Background Bariatric surgery is rapidly increasing in young adults and adolescents but the procedure of choice remains however controversial. The aim of the study was to compare the outcome of laparoscopic adjustable gastric banding (LAGB) and laparoscopic gastric bypass (GBP) in this age group.

Methods All consecutive patients aged 26 years or less (23 ± 2 years, range 17-26 years) who received bariatric surgery at two distinct institutions were enrolled in this case control study. We then compared the outcome of patients receiving LAGB (group 1, n=48, 44 ± 12 kg/m²) or GBP (group 2, n=36, 47 ± 6 kg/m²).

Results Baseline characteristics of patients were similar in both groups. Follow up at one year was completed in 93% of patients. Hospital stay was significantly longer after GBP (G2: 8 ± 2 days vs G1: 3 ± 2 ; $p<0.0001$) due to more frequent early post-operative complication. Weight loss was significantly higher after GBP at one year, (G1: 41 ± 19 %EWL vs G2: 77 ± 17 %EWL; $p<0.0001$) and at two years ((G1: 41 ± 25 %EWL vs G2: 77 ± 17 %EWL; $p<0.0001$)

Conclusion Both procedures allowed a significant weight loss for at least two years in young adults and adolescents. In this age group LAGB appeared safer but GBP was associated with a significantly higher weight loss.

O-125 Laparoscopic Sleeve Gastrectomy in Adolescents - Initial Experience

Presenter: N. Geron (Baruch Padeh-Poriah Medical Center, Tiberiaes, Israel)

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Background Laparoscopic sleeve gastrectomy (LSG) is unknown as a technique for bariatric surgery in adolescents. We present our experience with LSG as a stand alone procedure in a small pediatric series.

Patients and Methods All patients (n=14, 10 female) underwent complete preoperative evaluation by a multidisciplinary team including a pediatric endocrinologist. At surgery, the mean age was 15.4 years (range 13-17), mean body mass index (BMI) was 45 kg/m² (range 37.5-60.2). Four patients (29%) had obesity related co-morbidities (hypertension, Type II diabetes, Fatty Liver and Asthma).

All patients underwent the procedure with a standardized technique.

Results There were no intraoperative complications. One patient underwent explorative laparoscopy on postoperative day one due to intra-abdominal bleeding. This patient was discharged on postoperative day 4 uneventfully. The mean length of stay was 3.5 days.

After a mean follow-up time of 8.8 months (range 1-18 months), all patients had reduced weight (mean BMI 32.46 kg/m²). 66% of patients with hypertension and 100 % of patients with type II diabetes mellitus had complete resolution of their diseases.

Conclusion At 9 months follow-up, LSG proved to be a safe and effective option for bariatric surgery in adolescent, achieving moderate weight loss and improvement of comorbidities.

In this special patient population LSG can be advantageous due to the lack of intraabdominal foreign body and band adjustments and the prevention of anatomical complications and possible malabsorption complications of gastric bypass.

Long term follow up and larger series are needed in order to adopt this technique as the primary approach in this specific patient population.

O-126 Results of the Mini-Gastric Bypass in Adolescent Bariatric Surgery

Presenter: R. Rutledge (Centers for Laparoscopic Obesity Surgery, Henderson, United States of America)

Background Pediatric obesity is a growing epidemic. Reports favoring surgery for adolescent obesity using a band or Roux-en-Y gastric bypass (RNY) bypass, unfortunately, the band has a high a low efficacy and a high failure rate, the RNY is known to have moderate efficacy, moderate to high failure rates and is well known to be difficult and dangerous to revise. The Mini-Gastric Bypass (MGB) is a short simple surgery that has many features of an ideal weight loss surgery. The MGB is very effective, very durable and easily revisable. The purpose of this report was to describe the results of the MGB in adolescent patients.

Methods Data was collected in a prospective data collection system.

Result Between 1998 and January 2008 4,438 patients underwent MGB. 35 adolescents, age 12-18 (0.77%) underwent MGB. The mean age was 15, mean weight 105 Kg and mean body mass index (BMI) 39.6 kg/m², mean excess body weight 52 Kg.

The mean operative time was 39 min., the median hospital stay was 1 day. Weight loss at 1 year was 38.1 Kg (73% of excess body weight.) Significantly there were no leaks, DVT, obstruction or reflux gastritis.

Conclusion MGB is an effective means to treat obesity-related morbidity in the adolescent. Results have been excellent and justify a clinical trial to compare the MGB to the safety and efficacy of other forms of bariatric surgery in the adolescent population.

Poster Presentations

P-001 Obesity and Down's Syndrome

Presenter: L. Theodoro (Universidade Presbiteriana Mackenzie, São Paulo, Brazil)

Co-authors: S. Blascovi-Assis¹

¹Universidade Presbiteriana Mackenzie São Paulo

Background The obesity comes increasing too much in the last few decades and for this reason they are innumerable studies that dedicades to the treatment of this illness. However, the epidemic still little is studied in people with Down's syndrome, whose situation propitiates a bigger development of the illness – due to the thyroid and growth hormones imbalance problems - that are the factors etiologies of the illness in the population without the syndrome. To identify to the occurrence of overweight and obesidade in adolescents with syndrome of Down (SD) and to establish diagnosed relations with hormonais alterations and cardiopathie.

Methods 40 adolescents with SD between 10 and 19 years and its respective mothers had participated of the study. The data had been collected in the clinic of a hospital in São Paulo from taking of antropométricas measures, partner-demographic fiche and questionnaire applied to the mothers.

Result 60% of the participants had presented overweight and obesidade, folioed of alterations of tireóide (50%), of cardiopathies (57.5%), familiar description of excess of weight for the parents (27.5%) and the mothers (31%). In 62,5% of the cases the adolescents practised physical activity and she did not have direct relation enters the excess of weight and the presence of cardiopathy.

Conclusion The combination of diverse factors can intervene with the profit of weight in the adolescents with SD, being distinguished the metabolic alterations as the hipotiroidismo, that had been found in 50% of the population evaluated in this study.

P-002 Pre-Diabetes, Diabetes, Insulin Resistance in Paediatrics Patients

Presenter: V. Silvestre (Hospital University of Móstoles, Móstoles, Madrid, Spain)

Background Insulin resistance (IR) seems to be the nexus point at which many illnesses meet: diabetes mellitus type-2, cardiovascular diseases, hepatic illnesses, etc. The purpose of this study is: to evaluate the frequency of IR detection in paediatric patients over a period of two years.

Methods Retrospective study of the data of these patients (range: 0 -14 years) in which the glucose and insulin levels were found to be 6 mmol/L for glucose and 25 U/mL for insulin).

Result The number of patients in which this was found to be the case was 307 (118 in 2006 vs 189 in 2007). Other diagnostics were: overweight n=41 (13.3 %); obesity n = 47 (15.3 %); morbid obesity n=131 (42.6 %) arterial hypertension n = 13 (4.2 %), thyroid dysfunction n=24 (7.8 %); diabetes mellitus type 2 n=9 (2.9 %) steatosis n=7 (2,2 %); illnesses due to hormonal alterations (delayed growth, Cushing syndrome, precocious puberty), n=30 (9.7 %); iron deficiency anaemia 2 (0.6 %), bone diseases n = 3 (0.9 %); In all cases we found reduced total levels of protein, albumin, prealbumin, retinol binding protein, iron, calcium, zinc, copper and vitamins: B₁₂, A, D₃ and E and high levels of C-reactive protein.

Conclusion The results that we obtain would appear to suggest that the patients in our study suffered from insulin resistance syndrome, as part of a diabetic or prediabetic state, together with inflammation and malnutrition.

P-003 Gastric Banding in Adolescent Patients, Report on 113 Cases

Presenter: A. Ortiz (Obesity Control Center Hospital, Tijuana, Mexico)

Co-authors: A. Martinez Gamboa¹, H. Bernal², M. Viramontes So³, H. Acosta⁴

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Background Adolescent obesity has increased at an alarming rate in the last decades. Traditional conservative treatment attempts at weight loss have had very poor results. Adjustable gastric band (AGB) surgery has been proven a safe and effective weight loss procedure that can also be reversed. For those reasons it is considered by many bariatric surgeons as the first choice in surgical methods for the management of adolescent morbid obesity. We present our single team experience with adolescent gastric banding.

Methods From January 2004 to Dec 2009 we have prospectively collected surgical and follow-up information in to our data base on adolescent patients that were operated at our center for AGB placement.

Result 113 adolescent patients were operated for AGB placement from January 2004 to December 2008. All were Allergan LapBand (size: 10 centimeter and VG) . Mean BMI 43.2 kg/m², Mean age 16 years (12 to 18 years). 92 female and 21 male patients. At least 1 obesity related illness was present in 17 patients. (asthma in 5, type II diabetes 2 patients, sleep apnea 1, PCOS 3 patients, high blood pressure 2 patients, GERD 3 patients, hypercholesterolemia 12 patients). Mean surgical time 20.5 minutes, 0% mortality and 0% morbidity. No intra operative or post operative complications were reported. Mean hospital stay 14 hours. Mean follow up time 18 months ± 8. Mean EWL 56 ± 22 %. Average number of fills 2.7%. Late complications: Slippage 3 patients (2 reposition, 1 removed), erosion 1 patient (band removed), port leakage 1 patient (port replaced). No complications were reported for reoperation cases. 84% co morbidity resolution. 92% of patients reported increased self steam and when asked if they would go thru ABG surgery again, 98% said yes.

Conclusion Base on our results, gastric band surgery in morbidly obese adolescents is a safe and effective method for weight loss. Long term results are not yet available, nevertheless since this procedure is reversible, it seems appropriate for it to be the first choice bariatric procedure for this age group.

P-004 LAGB is Safer and More Efficient in Young Adults and Adolescents Than in Older Patients

Presenter: R. Caiazza (Lille University Hospital, Lille, France)

Co-authors: R. Caiazza¹, A. Cracco¹, J. Lam-Thanh¹, G. Dezfoulian¹, M. Pigeyre², H. Verkindt², M. Romon², L. Arnalsteen¹, F. Pattou¹

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Background Laparoscopic adjustable gastric banding (LAGB) is appealing in obese adolescents because its low morbidity and potential reversibility. The long-term outcome of LAGB remains however controversial and the influence of age is unclear. In this study we compared the efficiency and safety of LAGB in young adults and adolescents with its outcome in older patients.

Methods 369 consecutive patients receiving AGB for severe obesity (48 ± 7 kg/m²) and followed up during up to 10 years in a single center were enrolled in this case control study. Group 1 (n=36) was composed of young adults and adolescent (n=36, 23 ± 2 years, range 17-26), and Group 2 of older patients (n=333, 42 ± 9 years, range 27-69). Surgical complications, weight loss, and comorbidities were compared.

Results Patient baseline BMI, hypertension and dyslipidemia rate were similar in both groups. ASA score >3 (G1=6%; G2=20%; p=0.04) and diabetes (G1=8%; G2=23%; p=0.04) were more frequent in older patients. There was no postoperative death after LAGB, but complications were significantly less frequent in young patients (G1=0%, G2=11,7%, p=0.03). Weight loss at 5 years (95% follow-up) was significantly higher in young patients (G1=66 ±

30 %EWL; $G_2=45\pm 27$, $p=0.03$). There was also a statistically significant reduction in diabetes, hypertension, and dyslipidemia in both groups regardless of their age.

Conclusions We found that LAGB was significantly safer and more efficient in young adults and adolescents with severe obesity than in older patients.

P-005 Weight Loss and Failure Rate of Laparoscopic Bariatric Surgery in Teen Aged with a Minimum Follow-Up of 3 Years

Presenter: P. P. Cutolo (S.Giovanni Bosco Hospital, Naples, Italy)

Background Results of bariatric surgery in young adolescents are limited in the international literature and choice of operation remain controversial. Aim of this study is a retrospective comparative analysis of a series of obese teenagers undergoing Laparoscopic Adjustable Gastric Banding (LAGB) and Laparoscopic Roux en Y Gastric Bypass (LRYGB) in 10 years.

Methods From December 1996 to March 2006, 20 (15F/5 M) consecutive patients 19 years old (mean age was $18,17\pm 0,72$ yrs) submitted to LAGB N=12 (9F/3M) or LRYGBP N=8 (7F/1M) with minimum follow-up of 3 year were selected; mean preoperative weight, BMI and %excess weight for LAGB and LRYGBP group were 133.44 ± 24.48 Kg, 49.85 ± 7.96 Kg/m², 101.15 ± 16.49 and 42.91 ± 9.53 Kg, 89.92 ± 26.01 respectively ($p=NS$). 8/20(40%) patients suffered from 11 co-morbidities. 6/20(30%) patients were preoperatively submitted to BIB Intra-gastric Balloon placement. LAGB was performed with Lap Band System (Allergan), LRYGBP was performed by using circular stapler anastomosis via ante-colic ante-gastric route. Failure was considered BMI > 35. Statistical analysis was done by means of Student t-test and, $p<0.05$ was considered significant.

Results At 3 years follow-up, 11/12 LASGB patients (1 lost), had a mean weight, BMI and %EWL of 97.4 ± 22.8 Kg, 35.5 ± 6.6 Kg/m², 28.7 ± 33.9 respectively. 3/12 (25%) LAGB underwent band removal due to unsatisfactory weight loss, of which 2 underwent conversion to LRYGBP and 1 to Laparoscopic biliopancreatic diversion; 4 other patients (44.44%) failed presenting BMI > 35. LRYGBP patients presented with a mean weight, BMI and %EWL of $83,8\pm 15,6$ Kg; $31,2\pm 5$ Kg/m²; $52,4\pm 10,5\%$ respectively. 1/8 (12,5%) patient presented with BMI > 35. One patient submitted to LRYGBP had a laparotomic conversion. There were co-morbidities resolution/improvement and absence of mortality in both groups. Weight loss results were not statistically significant between the two comparable group.

Conclusion Both the operation can be safely performed in teen agers. Although LAGB has a high failure rate, long term metabolic consequences of LRYGBP have still to be investigated.

P-006 Metabolic Syndrome is Cured Most Effectively After Gastric Bypass Compared to Gastric Banding

Presenter: B. Snyder (University of Texas in Houston, Houston, United States of America)

Co-authors: E. Wilson¹, T. Wilson¹, B. Leong¹, C. Klein¹

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Background Adjustable gastric banding and gastric bypass surgeries offer patients the possibility of curing their co-morbid conditions. Deciding which procedure would be best for a particular patient is not easy.

Methods Over the last 6 years, the University of Texas bariatric surgeons have performed and collected prospective data on 622 gastric banded and 172 gastric bypass patients' outcomes. Furthermore, we have compared the resolution of co-morbid conditions and metabolic syndrome between the procedures.

Results Between the two cohorts, the bypass patients had a higher starting BMI and a shorter time out from surgery ($p<0.01$); however, there was a higher cure rate among the gastric bypass patients compared to bands with respect to the following conditions: diabetes ($p=0.01$), sleep apnea ($p<0.01$), dyslipidemia ($p<0.01$), hypertension ($p<0.01$), reflux disease ($p=0.03$), morbid obesity ($p=0.05$), and metabolic syndrome ($p=0.02$).

Conclusion Adjustable gastric banding is a safe procedure and can help morbid obesity; however, when it comes to curing the co-morbid conditions associated with metabolic syndrome, gastric bypass is the most effective

procedure and should be offered to patients as the first line treatment option.

P-007 Follow-Up of Excess Weight Loss in Patients with Morbid Obesity Submitted to Gastric By-Pass

Presenter: A. Padoin (COM HSL PUCRS, Porto Alegre, Brazil)

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Background Morbid obesity, in modern times, has represented a public health problem, that is, the high mortality to which patients are subjected as a result of comorbidities. It is recognized that bariatric surgery has emerged as a new alternative in the fight against excess weight, but, as important as losing it, it is necessary to maintain an appropriate weight after weight loss.

Methods Medical charts were studied of 872 patients who had undergone gastric by-pass, between March 2000 and March 2008, and the loss of excess weight was examined for each patient. The weight of the patients was measured monthly from the 1st to the 12th month, every 3 months from the 12th to the 18th month and twice a year from the 18th to the 84th month postoperative.

Results In the period studied, the mean excess weight loss in the 1st month was 20.3%; 3rd month 40.6%, 6th month 58.7%, 12th month 77.3%, 24th month 81.7%, 36th month 77.6%, 48th month 75.3%, 60th month 72.3%, 72th month 71.6% and 84th month 78.8%.

Conclusion Bariatric surgery resulted in a significant loss of excess weight in the patients studied, with a tendency toward stabilizing after the 48th month postoperative.

P-008 Energy Expenditure After Roux-En-Y Gastric Bypass in Rats

Presenter: M. Bueter (Imperial College London, Hammersmith Hospital, London, United Kingdom)

Co-authors: M. Bueter¹, H. Ashrafian¹, A. Frankel², F. Tam², R. Unwin³, S. Bloom¹

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Background We aimed to examine the effects of Roux-en-Y Gastric Bypass (RYGB) on energy expenditure in rats.

Methods 48 male wistar rats underwent either RYGB (n=24) or sham operation (n=24). Sham-operated animals were further divided into a pair fed group (n=8), a Body weight (BW)- matched group (n=8) and a group without dietary manipulation (n=8). Measurements were conducted in an open circuit calorimetry system (AccuScan Inc., Columbus, OH). Body Temperature (BT) was measured by an intraperitoneal temperature transmitter (VM-FA disc, MiniMitter, Bend OR).

Result RYGB in rats induces a significant weight loss compared to Sham operation (BW 410.8 ± 7.9 g vs. 564.5 ± 6.6 g, $p<0.0001$). RYGB rats lost more weight than pair-fed sham operated animals (BW 410.8 ± 7.9 g vs. 518.9 ± 8.5 , $p<0.0001$) and ate more than BW-matched sham operated rats (25.6 ± 0.5 g vs. 16.4 ± 0.7 g, $p<0.0001$). Meal sizes tended to be smaller after RYGB with increase in meal frequency. While there was no significant difference in Energy Expenditure (EE) during the dark circle, RYGB rats showed significantly higher Resting Energy Expenditure (REE) levels during the light circle than their sham operated counterparts (3.924 ± 0.04 kcal/kg/h vs. 3.596 ± 0.05 kcal/kg/h, $p<0.0001$). BT in rats after RYGB was significantly lower than after Sham operation with no significant differences in activity. Diet-Induced Thermogenesis (DIT) after a 5 g meal

was greater in RYGB than in Sham operated rats ($0.53 \pm 0.14^\circ\text{C}$ vs. $0.12 \pm 0.12^\circ\text{C}$, $p=0.04$).

Conclusion RYGB in rats induces significant BW loss, reduced food intake and increased REE. Differences may be related to an increase in DIT after RYGB. These observations suggest that surgery alters the physiology of weight regulation.

P-009 Evaluation of Three Bioabsorbable Buttress Materials in a Live Canine Model

Presenter: R. Bell (Yale University, New Haven, United States of America)

Co-authors: S. Marcucio¹, E. Lalime¹, J. Diederich¹, D. Bronson¹

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Background Buttressing of surgical staplers is increasingly being performed to improve staple line strength and hemostasis. We compared two commercially available buttress materials (Veritas and SeamGuard) to a novel, integrated, bioabsorbable reinforcement material (Duet TRS) in an acute canine model evaluating staple line bleeding and buttress fixation.

Methods Nine canines were prescreened and mean arterial pressure was maintained at 80–100 mmHg under general anesthesia. All three materials were tested on small intestine (3.5 mm stapler) and stomach (4.8 mm stapler). Before each stapler firing, tissue thickness was measured. After stapler firing, bleeding was assessed using blotter paper that was repeatedly weighted until < 5% difference was noted. Buttress fixation (retention to stapler cartridge and anvil) was assessed by manipulating an open and clamped stapler on the small intestine and stomach and across a fresh staple line. Student's t test was used for statistical analysis.

Results Operative time ranged from 30–85 minutes. Duet TRS™ does not require any application time. Application of Veritas™ and SeamGuard™ averaged 20–30 seconds. With respect to staple line bleeding, Duet TRS™ and SeamGuard™ are equivalent but both had slightly more bleeding than Veritas™ ($p=0.07$). Significant buttress movement was noted with SeamGuard™ and Veritas™ (47% and 11% of experiments, respectively). Significant buttress movement was not seen with Duet TRS™.

Conclusion Duet TRS™ is a new, commercially-available, bioabsorbable tissue reinforcement. It compares favorably to SeamGuard™ and Veritas™ with respect to staple line bleeding, but is superior with respect to buttress fixation and ease of application to the stapler.

P-010 Fatty Acids in Morbidly Obese Patients and Control Groups

Presenter: A. M. Wolf (University Hospital, Ulm, Germany)

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Background Fatty Acids (FA) are an important source of energy. FAs differ by chain length, double bond and its position. Saturated FAs (SAFAs) are known to increase the risk of Coronary Heart Disease by elevating the values of LDL-cholesterol. Mono unsaturated FAs (MUFAs) have an effect of vascular protection and poly unsaturated FAs (PUFAs) are precursors of the eicosanoids.

Methods Patients were grouped according to gender and BMI (group 1: BMI > 40 kg/m², group 2: BMI < 25 kg/m², group 3: BMI < 40 kg/m²). Patients in group 1 (22 females, 10 males) underwent bariatric surgery while on patients in group 2 (14/24) and group 3 (18/13) a different surgical procedure was performed. FAs were ascertained in plasma, subcutaneous and visceral adipose tissue.

Result Significant gender specific differences were found in plasma, subcutaneous and visceral adipose tissue. In females and males there were significant differences in 18:0 und 18:16 between the groups in subcutaneous and visceral adipose tissue, which was partially reflected in the plasma of the

females. There are significant differences between the groups for PUFA-3 in both sexes.

Conclusion It is well known that the pattern of FAs depends on the food supply. Comparing the FA pattern in plasma with the two adipose tissue compartments different correlations were found. One reason for the disparity could be that FAs in plasma are transported in triglycerides, cholesterol and phospholipids. Further studies are needed to elucidate the causal relationship.

P-011 Sodium and Water Handling After Roux-En-Y Gastric Bypass in Rats

Presenter: M. Bueter (Imperial College London, Hammersmith Hospital, London, United Kingdom)

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Background Balance of sodium and water excretion is critical for regulation of blood pressure. We hypothesized that Roux-en-Y Gastric Bypass (RYGB) would alter salt and water handling.

Methods 21 male wistar rats (Body weight (BW) 348 ± 19 g) underwent either gastric bypass ($n=14$) or sham operation ($n=7$). Animals were kept on a low sodium diet (DO2051701, Research Diets, Inc., New Brunswick, USA) and deionized water *ad libitum*. Before and after surgery rats received oral hypertonic sodium solution (1.5 mmol/ kg BW). During each intervention, rats were placed individually in metabolic cages to measure urine production and water intake for 8 h after sodium load. Urine sodium concentration was measured by Integrated Chip Technology (ICT) using the Architect ci16200 (, Illinois, USA).

Result Three weeks after surgery, RYGB compared to sham led to reduced weight ($95.8 \pm 12\%$ vs. $116.5 \pm 4\%$, $p<0.01$) and food intake (57.3 ± 14.6 vs. 88.5 ± 8.3 kcal, $p<0.01$). In RYGB rats after the operation, the oral sodium solution lead to an increase in water intake (0.06 ± 0.01 vs. 0.03 ± 0.01 ml/g BW, $p=0.02$), urine output (0.04 ± 0.01 vs. 0.02 ± 0.004 ml/g BW, $p=0.01$) and natriuresis (70.2 ± 18 vs. 30.1 ± 8 mol, $p=0.04$). Levels of urine output, water intake and sodium excretion correlated with levels of weight loss after RYGB. The sham operated animals showed no changes in water intake, urine production or sodium excretion after surgery.

Conclusion Urine production, sodium excretion and water intake are increased after RYGB in rats on sodium restriction. This might contribute to the early improvement of hypertension after gastric bypass.

P-012 Pregnancy After Bariatric Surgery: 30 Pregnancies Follow-Up in a Multidisciplinary Team

Presenter: C. Mottin (COM PUCRS, Porto Alegre, Brazil)

Co-authors: F. Emilia Bebbber¹, A. Padoin¹, M. Tadday Rodrigues¹, J. Rizzolli¹, D. Schaan Casagrande¹, R. Eloisa Klaesener¹, M. Moretto¹, G. Repetto¹

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Background We investigate the outcomes of pregnancy in women who undergone restrictive-malabsorptive procedure at Centro da Obesidade Mórvida e Síndrome Metabólica – Hospital São Lucas da PUCRS (COM HSL – PUCRS), Porto Alegre, Brazil.

Methods All pregnancies started after the bariatric surgery and with estimated due date until June 2008 were eligible for the study. Only the first pregnancy of each patient was included in the data analysis. Data was collected from medical records. The variables studied included weight, blood tests (albumin, iron, ferritin, folic acid, vitamin B12, and calcium, checked during the first trimester), interval of time between the RYGB and pregnancy (months), patient age (years), gestational age at birth (weeks), weight (kg) and length

(cm) of the newborn on delivery, BMI, weight excess, weight loss and pre-pregnancy weight loss percentage.

Results Forty seven pregnancies were identified in 41 women. Eight of them were ineligible. There were 30 complete pregnancies and nine miscarriages (23%). Cesarean delivery was performed in 69% of the complete pregnancies. Mature infants occurred in 93.1%. Twelve pregnancies (30.8%) occurred in the first year after surgery. Vitamin B12 was low in 53.4% patients; folic acid in 16.1%, iron in 6.7%, ferritin in 41.7%, calcium in 16.7%, and albumin in 10.3% of the patients. Nineteen women (79.2%) had no complication during the pregnancy and two (8.3%) presented with internal hernia. The average of newborns weight and length on delivery were 3037 g and 48.07 cm, respectively. Children from pregnancies started in the first year of post operative had similar outcomes of children from pregnancies started after one year of surgery.

Conclusions Pregnancy after bariatric surgery was safe and had fewer complications than pregnancy in morbidly obese women.

P-013 Preliminary Data of the Analysis of Weight Regain in Postoperative Rygo Patients In Relation To Red Meat Consumption

Presenter: A. Padoin (HSL PUCRS, Porto Alegre, Brazil)

Co-authors: A. Barhouch¹, M. Zardo¹, F. Colossi¹, D. Casagrande¹, R. Chatkin¹, M. Pufal¹, M. Moretto¹, C. Mottin¹

1. COM HSL PUCRS Porto Alegre Brazil

Background One of the difficulties encountered in the nutritional treatment of bariatric surgery patients in postoperative is red meat consumption. On the other hand, one of the most currently studied problems is weight regain which occurs in the late postoperative period. The aim of this study was to quantify weight regain and compare it to the difficulty of eating red meat in the late postoperative, in search of possible associations.

Methods Retrospective observational study, historical cohort type, based on the review of medical charts of 110 patients submitted to Roux-en-Y gastric bypass, with more than 60 months of postoperative. Weight regain was determined by comparing current BMI with the BMI at 24 months postoperative and crossed with intolerance to red meat.

Results Preliminary data on 94 patients were analyzed. Of these, 64 patients (72.3%) showed an increase in BMI between 24 months postoperative and present, 13 patients (13.8%) maintained their reduced weight and 13 patients (13.8%) lowered their BMI in this period. The mean regain in BMI was 2.4 kg/m². Of the patients who could not tolerate eating red meat, 81.5% had weight regain, while among those who tolerated red meat, weight regain occurred in 68.7% of patients.

Conclusions Weight regain in the late postoperative period of bariatric surgery has prompted a large number of studies at the moment. Preliminary findings associating the difficulty in eating red meat and weight regain points to a possibly more frequent weight regain among patients who cannot tolerate red meat.

P-014 Children of Morbidly Obese Patients: Significant Prevalence of Overweight and/or Obesity

Presenter: M. Pufal (COM HSL PUCRS, Porto Alegre, Brazil)

Co-authors: A. Padoin¹, D. Casagrande¹, C. Moulin¹, F. Colossi¹, R. Chatkin¹, A. Barouch¹, M. Moretto¹, C. Mottin¹

¹COM HSL PUCRS Porto Alegre Brazil

Background Obesity is currently one of the most worrisome problems in public health all over the world, occurring from infancy to adulthood. Genetic and environmental influences are possible risk factors that demand critical investigation. Scientific information about the occurrence of overweight and/or obesity in the children of morbidly obese patients submitted to gastric bypass is scarce. The objective of this study was to characterize the children of morbidly obese patients submitted to bariatric surgery, with regard to nutritional state.

Methods The children evaluated were those who were born before the surgery, which took place in a tertiary treatment center for obesity, in the period of July 2007 to December 2008. Nutritional state was evaluated by anthropometric measurements of weight and stature.

Results Seventeen children were evaluated. Of this total, 11 (64.7%) were normal, 3 (17.6%) were overweight and 3 (17.6%) showed obesity, based on BMI value. Nine (52.9%) were born at term, and the others were pre-term. When comparing at term children and pre-term children according to current nutritional diagnosis, there was no significant difference. Ten (58.8%) were breast-fed exclusively until the sixth month of life. Seven (41.2%) were engaged in physical activity two or three times a week, which showed no apparent relation with nutritional diagnosis.

Conclusion Among the 17 children of morbidly obese patients evaluated, 6 (35.2%) had an elevated BMI, which suggests a significant prevalence of overweight and/or obesity. Studies involving a greater number of patients and a control group are essential for more definitive conclusions.

P-015 Intra-gastric Balloon: Analysis of Treatment Outcome in 75 Patients at Center for Obesity and Metabolic Syndrome

Presenter: M. Moretto (COM HSL PUCRS, Porto Alegre, Brazil)

Co-authors: F. Colossi¹, D. Casagrande¹, R. Chatkin¹, A. Barouch¹, J. Rizzolli¹, A. Balestro¹, A. Padoin¹, C. Mottin¹

1. COM HSL PUCRS Porto Alegre Brazil

Background The treatment of obese patients with an intra-gastric balloon (BIB) is estimated to require six months; however, situations do occur that require its earlier removal. The objective of the study was to analyze the profile of these patients and their weight loss after BIB implantation, in addition to determining the relation between age and sex of the patient and the results obtained. This study also aimed at determining the mean time the patient remained on treatment and if this period influenced positively the reduction of excess weight.

Methods The medical charts of 75 patients were examined and the following data were recorded: age, sex, initial and final dates of treatment, initial and final weight and BMI, loss of weight in kg and percent reduction in excess weight.

Results The mean duration of balloon implantation was 5.8 months (± 1.9), where 55 (73.3%) patients showed times longer than 5 months on treatment. The reduction in excess weight for men was 31.5% (± 21.1) and for women 43.8% (± 31.2), where the difference between the sexes was not significant ($p=0.121$). There was no difference in weight loss between men and women ($p=0.201$), nor in reduction in BMI ($p=0.912$). There was no statistically significant association between age and weight loss ($r=0.107$; $p=0.360$), reduction in BMI ($r=0.015$; $p=0.902$) and duration of balloon implantation ($r=-0.079$; $p=0.501$). There was a statistically significant positive association between duration of balloon implantation and percent loss of excess weight ($r=0.300$; $p=0.009$).

Conclusion BIB treatment was found to be effective for weight loss, where it was necessary to complete the period of balloon implantation recommended for the best result. Sex or age did not influence the results obtained with BIB.

P-016 Atherosclerosis Progression in Patients Eligible for Bariatric Surgery

Presenter: K. Kim (Celebration Health Metabolic Medicine and Surgery Institute, Celebration, United States of America)

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Background Obesity is a major risk factor for cardiovascular disease (CVD) and stroke. Carotid intima-media thickness (IMT), a surrogate marker for

atherosclerosis, is a strong predictor of future stroke and cardiovascular disease. In the present study, we studied the degree of atherosclerosis progression, as determined by carotid IMT, in a group of severely obese bariatric surgical candidates and their age- and gender-matched lean controls and studied further the association between atherosclerosis progression and other known risk factors of CVD.

Methods The study population included 20 obesity surgical candidates (BMI > 35 plus co-morbidities) and 20 age- and weight-matched lean controls (BMI < 25). Carotid IMT was determined by high resolution ultrasound and body size of patients was categorized according to BMI criteria. CVD risk factors included glucose, lipids (triglyceride, LDL, HDL, apolipoprotein B), homocysteine, and C-reactive protein.

Result We found that carotid IMT of the severely obese patients was significantly ($p < 0.05$) greater than that of the lean controls, i.e. left carotid = 0.64 vs. 0.53 for the severely obese and lean controls, respectively, and right carotid = 0.58 and 0.51. The number of CVD risk factors of the severely obese patients, as compared to their lean controls, was also higher and such obesity-associated factors were significantly ($p < 0.05$) and positively correlated to carotid IMT.

Conclusion Atherosclerosis progression, as measured by carotid IMT, is greater for severely obese bariatric surgical candidates than for their age- and weight-matched lean controls. Elevated CVD risk factors contribute, in part, to the greater carotid IMT of the severely obese.

P-017 Efficiency of Laparoscopic Adjustable Gastric Banding in Treatment of Obesity and Metabolic Syndrome

Presenter: M. Fishman (Medical State University, St.Petersburg, Russian Federation)

Co-authors: V. Sedov¹

¹Medical State University St.Petersburg Russian Federation

Background 27,3% of women and 14,1% of men in the Northern-Western part of Russia suffer from obesity.

Methods Treatment results of 287 patients, who underwent LAGB, with a maximum supervision period of 8 years were investigated. Median age was 37 (16 to 60 years old). There were 232 (81%) women and 56 (19,5%) men. Average preoperative BMI was 42 kg/m² (35 to 54 kg/m²). In the 20 – 29 y.o. patient cohort 20% suffered from metabolic syndrome (MS), 30 – 39 y.o. – 26%, 40 – 49 y.o. – 32% and 50 – 59 y.o. – 37% respectively. As an accompanying pathology 178 (65%) patients suffered from arterial hypertension (AH), 94 (53%) of them were taking hypotensive drugs. II type diabetes (DM) was found in 194 (71%) patients. Different lipid disorders were identified in 212 (77,6%) of patients. Efficacy of procedure was estimated on the effects of operation on BMI and main components of MS (H, DM II, dislipoproteinemia).

Result During first two years of follow up sugar level in blood became normal in 141 (72,6%) patient, in 46 (23,7%) clinical condition of the patients improved, in 7 (3,6%) no improvement identified. Blood pressure became normal in 90 (50,5%) patients, in 28 (15,7%) no effect was identified, for the rest of the patients 60 (33,7%) hypotensive therapy was corrected to "lighter" one. BMI was in limits of 26-38 kg/m² for women and 27-36 kg/m² for men, with the same tendency in the following years. In quarter of cases we managed to achieve extra weight reduction for more than 70%, mainly in women younger than 39 y.o. with starting BMI lower than 45 kg/m². On the other hand, in patients with BMI over 45 kg/m² (mainly males) we were unable to achieve stable weight reduction of more than 50%. In 37 (12,8%) patients there were complications, among them 21 (7,3%) cases of bandage «Slippage».

Conclusion

- LAGB is an effective method of treatment for the patients suffering from obesity and MS with starting BMI lower than 43-45 kg/m² in younger age cohort.
- Patients with BMI over 45 kg/m², «sweet teeth», with heavy and long existent MS, should undergo LDS operation instead of LAGB.

P-018 Comparing Modern Restrictive Operations of the Stomach

Presenter: M. Fishman (Medical State University, St.Petersburg, Russian Federation)

Co-authors: V. Sedov¹

¹Medical State University St.Petersburg Russian Federation

Background According to our researches 27,3% of women and 14,1% of men in the Northern-Western part of Russia suffer from obesity.

Methods We studied results of treatment of 313 patients with obesity and metabolic syndrome (MS). 287 patients were followed up for up to 8 years after LAGB and 26 patients for 1,5 years after LSG. Median age of patients who underwent LAGB was 37 years old (16 to 60 y.o.), of them 232 (81%) females and 56 (19,5%) males. Average preoperative BMI was 42 kg/m² (35-54 kg/m²). Median age of patients who underwent LSG was 31 years old (26-37 y.o.), of them 25 women and 1 man. BMI was in limits of 41-56 kg/m². Efficacy of operations was judged by its effect on BMI and main parts of MS (AH, Diabetes, lipidogram). LAGB operation was performed traditionally, while during LSG mobilization and resection of large curve was done 3-4 cm proximal of Pylorus to angle of Hiss to the width of "34 French" probe and intracorporeal immersion of stitches.

Result During first two years of follow up after LAGB blood sugar level in 141 (72,6%) patient became normal, in 90 (50,5%) patients arterial pressure reached normal level. BMI was in limits 26-38 kg/m², with the same tendency for the whole time of overseeing. Total amount of complications was 37 (12,8%), of those 21 (7,3%) case of bandage «Slippage». Operation was most effective in the age less than 39 y.o. with starting BMI less than 45 kg/m². During first two months after LSG body weight reduced, and on average patients lost 22-34 kg, by the end of the first year of overseeing they lost 43–56 kg. A good effect on accompanying diseases was also noted.

Conclusion

- LAGB is an effective method of treatment of patients suffering from obesity and MS, who's starting BMI was less than 43-45 kg/m² in the younger cohort.
- LSG operation can be an alternative for all restrictive operations on the stomach.

P-019 Bariatric Surgery Results are Better if Patients Participate the Support Group

Presenter: B. Breznikar (General hospital Celje, Celje, Slovenia)

Introduction We analyzed our early results and found the connection between weight reduction and participating the support group.

Methods We have operated 246 patients in the past three years. We have performed adjustable gastric bandings (AGB)-180, laparoscopic sleeve gastrectomies (LSG)-30, and gastric bypasses (GBP)-36. We make a thorough psychological evaluation of the patients and offer preoperative and postoperative psychological and dietary support when needed.

Results AGB : More than one year after the operation 112 out of 120 patients were monitored (85,1%). They lost 24,7 kg on average the first year (EWL 52,4%). LSG : more than one year 16 out of 21 patients were monitored (76,2%). They lost 50,7 kg on average (EWL 54,4%).

GBP : After one year, eight patients lost 46,4 kg on average (EWL 84%).

We compared results between different techniques, among patients of different groups regarding the participation in the support group, and operator experience (the beginning of the learning curve, the middle, and after the learning curve). We monitored the resolution of comorbidities and complications. BAROS quality of life scale was also evaluated.

98 out of 120 patients were participating the support group more than 1 year. 22 did not come even once, 22 came more often than 50%. EWL was 30,7 vs 75,7 respectively.

Conclusion Good results can be expected with interdisciplinary approach after the surgeons learning curve.

P-020 Adipokines and Adipose Tissue Derived Hormones: Sepsis Related Changes

Presenter: A. Hillenbrand (University of Ulm, Germany, Ulm, Germany)

Co-authors: M. Huber-Lang², U. Waidner¹, U. Knippschild¹, D. Henne-Bruns¹, A. Wolf¹

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Adipokines and adipose tissue derived hormones: sepsis related changes

Background The aim of the study was to examine the sepsis related changes in adipokines and adipose derived hormones in patients.

Method Blood samples were taken from 33 patients who fulfilled the clinical criteria for severe sepsis or septic shock. Adiponectin, resistin, active PAI-1, leptin, MCP-1, IL-6, and TNF-alpha were analyzed and compared with blood samples of 11 healthy persons (control group).

Result Mean serum levels in septic patients and the control group were differently for adiponectin (10.3 g/ml, resp. 13.1 g/ml; $p=0.09$ (Mann-Whitney U test)), resistin (78.1 ng/ml, resp. 8.5 ng/ml; $p=0.000001$), active PAI-1 (35.9 ng/ml, resp. 17.2 ng/ml; $p=0.008$), leptin (8.6 ng/ml, resp. 1.2 ng/ml; $p=0.07$), MCP-1 (381.5 pg/ml, resp. 152.4 pg/ml; $p=0.002$), IL-6 (163.6 pg/ml, resp. 0.4 pg/ml; $p=0.000001$), and TNF-alpha (13.1 pg/ml, resp. 4.0 pg/ml; $p=0.00003$). In serum samples of septic patients there was a significant correlation (Spearman's Rank Correlation of adiponectin with MCP-1, and IL-6 and of resistin with active PAI-1, IL-6, and TNF-alpha. Furthermore there was a correlation of BMI with Adiponectin and Leptin.

Conclusion The role of adipokines and adipose derived hormones in inflammation-induced metabolic pathophysiology are poorly defined. In this context we showed sepsis related changes in adipokines and adipose derived hormones in patients suffering from severe sepsis or septic shock.

P-021 Morbid Obesity and Cancer

Presenter: V. Silvestre (Hospital University of Móstoles, Madrid, Spain)

Background Recently experts concluded that cancers of the colon, endometrial, gallbladder, ovaries and pancreas are associated with obesity. The purpose of this study is: 1) to analyse the incidence of cancer in morbid obesity patients (MO) over a period in two years and 2) to evaluate the effects of metabolic surgery in these patients.

Methods Retrospectively evaluation of 494 patients, 367 women and 127 men MO, 254. The mean age was 31.0 years (19-70). Sixty four percent of the patients were operated (gastric bypass following Casella's technique). Before surgery and 6, 12, 24, 60 and 108 months after it we have collected antropometric measures and determined levels tumor markers.

Results The mean (SD) value of the BMI was 45.2 (5.8) and of the WC 117.3 (19.4). Signs of suffer cancer and tumor markers elevated we found in 3.2% ($n=16$) of the patients and in 0.6% ($n=2$) of those operated. In total patients we found: cancer of colon $n=2$, breast $n=3$, ovaries $n=4$, uterus $n=1$, prostate $n=2$ and myeloma multiple $n=4$ and in operated patients breast ($n=1$) and prostate $n=1$, both developed three years after it gastric bypass.

Conclusions The obesity and the physical inactivity seem to be responsible for the development of various types of cancer and the weight loss for the surgery seems to constitute a factor of prevention. In women is necessary the hormonal state: pr

P-022 Is the Laparoscopic Inflation Volume Determined by the Thickness of the Rectus Abdominus in Obese Patients?

Presenter: J. P. Mulier (Sint Jan Brugge-Oostende, Bruges, Belgium)

Co-authors: B. Dillemans¹, S. Van Cauwenberge¹, I. Casier¹, J. Lesaffer¹

¹Sint Jan Brugge-Oostende Bruges

Background A large variation in laparoscopic inflation volumes exists. Goal is to analyze the variation in abdominal rectus thickness and look for correlation with BMI, age or pneumoperitoneum inflation volume.

Methods Twenty obese patients scheduled for a gastric bypass operation were included in this study with approval of the hospital ethical committee.

After anaesthesia induction, the abdominal rectus muscle thickness is measured echographically at the umbilical level.

The abdomen is kept fully relaxed with rocuronium. After the initial inflation through the verres needle a first trocar is positioned and verified by laparoscopy. The abdomen is deflated and a new inflation up to 15 mmHg is performed. The inflated volume and exact pressure are measured when inflation stops. A correlation analysis is made of the thickness with age, BMI and inflated pneumoperitoneum volume.

Results Table shows the maximum, minimum, mean and standard deviation of the muscles rectus thickness, age, BMI, inflated volume with the correlation factor of each parameter with the muscles rectus thickness. Although there is a large variation in the thickness of the rectus abdominus muscle in obese patients no significant correlation was found with the inflated volume, the BMI or the age.

Conclusion The large variation in the abdominal rectus thickness explains not the difference in inflated volumes.

| Table | thickness mm | age year | BMI | Inflated volume L |
|----------------------------|--------------|----------|-------|-------------------|
| minimum | 2,7 | 21 | 40 | 2,3 |
| maximum | 21,7 | 63 | 70,1 | 6,4 |
| mean | 10,6 | 37,8 | 47,2 | 3,1 |
| stdev | 5,5 | 10,0 | 7,7 | 0,7 |
| Correlation R ² | | -0,03 | -0,14 | 0,11 |

P-023 Is a Pneumoperitoneum in Obese Patients Elongating the Abdominal Wall?

Presenter: J. P. Mulier (Sint Jan Brugge-Oostende, Bruges, Belgium)

Co-authors: B. Dillemans¹, K. Mulier³, S. Lambert¹, J. Lesaffer¹, S. Van Cauwenberge¹, M. Crombach²

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Introduction Patients complain up to three months after a laparoscopy from a change in the abdominal wall strength. We thought that this was due to their weight loss. However non bariatric laparoscopy gives the same questions.

Is the abdominal wall compliance changed during laparoscopy?

Method 10 obese patients scheduled for gastric bypass operation were included in this study with approval of the hospital ethical committee. After positioning the first trocar the abdomen is deflated and re inflated to a pressure of 15 mmHg while the inflated volume is measured when inflation stops. The inflation pressure used during the operation is noted. At the end of the operation the abdomen is deflated with all trocars in place. The abdomen is inflated again to a pressure of 15 mmHg while the inflated volume is measured when inflation stops. The inflation is put on hold and the pressure is measured during 1 minute to verify that no leak exists. The time at which the second inflation is performed is noted also with the pressure used during that period.

Results Two patients were excluded as the leakage during the second measurement was too high. The mean time between the two measurements was 59 +/- 19 minutes with a mean inflation pressure of 15,4 +/- 1,5 mmHg. The inflated volume increased by 1,96 +/- 0,93 liter.

Conclusion The laparoscopy in obese patients for 1 hour at 15 mmHg elongated the abdominal wall structure by increasing the abdominal inflation volume with almost 2 liter.

P-024 Our Experience in Performing LSG and LDS in Treatment of Morbid Obesity

Presenter: M. Fishman (Medical State University, St.Petersburg, Russian Federation)

Co-authors: V. Sedov¹

¹Medical State University St.Petersburg Russian Federation

Background A sleeve (tubular) resection of a stomach (LSG) and Biliopancreatic Diversion with Duodenal Switch (BPD DS) or its laparoscopic analogue (LDS) became widespread during last years. Our first experience and 1,5 year follow-up results allow us to name them among the most effective bariatric operations.

Methods Beginning from October 2007 we had performed 31 operation. 26 patients underwent LSG and 5 – biliopancreatic diversion (3 – LDS, 2 – BPD DS) in Hess-Marseau-Baltasar modification. Median age for the patients was 36 years (26-54), of them 28 were females and 3 males. BMI was in limits of 41-90 kg/m². We identified indications for LSG as a morbid obesity with BMI less than 50 kg/m² without severe metabolic infringements, while LDS was performed on patients with metabolic syndrome (MS) and BMI over 45 kg/m². In some cases LSG was performed as first stage of treatment with LDS as a second stage.

LSG operation feature is a stomach resection along its small curve to the width of a “34 French” probe (4 cm proximal from pylorus to the Hiss angle) with intracorporeal immersion of the stitch line. LDS operation essence was in performing LSG, reconstructing small intestine, forming alimentary, biliopancreatic, common (70 cm) loop with creating two manual anastomoses. As a main method of treatment of morbid obesity LSG operation was performed in 28, and as a first stage (before LDS operation) in 3 patients.

Result On average LSG lasted for 115 (70 – 130), LDS – 221 (190 – 265), while BPD DS - 220 (210-230) minutes. No complications were identified. Within several hours after operations all patients were standing on their feet. Patients were discharged from clinic after 3-4 days for LSG, 5-7 days for LDS, 10-12 days after BPD DS. During first two month patients lost 22-34 kg, later loss of weight rate gradually reduced, and in one year patients lost 43-56 kg. It was noted that concurrent diseases severity decreased as a result of the operations. 3 patients, who previously were unable to become pregnant are now bearing the children.

Conclusion LDS and LSG are effective hi-tech operations. LSG can be an alternative for LAGB. Laparoscopic operations have all the benefits of the minimally-invasive technology.

P-025 Disappointing Results in the Long Term for Gastric Banding

Presenter: E. Aarts (Rijnstate Hospital, Arnhem, The Netherlands)

Co-authors: E. Aarts¹, I. Janssen¹, F. Berends¹

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Background Laparoscopic Adjustable Gastric Banding (LAGB) is the most performed bariatric procedure for the treatment of morbid obesity in Europe. After some years a number of patients gain weight and some need additional surgery. The percentages for weight gain and reoperations are not exactly known in the long term. For these reasons we conducted this retrospective study with prospectively collected data.

Methods From 1995 till 2002, 201 patients underwent LAGB in our hospital. All these patients were followed for a mean period of 9,8 years. Records on weight loss, complications and re-operations were carefully collected during this period. An Excess Weight Loss of >25% after the follow up period was considered a successful result. At the end of this follow up period all patients were asked to fill out the BAROS scoring list.

Result From these patients 52% needed additional surgery. 43% Of patients underwent a Laparoscopic Roux-en-Y Gastric Bypass or had their LAGB removed. The patients with a LAGB after the follow up period had in 68% of cases an EWL of >25%. In total 62% of patients had their LAGB removed or had insufficient EWL.

Conclusion Our patients showed disappointing results in the long term with a great number of re-operations required. With only 38% of functioning LAGBs after 10 years, one should consider whether the LAGB as a single procedure still has a future in the treatment of morbid obesity.

P-026 Differential Effects of Gastric Bypass and Gastric Banding on Satiety, Independently of Weight Loss

Presenter: M. Pigeure (Service de nutrition , Lille, France)

Co-authors: G. Béraud¹, D. Ségué², P. Pigny³, H. Verkindt⁴, M. Romon², P. Fontaine¹, P. Fontaine³, M. Romon², F. Pattou¹

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Background Our study compared the impact of hormonal changes (insulin, glucagon like peptide-1 (GLP-1), peptide YY (PYY)) on the improvement of satiety, to gastric bypass and gastric banding surgery, independently of weight loss.

Methods One year prospective follow-up of two groups of obese and type 2 diabetic patients: 20 patients who had undergone gastric banding (GB group) and 30 patients who had undergone gastric bypass (BP group). Three evaluations were carried out: preoperative assessment, 10% weight loss and one year after surgery. Each evaluation consisted in collecting feelings of hunger and satiety by visual analogical scales and blood sampling in order to analyze insulin, total PYY and total GLP-1, fasting and then every 30 minutes during 6 hours following standardized mixed meal (387 kcal).

Result At 10% weight loss, area under curve (AUC) of hunger was lower (717±789 vs 1364±629, p=0.0123); those of satiety (2333±908 vs 1591±722, p=0.0126), GLP-1 (5526±2325 vs 2464±1193, p=0.0006) and PYY (51069±18717 vs 27832±2740, p=0.0141) were higher in BP group than in GB group. At one year, weight loss was higher in BP group than in GB group (28±8% vs 13±7%, p<0.0001) and when adjusting on weight loss, only AUC of hunger remained lower (987±781 vs 1621±657, p=0.0062).

Conclusion Gastric bypass leads to an early increase post-prandial secretion of GLP-1 and PYY which improves satiety, better than gastric banding. The new findings reveal these changes to be initially independent of weight loss, but, at one year, only hunger remains lower, when adjusting on weight loss.

P-027 National Bariatric Surgery Registry: UK Internet-Based Surgery Outcomes Database

Presenter: R. Welbourn (Musgrove Park Hospital, Taunton, United Kingdom)

Co-authors: on behalf of National Bariatric Surgery Registry Data Committee ¹

¹NBSR Consortium Database Committee United Kingdom

Background Collection of procedure-specific surgeon and hospital volume data allows comparison between different centres and is essential for benchmarking.

Methods The Internet-based registry www.nbsr.org.uk went live in Jan 09. Patients are numbered with a unique identifier generated by operation date and date of birth only. Gastric band, bypass, sleeve gastrectomy, BPD and duodenal switch are included with free text for other operations. Patients are risk stratified according to the Obesity Surgery Mortality Risk Score of de Maria (age > 45, BMI > 50, male, hypertension, DVT/PE risk) with comorbidity assessment over time. All common complications and reoperations are included. Definitions include primary, revisional (primary in your unit), planned second stage or planned revisional operations with weight loss over time linked to the index operation record. Follow up questions include 30-day readmission and reoperation rates. The NBSR database committee is blinded to the identity of individual surgeon and unit data but surgeons will have an identifier to locate their own data in the annual reports.

Result All surgeons in the UK and Ireland are encouraged to enter data. Inducements for surgeons to participate include automated operation notes and clinic letters that have a combined graph of weight and excess weight loss over time populated from data entry. In addition, all units have up to the minute access to their own data in Microsoft Excel file format.

Conclusion An Internet-based database allows convenient real-time data entry and has the potential to generate national outcomes data.

P-028 Outcome of 200 Laparoscopic Roux En Y Gastric by Pass with Totally Hand Sewn Gastro Jejunal Anastomosis

Presenter: D. Ciampi (Service de Chirurgie Digestive et de Transplantation Hépatique, Nice, France)

Co-authors: A. Iannelli¹, M. Benatar¹, J. Gugenheim¹

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Background The gold standard of bariatric surgery is the laparoscopic Roux-en-Y gastric bypass (LRYGBP). The gastrojejunostomy is the most technically demanding step of the procedure which may be stapled circular (circular transabdominal or transesophageal) stapled linear end-side (linear stapler for anastomosis, sutures or linear stapler for enterotomy closure) or constructed with hand sutures only. The aim of this study is to analyze the complications of the totally laparoscopic hand sewn gastro jejunal anastomosis in 200 LRYGBP.

Methods A prospective held database was questioned regarding patients' demographics, operative time, hospital stay, morbidity and postoperative complications.

Result There were 220 consecutive morbidly obese patients underwent RYGBP, 20 of them were excluded of the serie (17 laparoscopic procedure assisted by Da Vinci Robot and 3 laparotomy). Two hundred patients, 178 women and 22 men with a mean age of 44 years (range 19 to 63) and a mean BMI at 42.3 kg/m² (range 35.4 – 53.6) underwent laparoscopic RYGBP. Operative time was on average 112 min (range 70 – 190 min). There was no postoperative mortality and 27 patients developed 37 complications (18.5 %). We analyze the fistula, stenosis and ulcer at the gastrojejunal anastomosis in 17 patients (8.5%). There were 5 stenosis (2.5 %) which were treated by endoscopic dilatation, 3 fistulas (1.5%), one was reoperated and two were treated by percutaneous drainage and 9 anastomotic ulcer (4.5%) treated by IPP. There was no mortality recorded and no bleeding complications.

Conclusion The gastroenterostomy remains the most challenging step of the procedure. Common complications include bleeding, fistula and stenosis. The Nice technique offers all the advantages of the hand-sewn sutures such as constant stoma calibre, reduced incidence of bleeding and reduced cost.

P-029 Impact of the Patient's Body Position on Intra-Abdominal Workspace During Laparoscopic Bariatric Surgery

Presenter: J. P. Mulier (Sint Jan Brugge-Oostende, Bruges, Belgium)

Co-authors: B. Dillemans¹, S. Van Cauwenberghé¹, J. Lesaffer¹, I. Casier¹

¹Sint Jan Brugge-Oostende Bruges

Background The effects of the patient's body position on intra-abdominal workspace in laparoscopic bariatric surgery were analyzed.

Methods We measured the inflated volume of carbon dioxide following insufflation to a preset pressure of 15 mm Hg in 20 patients with body mass index above 35 kg/m². Patients were anesthetized with full muscle relaxation. The five positions were a) table horizontal, legs flat (supine position); b) table in 20° reverse Trendelenburg, legs flat; c) table in 20° reverse Trendelenburg, legs flexed 45° upward at the hips (beach chair position); d) table horizontal, legs flexed 45° upward at the hips; and e) table in 20° Trendelenburg, legs flat. The positions were performed in a random order, and the first position was repeated after the last. Repeated measure analysis of variance was used to compare inflated volumes among the five positions.

Results There was a significant difference in inflated volume between the five body positions ($P=0.042$). Compared to mean (\pm standard deviation) inflated volume in the supine position (3.22 \pm 0.78 L), the mean inflated volume increased by 770 mL in Trendelenburg position or when the legs were flexed at the hips, and decreased by 230 mL in reverse Trendelenburg position.

Conclusions In laparoscopic bariatric surgery, since Trendelenburg position is never used, flexing the legs at the hips effectively improved the workspace with increased inflated volume of 770 ml, even with full muscle relaxation.

P-030 Baseline Visceral to Subcutaneous Fat Ratio Determines the Short Term Metabolic Response to Bariatric Surgery

Presenter: A. Keidar (Hadassah Medical Center, Jerusalem, Israel)

Co-authors: R. Elazary¹, N. Shussman¹, I. Matot¹, C. Schweiger¹, R. Weiss¹

¹Hadassah Medical Organization Jerusalem Israel

Background Components of the metabolic syndrome (MS) have been shown to improve quickly in response to bariatric surgery. We searched to characterize the changes in adipose compartments (visceral vs. subcutaneous) that determine the metabolic improvements.

Methods 27 morbidly obese patients who met the criteria of the MS (ATP-III) underwent bariatric surgery (RYGB-14 patients (52%), SG - 7 (26%), LAGB-2 (7%), DS-4 (15%)). Abdominal CT at L4-5 level was used to determine visceral and subcutaneous fat cross section areas prior to surgery. A follow up scan was performed upon reversal of the syndrome or at 6 months at latest.

Results Fourteen females (52%) and 13 males (48%) participated. 18 (67%) lost the MS criteria. The average BMI before and after the procedure was 43 \pm 5.3 and 33 \pm 4 respectively. The mean %EWL was 46 \pm 14 at the moment of MS resolution. Amongst patients who's MS resolved the decrement in visceral and subcutaneous fat areas was 32.5 \pm 21 cm² and 30 \pm 17 cm² respectively. Amongst patients who did not cure the change in visceral and subcutaneous fat was 37 \pm 13 cm² and 35 \pm 15 cm². The best predictor of resolution of MS was the baseline visceral to subcutaneous fat ratio – (0.43 vs. 0.61 for those who lost the diagnosis vs. those who maintained it, $p=0.04$). The parameters that improved most were fasting triglycerides (number of abnormal before/after: 21/5), fasting glucose (21/6) and hypertension (24/9) while HDL (18/14) cholesterol did not significantly change.

Conclusions Those with a lower baseline visceral to subcutaneous ratio improve their metabolic phenotype quickly after bariatric procedures. Longer follow up is needed to determine the effect on those with an elevated ratio.

P-031 Long Term Follow-Up for Adjustable Gastric Banding: Not as Good as We Expected

Presenter: A. Lazzati (hôpital jean verdier, bondy, France)

Co-authors: A. Lazzati¹, N. Rizk¹, C. Barrat¹, C. Polliand¹, I. Sourouille¹, G. Champault¹

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Background Laparoscopic gastric banding (LGB) is the most common procedure for morbid obesity in France. Many studies have been published about early results, and they showed a weight loss comparable to that of other restrictive operations. Long-term series (more than 5 years of follow-up) are much less frequent in the literature and they often lack on statistical rigour. One of the major problems is the number of patients lost at follow-up.

In this paper we report our results on a series of 225 gastric banding patients with at least 5 years of follow-up and up to 9.

Methods Between July 1998 and December 2002, 225 patients were operated of a LGB. Data were collected prospectively, and all patients lost at follow-up were convoked. At the end of the study the results about the 88.4% of patients were available. Sex ratio was 14% males / 84% females, mean age 39 years and mean preoperative BMI 45.5 kg/m² \pm 7.02 (range 33.8 – 69.8). The results are reported as the percent of excess BMI loss (%EBL). Failure is defined as a %EBL < 25% and band removal.

Result Mean follow-up was 75.6 month (range 60-108). Overall, 66 (29%) patients experienced a post-operative complication requiring a reoperation. 27% of bands were removed and 19.5% of patients required a reoperation for a port complication. Mean %EBL was 40.1 kg/m at 5 years, 39.3, 43.4, 32.5 at 6, 7 and 8 years respectively. After 5 years the number of patients with a BMI < 30 is 27%. The overall failure (%EBL < 25% and band removal) for all patients was 49% after 5 years.

Conclusion Many things have improved since the LGB was introduced, especially patients' selection and surgical technique. Though, long-term

results for LGB are less promising than expected. With a failure rate of 49% after 5 years and 27% of patients no longer obese, the LGB remains still a better solution than non-surgical treatment of obesity, but less effective than other procedures.

P-032 Importance of Follow-Up for Long-Term Results of Laparoscopic Adjustable Gastric Banding

Presenter: A. Lazzati (Hôpital Jean Verdier, Bondy, France)

Co-authors: A. Lazzati¹, N. Rizk¹, C. Barrat¹, C. Polliand¹, I. Sourouille¹, G. Champault¹

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Background The aim of this study is to evaluate the importance of follow-up for long-term results after laparoscopic adjustable gastric banding (LAGB).

Methods Between July 1998 and December 2002, 225 patients were operated of a LGB. Data were collected prospectively, and all patients lost at follow-up were convoked. At the end of the study the results about the 88.4% of patients were available. Sex ratio was 14% males / 84% females, mean age 39 years and mean preoperative BMI 45.5 kg/m² ± 7.02 (range 33.8 – 69.8). The long-term results were analyzed according to the percent of post-operative consultations accomplished by every single patient (<25%, 25-50%, 50-75%, > 75%).

Result Mean follow-up was 75.6 month (range 60-108). Overall, 66 (29%) patients experienced a post-operative complication requiring a reoperation. 27% of bands were removed and 19.5% of patients required a reoperation for a port complication. Mean %EBL was 40.1 kg/m² at 5 years, 39.3, 43.4, 32.5 at 6, 7 and 8 years respectively.

An association was found between failure (EBL < 25% or band ablation) and number of consultation realized. A lesser percent of consultation realized was associated with a higher percent of failure. This association reached a statistical significativity.

Conclusion This study shows that a good compliance at follow-up prevent failure after LAGB.

P-033 Hiatal Hernia and Laparoscopic Gastric Banding: Two Problems One Solution

Presenter: J. A. Lopez-Corvala (Hospital Angeles Bariatric Group, Tijuana, Mexico)

Co-authors: F. Guzman-Cordero¹, F. Ortega-Pallanez¹, C. Hermosillo-Valdez¹, C. Calleja-Enriquez¹

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Background Overweight and obesity are risk factors to develop gastro-esophageal reflux disease (GERD) and hiatal hernia (HH). GERD is reported in more than 15% of patients for obesity surgery. The presence of hiatal hernia and esophagitis is directly related to the body mass index (BMI) of patients.

Methods A retrospective review of a prospective database of all patients undergoing laparoscopic gastric banding (LAGB) was performed to determine the incidence of hiatal hernia with or without symptoms. We included 184 patients who underwent LAGB as management for obesity from September of 2008 to March of 2009.

Result In a period of seven months from September 2008 thru March of 2009, 184 patients underwent LAGB and 20 patients underwent LAGB with concurrent hiatal hernia repair (LAGB/HHR). Eight patients with HH at time of operation were asymptomatic(4.3%), 32 had GERD symptoms without medication and 4 of these had a HH (2.1%), 28 had GERD symptoms with medication and 8 had HH (4.3%); the total of patients with HH was 20 (10.8%). All patients with GERD symptoms prior surgery

have show symptoms resolution. No reoperation has been needed to date.

Conclusion Hiatal Hernia was previously considered as an absolute contra-indication for gastric banding. Currently gastric banding is considered as an option for obese patients with GERD. Adding HHR to LAGB where indicated significantly reduces reoperation rate. Every effort should be made to detect and repair HH during placement of the band, as it will decrease future need for reoperation and reflux in asymptomatic patients.

P-034 Smoking Behavior of Morbidly Obese Patients

Presenter: C. Mottin (COM HSL PUCRS, Porto Alegre, Brazil)

Co-authors: R. Chatkin¹, J. Chatkin¹, D. Casagrande¹, F. Colossi¹, A. Barhouch¹, M. Moretto¹, A. Padoin¹

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Background Obesity victimizes about 2.5 million people every year worldwide, being the second avoidable death cause in many countries. Smoking is also a serious health problem in most countries, being related to around 4.8 millions deaths annually in the world. Studies have shown inverse relation between smoking and body mass index, with tobacco users presenting BMI lower than non tobacco users. Such relationship however is not well defined in obese patients, especially in those with morbidly obesity. The aim of this study was to evaluate the relation between smoking and corporeal weight/BMI, focusing on morbidly obese patients.

Methods In a cases and controls study design, individuals of both genders, from 18 to 65 years old were included and grouped according their smoking status (current smokers, former smokers and never smokers) and to their nutritional state (eutrophic, overweight, obesity and morbid obesity), ranked according to the corporeal mass index.

Results No significant difference was found in the four BMI groups studied regarding smoking status. However, a trend of higher frequency of smokers in the obesity group and morbid obesity was detected when compared to the other groups (p=0,078). After performing a logistics regression, adjusting for gender, educational level and age, morbid obese subjects had OR 2.25 (95%CI 1.52 to 3.34 p<0,001) for being smoker compared to eutrophic individuals.

Conclusion In this study it was possible to study the relationship between tobacco use and corporeal weight/BMI. While smoking frequency diminished in the eutrophic subjects as the BMI increased, the trend inverted in overweight and obese patients although not statically significant. In morbid obese patients (BMI higher or equal to 35 kg/m²), the prevalence of smokers was considerably higher than in other groups. We speculate that some characteristics related to obesity increase the tobacco use risk. This result reinforces the need of new studies for elucidation of the relationship between smoking and morbidly obesity.

P-035 Percent Excess Weight Loss with the Laparoscopic Adjustable Gastric Band (LAGB): a Retrospective Study in Five Centers

Presenter: C. Ren (New York University Medical Center, New York, United States of America)

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Background Few studies have examined the long-term efficacy of LAGB in a large number of patients with varying baseline BMI. This study aims to assess percent excess weight loss (%EWL) among patients with the gastric band after 7 years of follow-up.

Methods A retrospective analysis was conducted using longitudinal data from five participating centers on LAGB patients between Jan 1, 2000 and Feb 29, 2008. Patients were 18 years of age at surgery date and had 1 recorded post-surgery visit with a weight measurement. Percent excess weight loss (%EWL) was assessed at one-year intervals post-surgery and missing values were interpolated using a cubic spline function. Patients were then stratified

into 4 groups based upon baseline BMI (<40, 40-49, 50-59, 60). ANOVA technique was used to compare %EWL between BMI groups at one-year intervals post surgery.

Result Majority of 7,445 LAGB patients were white (62%) and female (76%). Mean age was 42.7 years and mean baseline BMI was 45.7 (Range 27 – 89). For the 7,349 patients available for weight analysis, %EWL was 45.7%, 47.6% and 51.7% at 2, 5 and 7 years post-surgery respectively. When stratified by baseline BMI, peak %EWL ranged from 53% (<40 BMI) to 44% (50-59 BMI) at 4 years. While %EWL was initially higher in lower BMI categories, between-group %EWL was not significantly different after 4 years.

| Years Post-Surgery | % EWL (LAP-BAND patients) | | | | | | | | P-value |
|--------------------|---------------------------|------|--------------------|------|--------------------|------|------------------|------|---------|
| | Baseline BMI <40 | | Baseline BMI 40-49 | | Baseline BMI 50-59 | | Baseline BMI ≥60 | | |
| | N | Mean | N | Mean | N | Mean | N | Mean | |
| Baseline | 1,135 | 0 | 4,487 | 0 | 1,466 | 0 | 368 | 0 | - |
| <1* | 855 | 46.7 | 3,394 | 37.4 | 1,133 | 32.4 | 270 | 30.9 | <.0001 |
| <2* | 564 | 53.0 | 2,259 | 46.2 | 778 | 40.2 | 169 | 39.5 | <.0001 |
| <3* | 340 | 56.0 | 1,370 | 46.8 | 462 | 42.1 | 96 | 43.9 | <.0001 |
| <4* | 168 | 53.3 | 686 | 47.7 | 240 | 44.0 | 56 | 44.9 | 0.0014 |
| <5 | 82 | 52.5 | 292 | 47.3 | 107 | 46.0 | 16 | 46.1 | 0.2635 |
| <6 | 21 | 52.0 | 69 | 44.2 | 31 | 41.5 | 6 | 48.5 | 0.5431 |
| <7 | - | - | 8 | 44.3 | 5 | 58.6 | 2 | 64.0 | 0.4455 |

Conclusion In this 7 year study of 7,349 patients, LAGB patients achieved substantial and sustainable weight loss in all BMI categories and sustained this weight loss at seven years post-surgery.

P-036 Changes in Metabolic Profile and Adipocytokines Levels in Morbidly Obese Premenopausal Females After Bariatric Surgery

Presenter: M. Daskalakis (University Hospital of Herakleion Crete, Herakleion, Greece)

Co-authors: M. Daskalakis¹, V. Charalambakis¹, E. Dimitradis¹

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Background The aim of this study was to evaluate the effects of surgically induced weight loss on the metabolic profile and adipoinular axis of premenopausal morbidly obese females.

Methods Twenty premenopausal morbidly obese (MO) women with median age 34 years (range 24-48) and median body mass index (BMI) 41.47 kg/m² (range 38.0-56.73) were studied. In addition, 20 lean premenopausal women with median age 32 years (range 22-44) and median BMI 20.0 (range 18.5-24.7) were also studied. Metabolic parameters were evaluated in conjunction with the changes in leptin, adiponectin, resistin, and interleukin-6 (IL-6) levels in the obese group, before and 12 months after bariatric surgery (laparoscopic gastric banding, n=13 and sleeve gastrectomy, n=7). Comparisons with a reference population of normal weight subjects were carried out.

Results A median 54.5% of excess BMI loss was observed and was associated with significant improvement of all metabolic parameters. At the same time bariatric surgery decreased serum leptin, resistin and IL-6 levels and increased serum adiponectin levels, in MO group. Postoperative resistin and IL-6 levels of the MO group eventually reached that of normal weight control group. On the other hand leptin and adiponectin levels, despite their significant improvement, did not attain to control group values.

Conclusions Bariatric surgery, in addition to improving insulin sensitivity, glucose and lipid homeostasis in morbidly obese young female patients, leads also to a significant reduction in leptin, resistin and IL-6 levels, and a

significant increase in adiponectin levels. Longer follow-up is required in order to evaluate the long-term change on adipose-derived hormonal profile of MO premenopausal females and the lasting beneficial effect of surgical intervention on these hormonal alterations.

P-037 Surgical Rat Model for Roux-En-Y Gastric Bypass

Presenter: S. K. Lee (Seoul St. Mary's Hospital, Seoul, Korea, Republic of)

Co-authors: J. Hae Myung¹, T. Hong¹, H. Lee¹, E. Kim¹

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Background Obesity is a disease of human progress with enormous negative repercussion to the society. Diseases such as diabetes, hypertension, hyperlipidemia, fatty liver, reflux esophagitis, degenerative joint disease, stress incontinence, sleep apnea, and others are associated with obesity. Nonsurgical treatment usually fails and bariatric surgery is the ultimate option. Roux-en-Y gastric bypass is considered by many surgeons as the standard bariatric procedure. The purpose of this study is to present our surgical rat model for gastric bypass and analyze the effect of gastric bypass on body weight change. Surgical rat model for sleeve gastrectomy was created as well to compare with gastric bypass.

Methods Roux-en-Y gastric bypass, sleeve gastrectomy and sham operation were performed in 18 diet-induced obesity rats and compared to 6 obese control and 6 normal control rats. For gastric bypass, a gastric pouch, comprising approximately 20 % of gastric volume was created. Jejunum was divided 16 cm distal to ligament of Treitz and Roux limb of 10 cm in length was created. Gastrojejunostomy was performed between the pouch and Roux limb and jejunojejunostomy was performed.

Results In Roux-en-Y gastric bypass group, 20.7±8.5% of weight loss was achieved on postoperative day 18 and maintained the lost weight thereafter. This outcome was statistically significant compared to sleeve gastrectomy (8.8±1.8%) and sham operated (6.2±2.4%) groups.

Conclusions The author established a surgical rat model of Roux-en-Y gastric bypass. Those rats that underwent Roux-en-Y gastric bypass lost significant body weight and maintained thereafter. This rat models would serve as a useful tool for further study on endocrine regulation of obesity.

P-038 Metabolic Syndrome in Morbidly Obese Patients Submitted to Gastric By-Pass

Presenter: M. Moretto (COM HSL PUCRS, Porto Alegre, Brazil)

Co-authors: A. Padoin¹, D. Lemos de Freitas¹, M. Nalepinski¹, V. Sandri¹, D. Berleze¹, L. Maggioni¹, A. Bauer¹, M. Schmitt¹, C. Mottin¹

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Background The present study analyzed the metabolic syndrome in morbidly obese patients submitted to gastric by-pass and its developments after surgery; how much weight loss influenced the reduction of the comorbidities; percentage of similar weight loss and its comparative results.

Methods Elaborated historical cohort from the database of a center headquartered in the city of Porto Alegre, Rio Grande Do Sul, Brazil. The collection of data contemplated the age, sex, BMI, how many and which of the components of metabolic syndrome were present before and which had remained after gastric by-pass. The patients had been followed by clinical and laboratory parameters in average intervals of 1 month, 3 months, 6 months, 9 months, 1 year, 1 year and 6 months, 2 years, 3 years, 4 years, 5 years, 6 years, 7 years and 8 years.

Result Of the 880 patients operated on during the period of April 2000 thru April 2008, 400 had met criteria for metabolic syndrome and morbid obesity. The subsequent analyses have been presented through comparative tables and discussion.

Conclusion The evaluation of this historical cohort allowed the authors to analyze the developments of the parameters of metabolic syndrome in regular intervals after bariatric surgery, given that the improvement of this syndrome, in theory, results in an increased lifespan, improvement in the quality of life and decrease in morbidity rate.

P-039 Sleeve Gastrectomy: 100 Cases Report After One Year Follow Up

Presenter: J. A. Lopez-Corvala (Hospital Angeles Bariatric Group, Tijuana, Mexico)

Co-authors: F. Guzman-Cordero¹, F. Ortega-Pallanez¹, C. Hermosillo-Valdez¹, C. Calleja-Enriquez¹

¹Hospital Angeles Tijuana Bariatric Group Tijuana Mexico

Background The sleeve gastrectomy is the most recent procedure in bariatric surgery. It was first described as the first stage of the biliopancreatic diversion with duodenal switch in super obese and/or high risk patients. The purpose of this study is to describe the results after one year follow up in patients with sleeve gastrectomy.

Methods From December 2005 to date, we included 100 patients with sleeve gastrectomy that had completed one year of follow-up. Inclusion criteria: body mass index > 32 with or without comorbidities, 16 – 65 years of age and patients with failed gastric banding. Of the 100 patients included 71 were female and 29 male, the mean age was 40 years old (16-64 y.), mean weight 130.9 Kg (77 – 216 Kg), mean BMI 46.6 Kg/m² (32 – 69 Kg/m²), and mean weight excess 67.7 Kg (28 – 150 Kg).

Results The mean excess weight loss was 65.25% with a noticeable improvement of comorbidities. Complications: leaks 4% (2 early leaks in revision surgery from lap- band and 2 late leaks whom responded with conservative management) and 2% mortality (from medical complications not debt from the surgery). In revision surgery, the excess weight loss was > 50%. The mean operating room time was 112 minutes (45 – 180 min), and the mean hospital stay was 48 hours.

Conclusions The sleeve gastrectomy has a low morbid-mortality rate; therefore, it is a safe procedure which we recommend as an alternative for obese patients. Longer follow-up and further studies are needed in order to have a better understanding of its role in obesity surgery.

Keywords Morbid obesity, bariatric surgery, laparoscopic sleeve gastrectomy, revision surgery.

P-040 The Effects of Executive Function on Dietary Adherence in Bariatric Surgery Patients

Presenter: O. Museth (Auckland District Health Board, Auckland, New Zealand)

Co-authors: A. Cameron¹

¹University of Auckland Auckland New Zealand

Background This study examined whether two aspects of executive function, namely working memory and inhibitory control, showed association with dietary adherence amongst bariatric surgery patients.

Methods Prior to starting their preoperative low calorie diet (VLCD) 26 bariatric surgery patients completed two executive function tasks, and a questionnaire measuring eating behaviours, stress, anxiety and depression. Dietary adherence was measured at the end of the VLCD and every two weeks, for six weeks, after surgery. The questionnaire was readministered six weeks after the procedure.

Results Lower working memory performance was associated with higher rates of nonadherence during the preoperative VLCD ($r_s = -.66, p < .05$). Higher levels of dietary fat consumption prior to surgery was associated with lower working memory performance ($r = -.41, p < .05$) and faster reaction time for inhibitory control ($r = .48, p < .05$). Faster working memory speed was associated with less adaptive eating patterns and a higher number of eating disorder symptoms ($r = .41, p < .05$).

Conclusions Lower levels of executive function in bariatric surgery patients can affect dietary adherence during the preoperative VLCD. This may be explained by the Vicious Circle Model[1] of obesity development which suggests that a high fat diet leads to hippocampal degradation which in turn may affect inhibition and memory, resulting in overeating. Higher mental speed on the working memory task and its association with less adaptive eating may be linked to the theory that higher rates of fluid intelligence lead to more rapid exhaustion of the working memory system[2], and thus, leads to failures in the self-regulation of dietary control.

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[2] Shamosh, N. A., & Gray, J. R. (2007). The relation between fluid intelligence and self-regulatory depletion. *Cognition and Emotion*, 21(8), 1833-1843.

P-041 Gastric Bypass Surgery and Taste Sensitivity

Presenter: H. Ashrafian (Imperial College London, London, United Kingdom)

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Background The mechanisms of weightloss after Roux-en-Y-gastric-bypass were proposed to include stomach-restriction and malabsorption. Although satiety is achieved with a small stomach-pouch, there is no clear evidence for 'caloric-malabsorption'. Anecdotal evidence following gastric-bypass led to our hypothesis that these operations modify taste sensitivity – the so-called "I don't like burgers anymore" syndrome. To test this, we performed a comparative taste-sensitivity study in rodents who had undergone Roux-en-Y-gastric-bypass.

Methods 32 Obese-male-Wistar rats were assigned to either Roux-en-Y-gastric-bypass (n=20) or sham-control (n=12) procedure. Taste sensitivity was measured through the assessment of 24 h preference for skimmed milk with randomized concentrations of sweet(sucrose) or sour(citric acid) compared to a standard skimmed milk control (with no added extra taste).

Result Roux-en-Y-gastric-bypass rats lost an average of 10% body-weight at 5 days and 14% at 10 days. Sham rats were on average the same as their preoperative weight at 5 day after surgery, and had gained 5% body-weight at 10 days. At 5 mM and 10 mM of sucrose, Roux-en-Y-gastric-bypass subjects

had a significantly increased preference for sweet ($p < 0.005$). At 5 mM and above of citric acid, the Roux-en-Y-gastric-bypass group also demonstrated a significant preference for sour ($p < 0.005$).

Conclusion Our findings suggest that Roux-en-Y-gastric-bypass alters taste sensitivity to sweet and sour at physiological ranges in this rodent model. Future work includes a translational taste-sensitivity study in humans following Roux-en-Y-gastric-bypass.

P-042 Laparoscopic Roux-En-Y Gastric Bypass (LRYGB) for Morbid Obesity: Results Based on Initial Experience

Presenter: G. Faria (Hospital De S.João, Porto, Portugal)

Co-authors: J. Preto¹, A. Ferreira¹, A. Gouveia¹, C. Teixeira¹, O. Alves¹, S. Rodrigues¹, A. Pimenta¹

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Background LRYGB is one of the leading effective treatments for morbid obesity. Our aim was to review the perioperative care, complications and nutritional status after LRYGB.

Methods Retrospective review of the clinical records of 40 patients submitted to LRYGB between September 2006 and February 2009, and followed at our surgical center.

Results The mean age at surgery was 37 years (21-60), with 3 male and 37 female. The mean weight at day of surgery was 123 kg (78-153), with a mean BMI of 46,1 kg/m² and a mean BMI excess of 21,1 kg/m².

The mean duration of surgery decreased during this period (225 - > 90 min). Mean preoperative stay was 1 day and postoperative was 7 days (4-43) with a median of 5 days. There were 4 postoperative complications (10%), 2 of which motivated reoperation (1 trocar site incarcerated hernia; 1 anastomotic leak). No mortality.

In 29 patients (over 6 months of follow-up), the overall %EBL is 72,9% (mean follow-up - 19 months). The average weight loss was 39,5Kg and the mean BMI achieved was 31,4 kg/m².

The average %EBL: 22,1% - 1 month; 44,6% - 3 months; 61,4% - 6 months; 80% - 12 months; 86,5% - 18 months; 81,6% - 24 months (5 patients).

Conclusion In spite of its steep learning curve, LRYGB is a safe procedure. The patients achieved a maximum %EBL at the 2nd year postoperatively, but the majority of the weight lost is during the first year after surgery. The overall results are satisfying and promising.

P-043 The Search for Factors that Might Influence Weight Loss After Laparoscopic Roux-En-Y Gastric Bypass (LRYGB): Does Fat Amount and Distribution Matter?

Presenter: G. Faria (Hospital S. João, Porto, Portugal)

Co-authors: J. Preto¹, A. Ferreira¹, A. Gouveia¹, C. Teixeira¹, O. Alves¹, S. Rodrigues¹, A. Pimenta¹

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Background Satisfactory weight loss after LRYGB is achieved by the majority of patients undergoing surgery. To determine preoperatively which patients would benefit most from surgery could help surgeons to appropriately select patients for treatment.

Methods Retrospective analysis of the clinical records of 29 patients with more than 6 months of follow-up. We used median values of BMI (46 kg/m²) and waist-to-hip ratio (WHR) > 1 to stratify patients in 2 groups. We analyzed outcomes (lost of weight, lost of BMI and %EBL), at the end of follow-up and at 1 month post-operatively.

Results We analyzed 28 females and 1 male patient (mean age - 37 years). The mean pre-operative weight was 122 kg, corresponding to a mean BMI of 46 kg/m².

Patients with higher BMI (≥ 46 Kg/m² - n=13) lost the same total amount of weight as the patients with lower BMI (< 46 Kg/m² - n=16): 38 kg, which resulted in a BMI achieved of 35,2 and 28,5 respectively ($p = 0,01$). The %EBL was 59,6% in patients with higher BMI and of 82,8% in patients with lower BMI ($p = 0,04$).

Patients with WHR > 1 (which correlates with higher visceral fat), had no differences in the weight lost or %EBL. However, the results at the first postoperative month revealed a quicker loss of weight in these patients (17 kg vs 11Kg - $p = 0,01$) and a faster increase in %EBL (%30 vs 20% at first month - $p = 0,05$).

Conclusion In the present series of cases, the patients with higher pre-operative BMI, had a significantly lower %EBL and the same total amount of weight lost. The patients with a waist-to-hip ratio > 1, revealed a faster loss of weight, although the overall results were similar. These results tend towards a faster mobilization of visceral fat deposits, thus achieving a greater weight loss at 1 month postoperatively.

P-044 Oxidative Stress, Insulin and Leptin Changes in Morbidly Obese Patients Submitted to Silastic Ring Vertical Gastroplasty

Presenter: A. F. Catoi Galea (Iuliu Hatieganu University Of Medicine And Pharmacy, Cluj Napoca, Romania)

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Background Oxidative stress is increased in obesity and plays an important role in the pathogenesis of obesity related complications. Leptin produced by adipose tissue, is involved in insulin resistance and in generation of reactive oxygen species (ROS). The aim of the present study was to evaluate oxidative stress parameters, insulin, and leptin before and after surgical treatment in morbidly obese patients with and without type 2 diabetes.

Method and patients Both groups (first without and second with type 2 diabetes) consisted each of 20 morbidly obese patients. All the patients underwent silastic ring vertical gastroplasty. Serum malondialdehyde (MDA), total antioxidant capacity (TAC), insulin, and leptin were determined before and after surgery (three and six months). The same parameters were also determined in a group of healthy, normal weight subjects.

Results BMI decreased significantly in both groups. Leptin values were 68,96 ± 48,24 ng/ml in the first group and 68,81 ± 30,11 ng/ml in the second one. Insulin decreased from 23,56 ± 13,57 U/ml to 13,28 ± 5,04 U/ml in the first group, $p < 0,002$ and from 31,19 ± 9,82 U/ml to 17,44 ± 8,54 U/ml in the second group, $p < 0,0001$. MDA values were 4,3 nmol/ml in the first group and 4,91 nmol/ml in the second group at baseline and they were reduced after the surgical treatment ($p < 0,05$).

Conclusions The present study showed that morbidly obese patients have high levels of MDA, insulin, and leptin and that weight loss is associated with significant reduction in all mentioned parameters. Insulin and glucose values decreased significantly after three months from the surgical intervention reaching almost normal values.

P-045 Sirtuin-1 and Adiponectin Mrna Expression in Visceral Adipose Tissue Decrease in Severe Hepatic Steatosis Morbidly Obese Patients

Presenter: R. M. Guaragna (Universidade Federal Do Rio Grande Do Sul, Porto Alegre, Brazil)

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Background Nonalcoholic fatty liver disease (NAFLD) has a strong association with obesity; it is characterized as liver fat accumulation and culminating in advanced liver disease, with necroinflammation and fibrosis. Visceral adipose tissue (VAT) is associated with hepatic lipid accumulation and insulin-resistance. Recent studies suggest that sirtuin1 (SIRT1) and adiponectin protects rats from NAFLD. SIRT1 represses PPARγ activity and both have been implicated in the control of lipid and glucose metabolism. Adiponectin is secreted from adipose tissue (AT); it has anti-obesity and

antidiabetic properties. Besides, adiponectin had a hepatoprotective function. FOXO1 serum expressions were increased in patients with steatohepatitis. Ours study was undertaken to evaluate SIRT1, adiponectin, FOXO1, PPAR γ 1-3 and PPAR β mRNA expression in morbidly obese patients with slight and moderate steatosis (SH) or severe hepatic steatosis associated or not with fibrosis (SHS) in three different lipids depots: visceral (VAT), retroperitoneal (RAT) and subcutaneous (SAT).

Methods The AT depots were obtained during bariatric surgery. Total RNAs were extracted using TRIzol. Reverse transcripts of genes studied were determined by quantitative real-time polymerase chain reaction (qRT-PCR).

Results When comparing both patients groups, SHS morbidly obese revealed a decrease in SIRT1 ($P=0.028$) and a tendency for decrease adiponectin mRNA expression in VAT ($P=0.067$). The mRNA expression of the others genes in VAT, RAT and SAT showed no differences.

Conclusions SIRT1 that control adipogenesis and adiponectin considered hepatoprotective were decreased in VAT of SHS morbidly obese. VAT with endocrine and metabolic functions, releasing polypeptides and free fatty acids into portal circulation could be modulating steatosis. Ours results provided a possible association between SIRT1, adiponectin and protective action in VAT against NAFLD, in humans.

P-046 Knee Pain Get Big Improvement After Laparoscopic Sleeve Gastrectomy: Results on a Prospective Data Base of 230 Interventions

Presenter: P. Verhaeghe (CHU Amiens, Amiens, France)

Co-authors: A. Dhahri¹, J. Deguines¹, D. Fuks¹, C. Sabbagh¹, O. Brehant¹, J. Régimbeau¹

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Background Morbid obesity is often complicated of one or multiples co morbidities as OSAS (28 %), high blood pressure (50 %), type 2 diabetes (24 %), metabolic syndrome NCEP-ATP III (40 %). Osteo articular problems represent a important daily: Lumbago (72.4%), Hip (25%), Knee (58.6%), hankle (35.4%). Laparoscopic sleeve gastrectomy (LSG) is a recent safe and relevant technique becoming more and more popular, so we wanted to assert its efficiency on OSAS.

Methods A prospective data base was opened in 2004 with 90 items. In December 2008 the 31th, it collects 230 LSG. Among them 213 were performed for morbid obesity (BMI >40 or BMI >35 with co morbidity according to French HAS indication). Matched knee pain, gender, age, maximal BMI during life, actual BMI, EWL were studied before and one year post operatively. Success on knee pain was considered if pain has completely disappeared.

Result Knee pain is observed for 58.6 % of the patients. Significantly ($p<0.05$) patients with knee pain get higher weight at operating time (144.8 Kg) than those without (130.8 Kg), maximal BMI (BMI=51.7) than those without (BMI=48.8). Knee pain is associated with HTA. OSAS is more frequent ($p<0.01$) in males (60.5 %) than females (58.6 %). Age (36.6 versus 41.6 years) and the anteriority of obesity are (18 versus 15.9 years) a risk factor ($p<0.05$) of knee pain. Criteria predictable of knee pain regression is age is linked ($p<0.01$) with the anteriority of obesity (17.4 versus 19 years), maximum BMI during life (49.6 versus 54.3), and BMI at laparoscopy (47.9 versus 52.3).

Discussion Knee pain evolves more quickly than others osteo articular problems which is the reason why we choose it. Number of patients suffering from knee pain regress to 20.7% twelve months after LSG. Weight regression is the essential factor for this result. Knee pain regression is observed in the first 6 months post operatively. Some patients get so hudge destruction of knee articulation that they could not hope complete knee pain regression out of orthopedic surgery and date suggest that anteriority and BMI maximum are linked with this osteo articular destruction. Result at one year maintains at three years, no data known later. So LSG can be used as banding or RYGB for treatment of morbid obesity complicated with knee pain.

Conclusion LSG led regression of knee pain after morbid obesity surgery in 45.5 % of patients. Operate earlier in morbid obesity history may lead to a better osteo articular result.

P-047 Unsuccessful Excess Weight Loss One Year After Surgery - A Comparative Study

Presenter: C. Boza (P. Universidad Católica de Chile, Santiago, Chile)

Background Patients with EWL < 50% are poorly described in the literature. The aim of our study is to characterize patients with EWL < 50% and to compare them with those who achieved EWL 50% one year after surgery.

Methods We conducted a review of our retrospective electronic database. A total of 910 patients who achieved at least one-year follow-up underwent either a laparoscopic Roux-en-Y gastric bypass (LRYGB, 67%) or a laparoscopic sleeve gastrectomy (LSG, 33%) between July 2001 and October 2008. Patients were classified as Failure (FG, EWL < 50%) or Successful (SG, EWL 50%) group respectively.

Result There were 31 patients (3.4%) in the FG. Percentage of women was 83.9% for FG and 76.5% for SG (NS). Age was a mean of 40.2 ± 12 years for FG and 37.6 ± 10 for SG (NS). Preoperative BMI was 42.7 ± 5.7 for FG and 40.0 ± 5.4 for SG ($p=0.006$). Operative time was a median of 100 (50-210) minutes for FG and 100 (40-400) for SG (NS). Hospital stay was a median of 3(2-6) days for FG and 3(1-77) for SG (NS). Percent of EWL was as follow (FG vs SG): Month1 22.3 ± 9.4 vs 28.2 ± 19.4 , Month3 38 ± 14.2 vs 55.1 ± 17.2 , Month6 47.4 ± 17.4 vs 76.2 ± 22.1 , Month9 50 ± 16.7 vs 86.5 ± 21 and Month12 41.5 ± 9 vs 92.6 ± 23.2 ($p<0.05$ at all points). Moorehead-Ardelet quality of life questionnaire was a median of 1.75 for FG and 2 for SG (NS). Conversion rate was 3.2% for FG and 1% for SG (NS). Reoperation rate was 0% for FG and 2.2% for SG (NS). Early complication rate was 3.2% for FG and 6.8% for SG (NS). Late complication rate was 6.5% for FG and 18.2% for SG (NS).

Conclusion In our series, patients with EWL < 50% one year after surgery had a low weight loss rate almost immediately after surgery. Efforts should be made to identify patients with low weight loss rates as early as possible.

P-048 Obstructive Sleep Apnea Syndrome (OSAS) is Cured by Laparoscopic Sleeve Gastrectomy: Results on a Prospective Data Base of 230 Interventions

Presenter: P. Verhaeghe (CH Amiens, Amiens, France)

Co-authors: A. Dhahri¹, J. Deguines¹, D. Rose², D. Fuks¹, O. Brehant¹, J. Régimbeau¹

¹CHU Amiens Amiens France; ²CHU Amiens Amiens France

Background Morbid obesity develops often with one or multiples co morbidities such as OSAS (28 %), high blood pressure (50 %), type 2 diabetes (24 %), metabolic syndrome NCEP-ATP III (40 %). Those co-morbidities appear to be a patient's hope since they represent daily problems. Laparoscopic sleeve gastrectomy (LSG) is a recent, safe, and relevant technique becoming more and more popular, so we wanted to assert its efficiency on SAOS.

Methods A prospective data base was opened in 2004 with 90 items. In December 2008 the 31th, it collects 230 LSG. Among them 213 were performed for morbid obesity (BMI > 40 or BMI > 35 with co morbidity according to French HAS indication). Matched OSAS, gender, age, maximal BMI during life, actual BMI, EWL were studied before bariatric surgery and one year post operatively.

Result OSAS is observed for 28 % of the patients. Significantly ($p<0.05$) patients with OSAS get higher weight at operating time (144.8 Kg) than those without (130.8 Kg), maximal BMI (BMI = 51.7) than those without (BMI=48.8). OSAS is associated with high blood pressure (55.7 %). OSAS is more frequent ($p<0.01$) in males (57.9 %) than females (21.3 %). Age (38 versus 43.4 years) is a risk factor ($p<0.01$) of OSAS but the anteriority of obesity is not (16.9 versus 17.9 years). Criteria predictable of OSAS regression is age and OSAS regression is linked ($p<0.01$) with 12 months value of EWL (42.3 % versus 65.4 %), BMI (34.2 versus 40.9)

Discussion Hormonal statute seems to protect young females from OSAS. Patient can hope to be cured from OSAS by LSG in 50 % of cases. Weight regression is the essential factor for this result. OSAS regression is observed between 6 and 9 months post operatively. Result at one year maintains at three years, no data known later. So LSG can be used as banding or RYGB for treatment of morbid obesity complicated with OSAS

Conclusion LSG leads to regression of OSAS after morbid obesity surgery in 50 % of patients. Age is a predictable criteria of this joined complete regression which is linked to weight regression.

P-049 An Audit of Bariatric Surgical Procedures at the Nloss - A Single Surgeon's Experience

Presenter: P. Sufi (Whittington Hospital, London, United Kingdom)

Co-authors: S. Nazir¹, E. Segaran¹, L. Rose¹, K. McDougall¹, D. Heath¹, P. Sufi¹

¹NLOSS, Whittington Hospital London United Kingdom

Background Maintaining an audit of bariatric procedures is an important part of good clinical practice. In this study outcomes of patients undergoing bariatric surgery under a single surgeon are studied.

Methods Data was collected prospectively between May 2007 and October 2008 and included patient demographics, pre and post surgery weight. Paired t-test was used to test significance.

Results The average pre-surgical weight (\pm standard deviation) 132 ± 33 kg (BMI 51, n=59), for band patients is 114 ± 11 kg (BMI 46, n=22), Roux en Y bypass 134 ± 25 kg (BMI 52, n=30), conversion 161 ± 60 kg (BMI 58, n=5), and sleeve 184 ± 5 kg (BMI 80, n=2). Six months post operatively the average weight of all is 110 ± 26 (BMI 47, n=59), for band patients 104 ± 10 kg (BMI 43, n=22), Roux en Y bypass 105 ± 21 kg (BMI 48, n=30), conversion 136 ± 35 kg (BMI 53, n=5), and sleeve 184 ± 15 kg (BMI 69, n=2). Table 1 depicts the % weight lost six months post procedure (* $p<0.01$).

| 1: % loss 6/12 | Avg | Max | Min | N |
|----------------|-----|-----|-----|-----|
| All | 17% | 38% | 1% | 59* |
| Band | 9% | 22% | 1% | 22* |
| Bypass | 22% | 38% | 10% | 30* |
| Conversion | 16% | 24% | 9% | 5 |
| Sleeve | 13% | 16% | 10% | 2 |

Conclusions Our study shows that bariatric surgery induces significant weight loss in obese patients, with most loss associated with Roux en Y bypass procedure.

P-050 Comparison of Dalteparin and Enoxaparin in Preventing Venous Thromboembolism Following Laparoscopic Bariatric Surgery

Presenter: C. Magee (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, J. Ahmed¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral United Kingdom

Background Venous thromboembolism (VTE) following laparoscopic bariatric surgery is a significant cause of morbidity and mortality. Risk of VTE extends beyond the immediate post-operative period following hospital discharge. We compared the incidence of symptomatic VTE in extended thromboprophylaxis regimens using Dalteparin and Enoxaparin.

Methods A prospective database of all patients undergoing bariatric surgery at our unit was analysed. All patients underwent a VTE prophylaxis regimen using preoperative and extended postoperative low molecular weight heparins (LMWHs) [Dalteparin 2500 international units (iu) preoperatively followed by 5000iu o.d. postoperatively, or Enoxaparin 20 mg preoperatively followed by 40 mg o.d. postoperatively]. The treatment period was 1 week for laparoscopic gastric banding or 3 weeks for laparoscopic gastric bypass, duodenal switch, sleeve gastrectomy and revisional surgery. Endpoints were incidence of symptomatic VTE.

Results Eight hundred and seventy-two patients underwent laparoscopic bariatric surgery (735 patients received Dalteparin, 137 received Enoxaparin). Post-operative VTE incidence was zero in the Dalteparin group and 2.2% (3 cases) in the Enoxaparin group ($P<0.001$ Chi squared). 30 and 90-day mortality was zero. There were 3 adverse bleeding events (one staple line bleed and 2 port-site bleeds). Re-laparoscopy was required in 2 cases (0.23%). All bleeding events occurred in the Dalteparin group; this was not significant ($P=0.45$ Chi squared).

Conclusion An extended VTE prophylaxis regimen using LMWHs is simple, effective and associated with a low incidence of bleeding complications. Dalteparin used at 5000iu o.d. is more effective than Enoxaparin 40 mg o.d.

P-051 Complications During the Learning Curve of a Single Bariatric Surgeon at Nloss, London

Presenter: P. Sufi (Whittington Hospital, London, United Kingdom)

Co-authors: S. Nazir¹, E. Segaran¹, L. Rose¹, K. McDougall¹, D. Heath¹, P. Sufi¹

¹NLOSS, Whittington Hospital London United Kingdom

Background The aim of this study is to investigate the complications experienced during the learning curve of a single bariatric surgeon.

Methods Data were collected between May 2007 to October 2008. All documented complications for various bariatric procedures are analysed.

Results

| 1: | Band | % | Bypass | % | Sleeve | % | Overall |
|------------------|------|----|--------|----|--------|-----|---------|
| Complication | | | | | | | |
| Leak | - | - | 1 | 3% | 1 | 25% | 2 |
| Stenosis | - | - | 2 | 5% | - | - | 2 |
| Port slippage | 2 | 5% | - | - | - | - | 2 |
| Persist Vomiting | 1 | 3% | - | - | - | - | 1 |
| Wound infection | 1 | 3% | - | - | - | - | 1 |
| Port Infection | 2 | 5% | - | - | - | - | 2 |
| Band slippage | - | - | - | - | - | - | - |
| NGT in-situ | - | - | 1 | 3% | - | - | 1 |
| Morphine OD | - | - | 1 | 3% | - | - | 1 |
| CVA | - | - | 1 | 3% | - | - | 1 |
| DVT | - | - | 1 | 3% | - | - | 1 |
| Death | - | - | 1 | 3% | - | - | 1 |
| Bleed | - | - | 1 | 3% | - | - | 1 |
| Tear | - | - | - | - | - | - | - |
| Total Cx | 6 | | 9 | | 1 | | 16 |
| Total cases | 39 | | 39 | | 4 | | 82 |

Complication are seen in Table 1 above describes the various complications associated with bariatric procedures. In banding procedures (n=39) the complications that arise are port slippage (5%), persistent vomiting (3%), wound infection (3%), and port infection (5%). In Roux en Y bypass (n=39), anastomotic leak (3%), stenosis (5%), NGT left in-situ (3%), morphine overdose (3%), CVA (3%), DVT (3%), bleeding (3%), and death (3%). With sleeve (n=4) there was one anastomotic leak.

Conclusions We observe most prominent complications associated with banding is port slippage and port infection, whilst in Roux en Y bypass and sleeve gastrectomy, leakage and stenosis occur.

P-052 Demographic Profile for Patients for Bariatric Surgery - A Single Surgeon's Experience

Presenter: P. Sufi (Whittington Hospital, London, United Kingdom)

Co-authors: S. Nazir¹, E. Segaran¹, L. Rose¹, K. McDougall¹, D. Heath¹, P. Sufi¹

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Background The aim of this study is to examine the demographics of the bariatric surgical population presenting to a single surgeon.

Methods Prospective data collection at NLOSS from April 2007 to January 2009. Data collected consists of sex, age, co-morbidities, & Body Mass Index (BMI kg/m²). Data subdivided into bariatric procedure, i) Banding; ii) Roux en Y bypass; iii) Sleeve gastrectomy; iv) Conversion sleeve to bypass.

Results There were 24% males (n=21), and 76% females (n=66), with an average age of 42 yr (range 20-65 yr, n=81). 90% females had gastric bands, 69% Roux en Y bypasses, 60% conversions, 25% sleeve gastrectomies. The average age of patients undergoing banding was 42 yr (range 20-62 yr, n=36), Roux-en-Y bypass 42 yr (range 23-65 yr, n=38), conversions 48 yr (range 37-54 yr, n=5), and sleeve gastrectomies 38 yr (range 23-51 yr, n=2). The average BMI was 51 kg/m² (range 33-81 kg/m², n=81), with bands average at 46 kg/m² (range 36-56 kg/m², n=36), Roux-en-Y bypass 52 kg/m² (range 36-71 kg/m², n=38), conversions 58 kg/m² (range 33-79 kg/m², n=5), and sleeve gastrectomies 80 kg/m² (range 79-82 kg/m², n=2).

| 1a:Co-Morbidities | | | 1b:Cumulative | | |
|------------------------|----|-----|---------------|----|-----|
| | N | % | | N | % |
| Diabetes Mellitus | 21 | 36% | CM = 0 | 13 | 22% |
| Osteoarthritis | 19 | 32% | CM = 1 | 23 | 39% |
| Hypertension | 13 | 22% | CM = 2 | 9 | 15% |
| Hypercholesteraemia | 10 | 17% | CM = 3 | 12 | 20% |
| Obstruct. Sleep Apnoea | 10 | 17% | CM = 4 | 2 | 3% |
| Polycystic Ovaries | 6 | 10% | | | |
| Depression | 4 | 7% | | | |
| Renal disease | 1 | 2% | | | |
| Asthma | 1 | 2% | | | |
| Lupus | 0 | 0% | | | |

Table 1a shows co-morbidities and 1b examines multiple co-morbidities. CM = comorbidity.

Conclusions The most common co-morbidities (greater than 10%) are Type 2 Diabetes Mellitus, Osteoarthritis, Hypertension, Hypercholesterolaemia, and Polycystic Ovarian Syndrome.

P-053 Metabolic Control After Bariatric Surgery in an Experimental Model of Obesity

Presenter: M. Hernandez (University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain)

Co-authors: F. Sabench¹, A. Cabrera¹, M. Vives¹, S. Blanco¹, L. Piñana¹, J. Domènech¹, D. del Castillo Déjardin¹

¹University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain

Background 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 assess whether ileal transposition can be a good treatment of morbid obesity associated with diabetes mellitus due to action of intestinal peptide GLP-1 in relation to gastric by pass and to vertical gastroplasty (VGB).

Methods Trial environment: ZDF rats. Three groups of 10 animals each one: Group 1: Ileal tranposition. Group 2: Gastro-jejunal bypass. Group 3: Vertical gastroplasty. Parameters to determine: Weight loss, levels of gliccaemia, enteroglucagon, insulin and ghrelin in blood, one week before the operation as a basal control, and 15 days after the surgical procedure.

Result Gastrojejunal bypass produces the most important weight loss. There is a significative decrease in intake in all groups. It has also been observed that 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.

Conclusion 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.

P-054 Laparoscopic Gastric Banding – Intensive Follow-Up Gives Better Outcomes

Presenter: J. Barry (Gravitas, Wirral, United Kingdom)

Co-authors: M. Conor¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

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Background There are no clear guidelines regarding laparoscopic adjustable gastric band (LAGB) follow up. The aim of this study was to ascertain if an intensive follow-up regimen was associated with better outcomes.

Methods A prospective database of all patients undergoing bariatric surgery was analysed. Two hundred and seventy-two patients who had undergone LAGB with at least 12 months follow-up were identified. Following LAGB placements patients were followed up in the public sector (control, n=79) or through the private sector (intensive follow up, n=193). The intensive follow up group had regular monthly consultation with a surgeon, dietitian and support nurse.

Result Initial body mass index (BMI) was greater in the control group (median 45 v 41, P<0.001 MWU). The intensive follow up group had a median of 8 consultations in the first 12 months compared to 5 in the control group. Excess weight loss (EWL) was greater in the intensive follow-up group at 12 months (40% v 31%, P<0.001 MWU) and at 24 months (58% v 46%, P=0.005 MWU).

Conclusion Intensive bariatric multidisciplinary team follow-up is associated with enhanced weight loss following laparoscopic gastric banding.

P-055 Experimental Standardization of the Duodenal Exclusion Technique in Obese Animals and its Application to the Field of Ingestion Regulation

Presenter: Daniel Del Castillo Déjardin (University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain)

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Background Currently, there is a range of surgical techniques to treat morbid obesity. Their aim is to comply with expectations with regard to weight and metabolic results. Other techniques that have recently appeared such as duodenal exclusion or ileal transposition make metabolic surgery a field in its own right and a recent addition to management of this condition. Experimentally it is necessary to standardize the duodenal exclusion technique with the aim of determining the metabolic, weight and hormonal effects.

Methods Duodenal exclusion surgery: medial laparotomy; gastrotomy proximal to the pylorus (0.5 cm). The 10 cm polyethylene tube was prepared with a silicone guidewire and anchored with an extractible silk point on its distal extremity. The cannula was introduced in a craneo-caudal direction. The proximal extremity was fixated on the stomach wall by means of the triangulation technique (3 polypropylene 5/0). The guidewire and distal extremity were removed and the gastrotomy was closed. A liquid diet was administered for 48 hours.

Result The tube should be 0.4 cm in diameter and free of soldered edges (eversion of the tube necessary) to avoid pressure sores. The silicone guidewire with anchorage obviates the need to perform a duodenotomy in addition to gastrotomy, as we have found in the literature, and avoids duodenal tears or possible leaks.

Conclusion Technically, this model can be subsequently applied in randomized experimental studies in the field of metabolic surgery. A slightly shorter tube can be used (8 cm) which has a blunt distal extremity to avoid lesions of the duodenal wall.

P-056 Endothelial Dyfunction, a Feature of the Morbidly Obese, Metabolically Healthy Phenotype

Presenter: M. A. Vidya (Whittington Hospital, London, United Kingdom)

Recent interest has focussed on obese subjects who are apparently metabolically healthy in terms of glucose handling and serum lipids. In these patients the aetiology of obesity appears different and excess adipose tissue

may be potentially protective. This phenotype was investigated in morbidly obese subjects (n=30) undergoing bariatric surgery for the treatment of obesity. Fasting bloods and adipose tissue (from sub-cutaneous and omental depots) were collected prior to and at surgery. Additional fasting blood samples were collected from sex-matched normal weight subjects (n=7). Levels of circulating lipids, glucose, insulin, adipokines and asymmetric dimethyl arginine (ADMA), an endogenous nitric oxide inhibitor, was determined. Adipose explant release of adipokines and ADMA was also determined. All subjects were normotensive, normoglycaemic and had normal serum lipids. However the majority were hyperinsulinaemic, and based on fasting insulin levels patients were dichotomised into the hyperinsulinaemic (n=25) and the normoinsulinaemic (n=5) groups. In the normoinsulinaemic obese group, as in the normal weight subjects, total and the high molecular weight adiponectin was significantly elevated compared to the hyperinsulinaemic group. Despite this, systemic ADMA concentrations, were elevated in all the obese compared to the normal weight subjects, independent of insulinaemic status (obese versus normal weight: 1.8{1.7-2.2} vs 0.6{0.55-0.83}mM, p=0.005).

| | | | |
|--------------------------|-------------------|-------------------|----------|
| Body fat (%) | 52.78 (10.64) | 51.37 (5.4) | NS (0.8) |
| BMI (kg/m ²) | 43.2 (16.1) | 42.5 (9.7) | NS (0.9) |
| Glucose (mmol/l) | 4.6 (4.45 – 4.78) | 5.3 (4.9 – 5.8) | 0.009 |
| Insulin (MU/l) | 5.11 (4.4 – 5.43) | 9.8 (7.6 – 17) | 0.023 |
| Total Adiponectin (g/ml) | 7.0 (2.9 – 11.1) | 3.21 (2.3 – 4.5) | 0.031 |
| HMW-Ad (g/ml) | 3.3 (0.7 – 6.1) | 1.1 (0.69 – 1.96) | 0.03 |
| MMW-Ad (g/ml) | 1.43 (0.48 – 2.5) | 0.83 (0.6 – 1.14) | 0.03 |

In conclusion, endothelial dysfunction may be a feature of the obese, metabolically healthy phenotype, perhaps reflecting heterogeneity in the aetiology of obesity.

P-057 Resistin is Increased in Morbid Obesity. Regulation in Macrophages with Proinflammatory Factors

Presenter: M. Broch (University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain)

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Background Obesity is associated with a low-level chronic inflammation reflected in an infiltration of adipose tissue by macrophages derived from circulating monocytes. In sub-AT macrophages constituted the stromal-vascular fraction. Resistin is an adipokine and was related to insulin resistance, but several studies showed that may play a pivotal role in process of inflammation-related diseases. We compared resistin expression in subcutaneous adipose tissue (sub-AT) and in peripheral blood monocytes in obese and lean subjects.

Methods Resistin was evaluated in 16 lean (BMI < 25 kg/m²), 16 obese (BMI 25–39.9) and 20 morbidly obese women (BMI 40). Insulin resistance was evaluated by HOMA-IR index. In a subgroup of 12 subjects (4 lean, 6 obese and 6 morbidly) human peripheral blood monocytes were isolated with the RosetteSep Human Monocyte Enrichment Cocktail Kit. mRNA expression was quantified by Real-Time PCR. Levels of resistin were quantified by immunology.

Result Resistin mRNA expression in circulating monocytes was high compared with sub-AT (2.1 × 10⁻⁴ vs. 5.1 × 10⁻⁶). In sub-AT resistin was mainly expressed in the stromal-vascular fraction. Compared with lean and obese subjects, morbidly obese patients had high circulating levels of resistin and mRNA expression levels in sub-AT and in monocytes (p<0.04 in all). Resistin was not related to insulin resistance.

Conclusion Resistin is not associated with insulin resistance. Expression of resistin in macrophages, its regulation with pro-inflammatory agents and the overexpression of this adipokine in morbidly obese, suggest that resistin may be involved in the inflammation-related to severe obesity.

P-058 Does Alimentary Limb Length in Laparoscopic Duodenal Switch Effect Post Operative Nutritional Deficiencies?

Presenter: J. Barry (Gravitas, Wirral, United Kingdom)

Co-authors: M. Conon¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral United Kingdom

Background The duodenal switch results in impressive weight loss and improvement in comorbidities. However it can cause significant postoperative nutritional deficiencies. Lengthening the common channel can reduce the incidence of these problems but this comes at the expense of compromised weight loss. We postulated that lengthening the alimentary limb (A-limb) alone may reduce postoperative nutritional deficiencies while maintaining impressive excess weight loss (EWL).

Methods One hundred and ten patients with a minimum one-year follow up were identified from a prospective database. Seventy patients had an alimentary limb of 150 cm and 40 patients had an alimentary limb of 200 cm. The common channel length was 100 cm in both groups.

Result There was no significant difference in pre-operative BMI's between the two groups. Percentage EWL at one year was equivalent in both groups (75% vs 72% [P=0.717 Mann-Whitney U [MWU]]).

The table below shows the nutritional deficiencies for each group

| Nutrient | 150 cm A-limb | 200 cm A-limb | P value |
|-----------|---------------|---------------|---------|
| B12 | 2 (2.8) | 2 (4) | 0.69 |
| Iron | 19 (26) | 3 (6) | 0.005 |
| Folate | 12 (17) | 1 (2) | 0.01 |
| Zinc | 22 (31) | 7 (15) | 0.04 |
| Protein | 6 (8) | 1 (2) | 0.14 |
| Vitamin D | 13 (18) | 8 (17) | 0.81 |

Figures in parentheses are percentages

Conclusion With a 100 cm common channel, lengthening the alimentary limb from 150 cm to 200 cm resulted in significantly less postoperative nutritional deficiencies but had no effect on percentage EWL at one year.

P-059 Association of Retinol-Binding Protein-4 with Lipid Parameters in Obese Women

Presenter: M. Broch (1Ciber Fisiopatología de la Obesidad y Nutrición, Instituto de Salud Carlos III, Madrid, Spain. 2University Rovira i Virgili, Tarragona, Spain)

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Background Although the adipokine Retinol-binding protein 4 (RBP4) has been implicated in the development of obesity-related insulin resistance, its role in human obesity is still unclear. Our objective was to determine the effect on RBP4 systemic levels of a weight loss induced by gastric by-pass surgery, and to analyze RBP4 relationships with parameters of body composition, insulin resistance, lipid metabolism, and inflammation.

Methods 63 obese women with a body mass index between 36.5 and 70.4 kg/m², aged 45.0±9.3 years were studied at baseline and twelve months after weight reduction by Gastrojejunal Bypass. Systemic concentrations before and twelve months after surgery of RBP4, fasting glucose, insulin, lipid profile molecules and inflammation-related proteins (C-reactive protein, soluble fractions of TNF- receptors, interleukin-18 and adiponectin).

Result After surgery, the patients had a significant reduction of body weight (34.7%), BMI, WHR, body fat (BF) and fat mass (FM); as well as a significant improvement in the initial glycaemia, insulinaemia and insulin sensitivity. Levels of total cholesterol, triglycerides and LDL-cholesterol were significantly

reduced, and HDL-cholesterol were significantly increased. The systemic levels of the inflammatory markers were also significantly diminished. RBP4 levels were lower after the weight reduction by gastric by-pass surgery ($p < 0.0001$). The decrease of RBP4 was related to the reduction in the levels of triglycerides and with the increase in HDL. Others parameters analyzed, including inflammatory markers, were not related to RBP4.

Conclusion Retinol-binding protein-4 was related to weight status. RBP4 may be related to lipid metabolism rather than to insulin sensitivity or inflammatory markers.

P-060 Postoperative Vitamin Supplementation Following Duodenal Switch Procedure – What are the Optimum Doses?

Presenter: J. Brocklehurst (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, C. Magee¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral

Background Nutritional deficiencies following a duodenal switch are common but despite this there is no clear consensus regarding postoperative vitamin supplementation.

Methods One hundred and ten duodenal switch patients with one-year follow up were identified. Postoperative patients deficient in iron, B12, folate, protein and vitamins A, D and K were studied. Standard postoperative supplementation involved one multivitamin (MV) and 4 calcium/vitamin D supplements, providing 14 mg iron, 15 mg zinc, 2600 mg calcium and 1800 IU vitamin D, 2664 IU vitamin A and 30mcg vitamin K. All deficiencies were treated with additional supplementation shown below.

| Supplement | Dose |
|------------|-----------------------------|
| Zinc | 90 mg |
| Iron | 200 mg |
| Vitamin A | 25 000 IU |
| Vitamin D3 | 5 000 IU |
| Protein | High protein diet and Creon |

Result Incidence of nutritional deficiencies

| Deficiency | Year 1 | Year 2 | Year 3 | Year 4 |
|------------|--------|--------|--------|--------|
| Iron | 20 | 20 | 13 | 8 |
| Zinc | 31 | 27 | 9 | 0 |
| Folate | 4 | 10 | 0 | 16 |
| Vitamin D | 27 | 33 | 35 | 42 |
| Vitamin A | 1 | 6 | 0 | 17 |
| Protein | 6 | 6 | 0 | 0 |

Figures are percentages

Conclusion Nutritional deficiencies are common following duodenal switch but easily managed with additional supplementation. Based on these results we have introduced preoperative vitamin D assaying. In addition our standard postoperative regime has changed to 2MV per day, 4 calcium and vitamin D supplements per day and an additional vitamin D3 supplement of 5000 IU.

P-061 Two Years Follow Up After Gastric Bypass and Sleeve Gastrectomy

Presenter: A. Ghanbari (Homerton University Hospital, London, United Kingdom)

Co-authors: A. Ghanbari¹, B. Molyneux¹, K. Mannur¹

¹Homerton University Hospital, London, United Kingdom

Background Laparoscopic Gastric bypass (LGB) is the commonest obesity surgery performed with the alternative being Laparoscopic sleeve gastrectomy (LSG) either on it's own or as a first stage of 2 staged procedure.

Methods We completed a retrospective analysis over two years including 30 LGB patients and 20 LSG patients, of which 8 had only LSG and 12 went on to have a second stage duodenal switch (LDS).

Result LGB group had a 1 year average weight of 95 kg with an average weight loss 38.2 kg and average BMI 35 kg/m². At 2 years follow-up their average weight was 89.8 kg, average weight loss was 5 kg and their average BMI was 33 kg/m².

LSG patients had a 1 year average weight of 103.5 kg with weight loss of 47.3 kg and a BMI of 39.6 kg/m². At 2 year follow-up average weight was 101.7 kg with weight loss of 1.8 kg and a BMI of 39 kg/m².

LSG followed by LDS results at 1 year follow-up were average weight of 125.1 kg with weight loss of 34 kg and a BMI of 44.1 kg/m². At 2 years average weight of 100.5 kg with weight loss of 25 kg and a BMI of 35.3 kg/m².

Conclusion The largest benefit for LGB or LSG patients comes in the first year with limited further loss in year; ²whilst LSG followed by LDS gave large weight losses in years 1 and; ²In terms of absolute BMI reduction in the obese LSG with LDS is the most effective.

P-062 Cost-Effectiveness of the Roux-En-Y Gastric Bypass Surgery Compared with Medical Management for Treatment of Type 2 Diabetes Mellitus (T2DM) in The UK, France, and Germany

Presenter: M. Minshall (Covidien, North Haven, United States of America)

Co-authors: T. Swan¹, B. Slusarek¹, S. Ikramuddin¹

¹University of Minnesota Minneapolis United States of America

Background We compared cost-effectiveness of the Roux-en-Y Gastric Bypass (RYGB) with Medical Management (MM) for obese T2DM patients applying 2.3 year observational data from the University of Minnesota (UM) and modeling this to a lifetime horizon for each country.

Methods Baseline mean HbA_{1c}, age, BMI, gender, race/ethnicity, and risk factors were taken from the UM cohort (n=204). Remaining cohort characteristics, transition probabilities, utilities, treatment, and complication costs were obtained from published sources. All costs (£2009, 2008) and clinical outcomes were discounted at 3.5%, 3.0% and 5.0% *per annum* for the UK, France, and Germany, respectively.

Result Average lifetime total direct medical costs increased in all countries for RYGB compared with MM while discounted life expectancy and quality-adjusted life years (QALYs) also increased. The resulting incremental cost-effectiveness ratios (ICERs) for RYGB compared with MM were £4,128/life-year gained and £2,922/QALY gained in the UK, 401/life-year gained and £298/QALY gained for France, and cost saving in Germany. A numbers needed to treat (NNT) analysis showed the following: congestive heart failure event and death, 7 and 14, respectively; peripheral neuropathy, 13; background diabetic retinopathy, 24; macular edema, 25; angina and myocardial infarction, 27.

Conclusion Cost-effectiveness was primarily driven by superior HbA_{1c}, lipid reductions, and weight loss. The ICERs provide evidence for the potential long-term cost-effectiveness of RYGB consistent with current threshold values in each country. Our analysis highlights the need for country-specific clinical outcomes data for RYGB as a treatment for obese T2DM patients so our preliminary results using USA patients can be validated.

P-063 Cost-Effectiveness of the Roux-En-Y Gastric Bypass Surgery Compared with Medical Management for Treatment of Type 2 Diabetes Mellitus (T2DM) in Spain, Italy, and Sweden

Presenter: M. Minshall (Covidien, North Haven, United States of America)

Co-authors: T. Swan¹, B. Slusarek¹, S. Ikramuddin¹

¹University of Minnesota Minneapolis United States of America

Background We compared cost-effectiveness of the Roux-en-Y Gastric Bypass (RYGB) with Medical Management (MM) for treatment of obese T2DM patients applying 2.3 year observational data from the University of Minnesota (UM) and modeling this to a lifetime horizon for each country.

Methods Baseline mean HbA_{1c}, age, BMI, gender, race/ethnicity, and risk factors were taken from the UM cohort (n=204). Remaining cohort characteristics, transition probabilities, utilities, treatment and complication costs were obtained from published sources. All costs (2008, SEK 2008) and clinical outcomes were discounted at 6% *per annum* for Spain and 3% for Italy and Sweden.

Result Average lifetime total direct medical costs increased in all countries for RYGB compared with MM while discounted life expectancy and quality-adjusted life years (QALYs) also increased. The resulting incremental cost-effectiveness ratios (ICERs) for RYGB compared with MM were 3,807/life-year gained and 2,034/QALY gained in Spain, 490/life-year gained and 364/QALY gained in Italy, and SEK 32,823/life-year gained and SEK 24,437/QALY gained in Sweden. A numbers needed to treat (NNT) analysis showed the following: congestive heart failure event and death, 7 and 14, respectively; peripheral neuropathy, 13; background diabetic retinopathy, 24; macular edema, 25; angina and myocardial infarction, 27.

Conclusion Cost-effectiveness was driven primarily by superior HbA_{1c}, lipid reductions, and weight loss. The ICERs provide evidence for the potential long-term cost-effectiveness of RYGB consistent with current threshold values in each country. Our analysis highlights the need for country-specific clinical outcomes data for RYGB as a treatment for obese T2DM patients so our preliminary results using USA patients can be validated.

P-064 Early Hormonal Changes After Sleeve Gastrectomy in Diabetic Obese Patients

Presenter: N. Basso (University of Rome, Rome, Italy)

Co-authors: F. Leonetti¹, P. Mariani¹, F. Abbati¹, M. Rizzello¹, G. Alessandri¹, G. Casella¹, C. Maglio¹, D. Capoccia¹

¹University Rome, Italy

Background Sleeve gastrectomy (SG) is associated with a high rate of resolution of T2DM. The early effect of SG on glucose homeostasis, insulin secretion, insulin sensitivity and hormonal changes were evaluated.

Methods Between October 2002 and March 2009, 220 obese patients underwent SG. Forty-eight pts (30/16,F/M ratio, mean age 50.2 years, mean BMI 50.8 Kg/m²) had an altered glucose homeostasis (32 T2DM and 16 IGT). In 6 T2DM pts insulin sensitivity and secretion were evaluated by IVGTT pre-op and 60 hours post-op. Ghrelin and GLP-1 levels were also evaluated in basal conditions and 15 minutes after IVGTT load. In four pts, at one postoperative month, basal and post-prandial hormonal changes were evaluated.

Results Preoperatively IVGTT showed a typical insulin curve with peak response at 60 minutes. At 60 hrs post-op IVGTT the insulin curve showed a restored normal shape with peak response at 3 minutes, with marked improvement of insulin secretion and sensitivity. Postoperatively a reduction of basal and stimulated ghrelin values (from 111,3±12,3 to 45±6,3 pM/L and from 137,3±23 to 28±9,3 respectively) and an increase of GLP-1 values (from 1.5±0.8 to 2±1,8 pM/L and from 1,7±1 to 3±1,2 pM/L) concentrations were observed. IVGTT performed one month postoperative confirmed these results. **Conclusion** Sleeve gastrectomy is effective on T2DM independently from weight loss. These data seem to suggest that an endocrine-gastric GLP-1 and ghrelin related mechanism is participating in the resolution of T2DM after SG. A "gastric hypothesis" may be invoked for the SG effect on T2DM.

P-065 Morbid Obesity, Diabetes and Metabolic Surgery

Presenter: S. Vicente (Hospital Universitario of Móstoles, Mostoles. Madrid, Spain)

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Background A narrow relationship exists among morbid obesity (MO and diabetes jags autoimmune or for resistance to insulin (DM types 1 and 2). The

purpose of this study is: 1) to evaluate the effects of metabolic surgery for the therapy of DM and 2) to analyse their long-term evolution.

Methods Retrospectively evaluation of 320 patients MO, 254 women and 66 men who were operated in our Hospital (gastric bypass following Capella's technique). The mean age was 39.5 years (19-63). Fifty percent of the patients were diagnosed of DM. Before surgery and 6, 12, 24, 60 and 108 months after it we have collected antropometric measures, determined levels of glucose and haemoglobin glicada (HbA_{1c}), microalbuminuria/min and relación albúmin/creatinine (ALB/CRE).

Results Before surgery the mean (SD) value of the BMI was 49.79 (7.0) and of the WC 121.8 (19.5). The mean glucose level was 8.18 mmol/L (2.35), glycosilated haemoglobin 7.97 % (2.37), microalbuminuria/min 47.4 (9.7) g/min and relation albumin/creatinine r=0.07 After surgery and during the first 6 months, we found a decrease of the BMI and WC values and also of the levels altered and this decrease persists 108 months after surgery.

Conclusions Reductions of the BMI, WC and levels altered confirm surgery as an efficient therapy both for MO and also for DM (type 1 or 2) 2 in these patients. High levels of microalbuminuria/min and relation albumin/creatinine suggest our patients suffer a diabetic renal disease that improves following metabolic surgery.

P-066 Homa in Obese Patients with Type 2 Diabetes Mellitus Undergoing BPD-DS: Is the Rapid Postoperative Increase in Insulin Sensitivity Dependent on Severity of Diabetes or on BMI?

Presenter: M. Frenken (St. Josef Krankenhaus Monheim, Monheim am Rhein, Germany)

Co-authors: E. Cho¹

¹St. Josef Krankenhaus Monheim, Monheim am Rhein, Germany

Background To evaluate whether the early postoperative increase in insulin sensitivity after biliopancreatic diversion with duodenal switch and gastric sleeve resection (BPD-DS) is dependent on severity and duration of diabetes or on BMI.

Methods HOMA index was determined in n=27 obese patients with type 2 diabetes mellitus undergoing BPD-DS. The operation was done as an open procedure. The patients (mean age 48 years, range 28-66 years, 15 female, mean BMI 49 kg/m², range 35-71 kg/m²) were treated either with oral antidiabetic drugs (OAD, n=6) or with insulin (n=21) before surgery. HOMA index was determined as a product of fasting blood glucose (in mg/dl) and serum insulin level (in U/ml) without insulin treatment for at least 12 hours divided by 405. Blood samples were taken in the morning of the day of surgery and on day 3, 7, 14 and 21 after surgery.

Result HOMA index decreased from a preoperative value of 14.3 (2.1-72.0; mean, min – max) to 3.6 (1.1-8.5), 1.9 (0.4-4.9), 1.9 (0.2-4.5) and 1.9 (1.0-2.4) three, 7, 14 and 21 days after surgery, respectively. There was no significant difference whether the patients were treated with OAD or with insulin: the HOMA index 7 days after surgery was 1.6 (0.4-2.4), 2.1 (0.5-4.9), 2.2 (0.7-4.9) and 1.4 (0.9-1.7) in patients treated with OAD only or treated with insulin for < 5 years, 5-10 years and > 10 years, respectively. Also, all 3 patients who were discharged from hospital with small amounts of insulin (maximally 36 units per day), had a low HOMA index of 1.3 to 2.6. There was no dependence on BMI. In 7 patients with BMI > 50 kg /m², the lowest HOMA index after surgery was 1.1 (0.4-2.2).

Conclusion After BPD-DS, the insulin sensitivity determined by the HOMA index increased rapidly and usually nearly normalized within few days after surgery. The restoration of insulin sensitivity was independent on severity and duration of diabetes and also independent on BMI.

P-067 Resolution of Diabetes Mellitus Type 2 After Biliopancreatic Diversion/Duodenal Switch

Presenter: Y. Yashkov (Center of Endosurgery and Lithotripsy, Moscow, Russian Federation)

Co-authors: A. Nikolsky², E. Karpova¹, D. Bekuzarov¹, M. Sineokaya¹

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Background The aim of this study is evaluation of effectiveness of Biliopancreatic Diversion/Duodenal Switch (BPD/DS) in the patients with Diabetes Mellitus type 2 (DM2) associated with obesity.

Methods Among 213 patients underwent Biliopancreatic Diversion/Duodenal Switch (BPD/DS) for obesity 42 (18 men and 24 women) aged 43.5±8.4 (28–63) years, BMI - 49.5±7.0 (38.3–64.7) kg/m² suffered DM2. 23 patients had light degree of DM2, 19 – moderate degree. 19 patients were compensated preoperatively, 23 – subcompensated. In the 16 patients DM2 was firstly diagnosed preoperatively, 7 – were on dietotherapy, 15 – on hypoglycemic tablets, 4 – received insulin. Fasting Glucose, Insulin, HbA_{1c}, -peptide were studied pre- and postoperatively. Preoperative C-peptide was normal or above normal in all patients.

Result In all patients normoglycemia was achieved soon (usually 2–3 weeks) after operation, i.e. before essential weight loss. HbA_{1c} became normal in all patients 3–6 months after BPD/DS. No patients required antidiabetic therapy after discharge from the clinic. Mean excess weight loss after its stabilization was 72.9±14.6 %. In the diabetic group complication rate was higher (17.1 %) compared to non-diabetics (3.7%). All patients had normal total Cholesterol and LDL-cholesterol after BPD/DS although many patients remained to have low HDL-cholesterol.

Conclusion BPD/DS- clinically effective method of treatment of DM2 at least in the obese patients with preserved B-cell pool. BPD/DS with its clear anti-atherogenic effects may be effective in the prevention of non-reversible complications of DM2. Bariatric surgery, especially BPD/DS shows new opportunities in the treatment of DM2.

P-068 Metabolic Outcomes at 2 Years in Obese Diabetic Patients Following Laparoscopic Adjustable Gastric Banding

Presenter: P. Super (Heart of England NHS Foundation Trust, Birmingham, United Kingdom)

Co-authors: R. Singhal¹, M. Kitchen¹, C. Bryant¹, P. Super¹, P. Super⁰, P. Super¹

¹Heart of England NHS Foundation Trust Birmingham United Kingdom

Background Obesity is an independent risk factor in the development of diabetes. The role of bariatric surgery in the management of obesity related diabetes is well known. This study examines the effect of gastric banding on metabolic profile in diabetics.

Methods Between April 2003 and August 2008, 1723 patients underwent LAGB. Metabolic profile was examined on a subset of 432 patients. All these patients had completed at least 2 years of follow-up. Of these, 184 patients had diabetes.

Results The mean preoperative weight and BMI for the diabetics was 151.5 Kg (range 88–256) and 53.2 Kg/m² (range 35.9–81.8) respectively. Associated conditions included hypercholesterolaemia (46.2%), hypertriglyceridaemia (48.8%), hypertension (65.1%), renal dysfunction (9.7%) and hypothyroidism (4.7%). The excess % BMI loss at 1 and 2 year follow up were 37.4 and 40.2 Kg/m² respectively. 84.6% patients experienced an improvement in fasting glucose levels and 80.2% patients an improvement in HbA_{1c} levels at 2 years. All patients experienced a decrease in insulin requirements and 43.8% were able to totally discontinue using it at the end of this time period. 66.2% showed improvement in their total cholesterol level and 81.5% showed improvement in their serum triglyceride levels. The Mean arterial pressure improved in 85.7% of patients. Improvement in the serum creatinine and TSH were observed in 42.3% and 78.9% patients.

Conclusion The metabolic syndrome associated with morbid obesity is difficult to adequately control with medication. Laparoscopic gastric banding can be considered as a potentially curative treatment option in the management of this syndrome.

P-069 The Incidence of Lada (Slow Type 1 Diabetes in the Adult)

Presenter: M. Deitel (Editor-in-Chief Emeritus Obesity Surgery, Toronto, Canada)

Background Latent Autoimmune Diabetes in the Adult (LADA) is a slowly developing type 1 diabetes with onset at age 30–55 years at any body weight. These patients may initially respond to anti-diabetic oral medications or to GLP-1, but ultimately have slow relentless destruction of the remaining beta cells and will go on to insulin injections to sustain life. These patients may represent the failures in diabetic resolution after bariatric operations.

Methods The diabetic literature was surveyed to ascertain the incidence of LADA with 11 studies reviewed.

Result LADA was found to exist in 9–20% of the adult population, determined by the presence of low endogenous plasma insulin, subnormal C-peptide fraction, and anti-GADA and/or anti-islet cell antibodies. Insulin resistance itself is absent in these patients.

Conclusion LADA should be diagnosed before an anti-diabetes operation, and, if present, the patient should be informed that they will eventually require exogenous insulin. Strict dietary intake and diabetic control could be hindered by mucosal swelling after a restrictive operation or by episodic steatorrhea after a malabsorptive operation. Pre-operatively, LADA patients who take excess insulin, eat to overcome the resulting hypoglycemia, gain weight and take increasing insulin should be identified, although these patients may benefit from a bariatric operation which decreases weight and thus insulin requirements. A test by subcutaneous exenatide or an oral DPP-IV antagonist could suggest whether there would be a response to operations that induce rapid transit of nutrients.

P-070 Type-1 Diabetic Status Improvement After Open Gastric Bypass in Severe Obesity: Case Report

Presenter: E. Bastos (Faculdade de Medicina de Marília, Marília, Brazil)

Co-authors: P. Cesar Grippa¹, F. Venditto Soares¹, A. Cardoso Ramos²

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Background There is a strong association between obesity and type-2 diabetes mellitus. However, morbid obese is rarely seen in type-1 diabetic patients. We report one case of open gastric bypass in the treatment of severely obese type-1 diabetic patient with special attention to improvement of glucose control.

Case report 33-year-old woman with type 1 diabetes mellitus since 9-yr old who was treated with a high insulin regimen (total daily insulin dose 120 IU) but poorly controlled (HbA_{1c} 8.7%). Her body mass index (BMI) was 42.3 kg/m². She also has hypothyroidism controlled by Puran T4 125mcg/d and a lean sister with type-1 DM. At time of diagnosis there was no clinical evidence of organ damage by type-1 DM. The dosage of C-peptide was < 0.01. The patient underwent open Roux-en-Y gastric bypass surgery in September 2008. She presented severe wound infection with resolution after antibiotic therapy and surgical drainage. Currently her body weight was 80.3 kg (BMI 30.3 kg/m²). Her glucose control has improved (HbA_{1c} 5.7%), with daily insulin dose reduced to 45 IU. Markedly, the amount of insulin has fallen (1.04 UI insulin per Kg pre-op vs. 0.56 UI insulin per Kg post-op). The hypothyroidism remains unchanged.

Conclusion Roux-en-Y gastric bypass is safe and effective in the weight reduction even in type 1 diabetic patients with severe obesity leading markedly improvement in glucose control and insulin requirement.

P-071 Effect of LSG on HbA1c Levels in T2DM Patients at One Year

Presenter: S. Shah (Ruby Hall Clinic, Pune, India)

Background Elevated HbA_{1c} values are known to increased risk of macro and micro angiopathy in T2DM patients. ADA guidelines recommend maintenance of HbA_{1c} < 7%. This is a study to assess the effect of LSG on HbA_{1c} levels in type 2 diabetic patients.

Methods A prospective observational study of 58 T2DM and Obese patients who underwent LSG during the period of 2005 to 2008 was done. The preoperative and postoperative Weight, Waist circumference, BMI, HbA_{1c} was recorded. The %EWL and % EBL was also calculated. The record of pre and post operative anti diabetic medication was maintained. Statistical analysis was performed using Spearman Rank Correlation test.

Result N=58, M: F=33 :25, age range: 33 to 67 yrs, Duration of diabetes ranged from 6 mths to 2 yrs (= <5 YRS:45, > 5 YRS 13), 52 out of 58 patients were anti diabetic medication, 6 out of 58 patients were on diet control before operation. Pre surgery mean weight was 118.043±29.325, post surgery was 76.767±12.482, Pre surgery mean waist circumference was 117.224±17.913, post surgery was 99.655±6.661, Pre surgery mean BMI was 44.613±9.496, post surgery was 29.293±4.173, Pre surgery mean HbA_{1c} was 8.369±1.634, post surgery was 6.064±0.468.

| | | |
|---------------|---------------|-----------------|
| The % EWL was | 66.976±7.887 | (range 40.75) |
| The % EBL was | 82.703±17.922 | (range 87.37) |

Conclusion Patients undergoing LSG had a significant improvement in HbA1c which had a correlation with EWL, EBL, Waist circumference change at the end of 1 year.

P-072 Relation Between Changes in Anthropometry with the Improvement in Metabolic Syndrome After RYGBP in T2DM Patients with BMI < 35 Kgs/M2- Initial Indian Experience

Presenter: S. Shah (Ruby Hall Clinic, Pune, India)

Co-authors: J. Todkar¹, P. Shah²

¹Ruby Hall Clinic Pune; ²Laparo Obeso Center Pune

Background The metabolic syndrome is a complex disorder with a number of cardiovascular risk factors associated with central adiposity. The effectiveness of RYGBP on improvement of metabolic syndrome in patients with BMI > 35 kgs/m2 is well known. This study aims to evaluate the relation between change in anthropometry with the improvement in the metabolic syndrome after RYGBP in T2DM patients < 35 kgs/m2.

Methods A prospective study was conducted with approval of institutional ethics committee. 15 T2DM patients with BMI<35 kgs/m2 underwent RYGBP. The data regarding weight (kg), BMI (kg/m2), Waist circumference(cm), HbA1c (%), FBSL(mg%), Systolic BP(mm of Hg), Lipid profile(mg%) preoperatively and at 9 months postoperatively was compared.

Result Among the study population n=15, M:F 8:7, Mean age 35±15 years, Mean BMI 28±6 kgs/m2, Mean HbA1c 11±3.5 %, and Mean waist circumference was 100±9cms.

At 9 months all patients were euglycemic with Mean HbA1c of 5.9±1.5 %. The Mean reduction in BMI was 2±1.5 kgs/m2. There was significant reduction in weight, waist circumference,

And also similar improvements in Mean HbA1c, Mean FBSL, Systolic BP and Lipid profile.

Conclusion This study favours the use of RYGBP to improve Metabolic syndrome even in individuals with BMI < 35 kgs/m2. Long term and larger studies are needed to confirm the benefits.

P-073 Improvement in Glucose Metabolism After Bariatric Surgery: Comparison of Laparoscopic Roux-En-Y Gastric Bypass and Laparoscopic Sleeve Gastrectomy: A Prospective Randomized Trial

Presenter: R. Peterli (Claraspital, Basel, Switzerland)

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Background The exclusion of the proximal small intestine is thought to play a major role in the rapid improvement in the metabolic control of diabetes after gastric bypass. In this randomized, prospective, parallel group study, we sought to evaluate and compare the effects of laparoscopic Roux-en-Y gastric bypass (LRYGB) with those of laparoscopic sleeve gastrectomy (LSG) on fasting, and meal-stimulated insulin, glucose, and glucagon-like peptide-1 (GLP-1) levels.

Methods Thirteen patients were randomized to LRYGB and 14 patients to LSG. The mostly non-diabetic patients were evaluated before, as well as 1 week and 3 months after surgery. A standard test meal was given after an overnight fast, and blood samples were collected before and after food intake in both groups for insulin, GLP-1, glucose, PYY, and ghrelin concentrations.

Result Body weight and body mass index (BMI) decreased markedly (P<0.002) and comparably after either procedure. Excess BMI loss was similar at 3 months

(43.3±12.1% vs. 39.4±9.4%, P>0.36). After surgery, patients had markedly increased postprandial plasma insulin and GLP-1 levels, respectively, (p<0.01) following both of these surgical procedures, which favor improved glucose homeostasis. Compared to LSG, LRYGB patients had early and augmented insulin responses as early as 1 week post-op; potentially mediating improved early glycemic control. After 3 months, no significant difference was observed with respect to insulin and GLP-1 secretion between the two procedures.

Conclusion Both procedures markedly improved glucose homeostasis: insulin, GLP-1 and PYY levels increased similarly after either procedure. Our results do not support the idea that the proximal small intestine mediates the improvement in glucose homeostasis.

P-074 Comparative Reduction of Comorbidities After Obesity Surgery

Presenter: R. Arnoux (Clinique Du Tondu, Bordeaux, France)

Co-authors: H. Dabadie¹

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Background The medico-surgical management of morbid obesity represents a recognized solution for its benefits on comorbidities. The kinetic of their reduction according to the type of surgery has been little evaluated in the literature. The objective of this work is to compare the reduction of three of them: type 2 diabetes mellitus (T2DM), hypercholesterolemia (HCH), and hypertension (HTN) after gastric bypass (GBP) or adjustable gastric banding (AGB) procedures.

Methods This prospective clinical trial includes 557 GBP and 481 AGB. The assessment of comorbidities was performed according to the BAROS scale: aggravated, unchanged, improved, resolved. The evolution was collected every 6 months. T-student was used.

Result Median durations of remission were: T2DM: 6 months (GBP) vs. 30 months (AGB) ; HCH: 12 months (GBP) vs. 30 months (AGB) ; HTN: 12 months (GBP) vs. 60 months (AGB). Median durations of complete remission were: T2DM: 12 months (GBP) vs. 72 months (AGB) ; HCH: 24 months (GBP) vs. 96 months (AGB) ; HTN: 48 months (GBP) vs. 96 months (AGB). Every differences were significant.

Conclusion Regression of T2DM, HTN and HCH were faster and more often complete after GBP than after AGB.

P-075 Mechanisms of Improvement of Glucose Tolerance in Obese Subjects with Type 2 Diabetes Following Bariatric Surgery: Gastric Bypass vs Sleeve Gastrectomy

Presenter: M. Nannipieri (University of Pisa, Pisa, Italy)

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Background In morbidly obese patients with type 2 diabetes (T2DM), gastric bypass (RYGB) restores euglycaemia early after surgery, but data on sleeve gastrectomy (SLV) are scarce.

Aims were to investigate extent, and mechanisms of recovery of β -cell function and insulin sensitivity in severely obese patients with T2DM by using RYGB and SLV.

Methods 14 obese-T2DM subjects (RYGB: 8, SLV: 6) were studied before, 15-days after surgery. The early effects of surgery were assessed by comparing the response to a Mixed Meal test (MMT) (before and 15 days after, with a same low caloric intake): insulin sensitivity evaluated by the MMT-derived OGIS-index and, β -cell function by modelling analysis of the C-peptide response to MMT.

Result At 15 days after-surgery, body mass index decreased to the same extent in RYGB and SLV subjects (46.6±7.8 vs 44.3±7.5 kg.m-2 and 46.4±5.2 vs 43.9±5.6 respectively, p<0.0001). Glucose tolerance improved in both groups (mean glucose-MMT: 8.2±1.9 vs 7.4±2.1 in RYGB and 8.0±1.0 vs 6.4±0.4 mM in SLV, p=0.02). Mean insulin-MMT, decreased in both groups (166±67 vs 111±46 in RYGB and 346±115 vs 233±55 pM in SLV, p=0.001). β -cell-glucose sensitivity improved in both groups (23.2±23.7 vs 46.7±38.8 in

RYGB and 44.8 ± 45.3 vs 77.2 ± 83.0 pmol.min⁻¹.m⁻².mM⁻¹ in SLV, $p=0.05$) as well insulin sensitivity (299 ± 54 vs 314 ± 51 in RYGB and 287 ± 16 vs 358 ± 44 ml.min⁻¹.m⁻² in SLV, $p=0.05$).

Conclusion Immediately after surgery, it has been found an improvement in glucose tolerance, β -cell-glucose sensitivity, with a slight improvement in insulin sensitivity. These changes of rapid onset appear similar in RYGB and SLV.

P-076 Long-Term Effects of Sleeve Gastrectomy, Gastric By-Pass and Adjustable Gastric Banding on Altered Glucose Metabolism

Presenter: N. Basso (University of Rome “La Sapienza”, Rome, Italy)

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Background To evaluate the efficacy of LSG, compared with LRYGBP and LAGB at 4 years follow-up, on glucose homeostasis in morbidly obese subjects with T2DM and to elucidate the role of weight loss in the T2DM resolution after LSG.

Methods The data of 110 patients (F/M, 77/33, mean age 49.7 years, mean BMI 46.9 and mean EW 84 Kg) IGT and T2DM morbidly obese patients who underwent LAGB(45 pts), LRYGBP(45 pts) and LSG (20 pts) between 1996 to 2008 were retrospectively analyzed. Were evaluated: age, sex, BMI, EWL, fasting glycaemia, HgA1c, euglycaemic hyperinsulinemic clamp, discontinuation of diabetes treatment and time elapsed to interrupt therapy.

Result 69 patients (43 T2DM, 26 IGT) were on oral hypoglycaemic agents for at least 12 months before surgery. 41 IGT patients were on diet. The mean follow-up period was 48 months. The IGT/T2DM resolution is reported in table:

| Follow-up: 48 months | LAGB (n=45) | LRYGBP (n=45) | LSG (n=20) |
|------------------------------------|----------------|------------------|---------------|
| T2DM (n=43) | 46.6% | 90.2% | 66.6% |
| IGT (n=67) | 86.6% | 95.2% | 100% |
| Time therapy discontinued (months) | 12.6 | 3.2 | 3.3 |

12 months after surgery, in patients who had stopped antidiabetic medications, hyperinsulinemic euglycaemic clamp test was performed. Insulin resistance was restored to normal values in all patients. The higher improvement from preoperative values occurred in the LSG group. In no cured LRYGBP and LSG pts we observed an improvement of FPG at 3 months post-op (FPG 120 mg/dl) suggesting an enhancement of insulin sensitivity which determines a better medical control.

Conclusion The mean time of drugs interruption after LSG and LRYGBP was similar. The resolution rate remained constant at 48 months follow-up both in LRYGBP and LSG groups. These data suggest that resolution of T2DM after LSG may have a weight loss unrelated mechanism as for LRYGBP.

P-077 Differential Effects of Gastric Banding and Roux-En-Y Gastric Bypass on Circulating Adiponectin and Insulin-Resistance in Obese Women

Presenter: J. M. Lacorte (AP-HP, Paris, France)

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Background Adiponectin has been shown to be a key regulator of insulin sensitivity. Low plasma levels of adiponectin are found to associate with obesity and metabolic syndrome. It is reported that gastric banding (GB) and Roux-en-Y gastric bypass (RYGBP) differently induce weight loss and improvement of metabolic disorders. We aimed to compare effects of two types of bariatric surgery on plasma adiponectin levels and relationship with insulin-resistance.

Methods A total of 214 morbidly obese women underwent bariatric surgery : gastric banding (n=42), RYGBP (n=172). Serum samples for adiponectin, glucose, insulin, triglycerides and cholesterol were obtained preoperatively

and 3, 6 and 12 months after surgery. Insulin-resistance was estimated by homeostasis model of assessment (HOMA)

Results Before surgery, BMI was higher in RYGBP group (49.41 ± 0.58 kg/m) than in GB group (46.68 ± 0.99 kg/m) but there is no difference for circulating adiponectin, triglycerides and HOMA between two groups. One year after surgery, there is decrease of BMI, HOMA and triglycerides and increase of adiponectin in both groups. Decrease of BMI ($p=0.000$) and HOMA ($p=0.049$) were higher in RYGBP group than in GB group together with higher increase of adiponectin in RYGBP ($p=0.048$). One year after surgery, level of adiponectin in the RYGBP group was higher than in control group with the same BMI ($p=0.011$).

Conclusions Plasmatic adiponectin was higher one year after RYGBP than GB and is associated with higher weight loss and better improvement of insulin-resistance. Adjusting to BMI, adiponectin levels were higher in patient after RYGBP than in patient with or without GB, likely reflecting a better glucose homeostasis.

P-078 The Beneficial Effect of Intestinal Bypass on Pancreatic Beta-Cell Function is Independent of Duodeno Jejunal Exclusion

Presenter: V. Raverdy (Lille University Hospital, Lille, France)

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Background Prior studies indicate that diabetes improves after gastric bypass (GBP) because of enhanced delivery of nutrients to the distal intestine (incretins effect) or because of altered signals from excluded segment of proximal intestine (anti-incretin effect). We compared here the evolution of beta cell function after three distinct weight loss operations including gastric restriction, and/or intestinal bypass, with or without duodeno jejunal exclusion.

Methods 227 patients (8F/2 M, 40 ± 1 years, 49 ± 1 kg/m² – mean \pm sem) with normal or impaired fasting blood glucose were enrolled in this retrospective study. All were evaluated before and one year after adjustable gastric band (AGB, n=133), gastric bypass (GBP, n=54) or biliointestinal bypass (BIBP, n=40), an intestinal bypass procedure without duodeno-jejunal exclusion. Beta cell function was assessed by the homeostasis model assessment (HOMA-2 hyperbolic product BxS), an index based on simultaneous fasting glucose and insulin measurement, which reflects the true underlying beta-cell secretion adjusted for individual insulin sensitivity.

Results All clinical characteristics and beta cell function were comparable between study groups at baseline. Insulin sensitivity (HOMA S) was significantly improved with all procedures after one year and inversely correlated with excess BMI loss ($r=0.409$; $p<0.0001$). Beta cell function increased at one year after ABG (48 ± 6 %). This increase was significantly superior and nearly equal after GBP (88 ± 12 %, $P<0.01$ vs AGB) and BIBP (89 ± 12 %, $p<0.01$ vs AGB).

Conclusions We found that weight loss operations including an intestinal bypass are associated with a dramatic increase of beta cell function in non diabetic patients when adjusted for individual insulin sensitivity. Importantly, our results did not support the critical role of duodeno-jejunal exclusion (anti-incretin hypothesis) to explain the GBP beneficial effect.

P-079 Improvement of Type 2 Diabetes Mellitus in Morbid Obesity with Laparoscopic Sleeve Gastrectomy

Presenter: E. Letessier (IMAD, Nantes, France)

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Background Type 2 diabetes mellitus (T2DM) affects more than 10% of morbid obese and is responsible for an increased morbi-mortality. The Swedish Obese Subjects study shown that an excess weight loss of more than 15% was associated with a short-term improvement of T2DM. The aim of this study was to define if Laparoscopic Sleeve Gastrectomy (LSG) could improve or cure T2DM in morbid obese.

Methods Sixty-three patients (44,6 +/-11,2 years) underwent LSG for morbid obesity in our center and were followed prospectively between 2006 and 2009. T2DM was present in 17 patients. Improvement of T2DM was evaluated by comparing medical treatments and glycosylated haemoglobin levels (normal HbA1c<6,5%) before and after LSG. The mean follow-up was 15, 9 +/-5,8 months.

Result The mean Body Mass Index before and at the end of follow-up after LSG were respectively 51,1 +/-10,2 kg/m² and 40,8 +/-9,5 kg/m² (p<0,001), with a mean excess weight loss (EWL) of 40,68%. T2DM was improved in 8 patients and cured in 7 patients, with decrease and ending of medical treatment and decrease (6,2% versus 9%) and normalisation (6,3% versus 7,9%) of HbA1c levels (p<0,01). T2DM was not improved in 2 patients with no amelioration of HbA1c levels (8,7% versus 9,3%). Median EWL was 36,4% in cured patients, 28,1% in improved patients and 8,80% in patients without improvement of T2DM.

Conclusion T2DM was improved or cured in 15 of the 17 patients who underwent LSG for morbid obesity with a median follow-up of 14 months.

P-080 Effect of Laparoscopic Sleeve Gastrectomy (LSG) on HbA1c Levels in T2DM Patients: Results at One Year

Presenter: S. Shah (Ruby Hall Clinic, Pune, India)

Co-authors: J. Todkar¹, P. Shah²

¹Ruby Hall Clinic Pune; ²Laparo Obeso Center Pune

Background Elevated HbA1c values increase risk of macro, microangiopathy, cardiovascular in T2DM patients. ADA guidelines recommend maintenance of HbA1c < 7%. This study assesses the effect of LSG on HbA1c levels in type 2 diabetics.

Methods A prospective observational study of 58 Obese diabetics undergoing LSG from 2005 to 2008 was done. The pre and postoperative Weight(kg), Waist circumference(cm), BMI(kg/m²), HbA1c (%) was recorded. %EWL and % EBL calculated. Statistical analysis was performed using Spearman Rank Correlation test.

Result N=58, M: F=33 :25, age range: 33 to 67 yrs, Duration of diabetes ranged from 6mths to 2 yrs (= <5 YRS:45, > 5 YRS :13), 52 / 58 patients were on antidiabetic medication, 6 /58 patients on diet control before operation. Pre surgery mean weight : 118.043±29.325, post surgery : 76.767±12.482, Pre surgery mean waist circumference : 117.224±17.913, post surgery : 99.655±6.661, Pre surgery mean BMI :44.613±9.496, post surgery : 29.293±4.173, Pre surgery mean HbA1c : 8.369±1.634 , post surgery : 6.064±0.468. The % EWL : 66.976±7.887 .The % EBL: 82.703±17.922 .

Conclusion Patients undergoing LSG had a significant improvement in HbA1c which had a correlation with %EWL,% EBL, Waist circumference change at the end of 1 year.

P-081 Surgical Morbidity in Patients with Type 2 Diabetes Mellitus Undergoing Bariatric Surgery

Presenter: C. Bradshaw (Imperial College Healthcare NHS trust, London, United Kingdom)

Co-authors: S. Hakky¹, A. Ahmed¹

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Background Type 2 diabetes mellitus is considered to be a risk factor for worse surgical outcome and post-operative complications, especially wound infections, renal failure and cerebral and cardiac events. Studies in cardiac surgery indicate that diabetic patients have greater post-operative morbidity and prolonged hospital stays when compared to non-diabetic patients¹. This study compared the rates of post-operative complications and length of stay in diabetic and non-diabetic patients undergoing bariatric surgery.

Methods Retrospective study of 197 patients undergoing bariatric surgery between 1st December 2007 and 28th February 2009.

Results 197 patients underwent bariatric surgery, of which 67 were type 2 diabetics. There were 96 gastric bypasses; 45 in diabetic patients, 44 sleeve gastrectomies; 15 in diabetic patients, and 57 gastric bands; 6 in diabetic

patients. There was no significant difference in average length of stay between the diabetic and non-diabetic groups (p=0.218). In the diabetic group there was a complication rate of 12.1%, while the non-diabetic group had a complication rate of 9.2% (p=0.760). There was no greater prevalence of expected complications observed in diabetic patients. There was a re-operation rate of 12.1% in the diabetic group and 11.5% in the non-diabetic group (p=0.867)(Table 1).

| | All Patients | Diabetic | Non-diabetic |
|-------------------------------|--------------|----------|--------------|
| Total number of patients | 197 | 66 | 131 |
| Average Length of Stay | 2 | 2 | 2 |
| Total number of Complications | 20 | 8 | 12 |
| Complication Rate (%) | 10.2 | 12.1 | 9.2 |
| Re-operation number | 23 | 8 | 15 |
| Re-operation Rate (%) | 11.7 | 12.1 | 11.5 |

Table 1. Summary of Results

Conclusions There is no significant difference in the rate of post-operative complications and length of stay between diabetic and non-diabetic patients. This data suggests that type 2 diabetes mellitus is not a significant risk factor for adverse surgical outcome following bariatric surgery.

References

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P-082 %EWL Correlates Better with the Improvement in Glycemic Status: Study of Anthropometric Indices in T2DM Patients Undergoing Laparoscopic Sleeve Gastrectomy(LSG) at the End of One Year

Presenter: J. Todkar (Ruby Hall Clinic, Pune, India)

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Background Bariatric surgery is evolving as metabolic surgery for resolution of Metabolic syndrome especially T2DM. This study aims to evaluate the correlation between anthropometric indices and the improvement in glycemic status in T2DM patients undergoing LSG at the end of one year.

Methods A prospective study of 58 Obese T2DM patients undergoing LSG from 2004 to 2008 was done. We evaluated the weight(kg), BMI(kg/m²), Waist circumference(cm), HbA1c % of the patients preop and at one year. The anthropometric indices measured included %EWL, %EBL, Change in waist circumference.

Result N=58, M: F::33 :25, age range: 33 to 67 yrs, Duration of diabetes from 6mths to 2 yrs (= <5 YRS:45, > 5 YRS :13), 52 / 58 patients were on antidiabetic medication and 6 /58 on diet control before operation. Presurgery mean weight : 118.043±29.325, postsurgery : 76.767±12.482, Presurgery mean waist circumference : 117.224±17.913, postsurgery : 99.655±6.661, Presurgery mean BMI :44.613±9.496, postsurgery : 29.293±4.173, Presurgery mean HbA1c : 8.369±1.634 , postsurgery : 6.064±0.468. % EWL : 66.976±7.887 . % EBL: 82.703±17.922 .The %EWL had the strongest correlation (Spearman rank correlation coefficient 0.904) for the difference between HbA1c before and after LSG. % EBL showed weakest correlation with change in HbA1c.

Conclusion %EWL is best indicator to report weight loss and reflects improvement in glycemic status in morbidly Obese patients after LSG.

P-083 Improvement of T2DM After Laparoscopic Sleeve Gastrectomy

Presenter: M. Kasalicky (2ndMedical School, Charles University and Central Military Hospital, Prague 6, Czech Republic)

Co-authors: M. Fried¹, M. Haluzik², J. Housova², D. Michalsky³

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Background Laparoscopic sleeve gastrectomy (LSG) as a single-stage procedure for the treatment of morbid obesity is becoming increasingly popular not only for superobese patients but also for those with a BMI of less than 45. On the base of presented studies it appears that LSG significantly improves T2DM. Authors present intermediate outcomes.

Methods 75 MO patients (21 males, 54 females) underwent LSG from 2006. Average age was 37,8 years (28-65), height was 168 cm (151-187), weight was 129 kg (97-181) and average BMI was 41,9 (36,1-60,7). T2DM was preoperatively diagnosed in 21(100%) patients (17 of them were on per oral antidiabetics drugs (OAD) and four were adhering on diabetic diet).

Result Two years follow-up was complete in 47 MO patients. Average weight loss was 34,3 kg (21-72), average %EBL reached 84% (64-100) and average decrease of BMI was 14,7 (7,9-17,2) two years after the procedure. During the postoperative period of 24 months T2DM completely resolved in 71 % after surgery. Hereof in 4 patients (100 %) from the diabetic diet adhered patients and in 11 patients (65 %) from the group with OAD. Near of others T2DM patients were found improvement.

Conclusion The LSG seems to be rather safe bariatric procedure with good results in weight loss, improvement of metabolic co morbidities such as T2DM and others.

P-084 Laparoscopic Sleeve Gastrectomy (LSG) Impact in Diabetic (T2DM) Obese Patients

Presenter: M. Berry (Clinica Las Condes, Santiago, Chile)

Co-authors: R. Villagran¹, P. Lamoza¹, L. Urrutia¹, H. Coñoman¹

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Background The majority of DM2 patients suffer from obesity. There is clear evidence of better metabolic control or even remission of DM2 after Bariatric Surgery. In this series we evaluate safety and efficacy of LSG in the control of DM2, conducted as a single procedure.

Methods Prospective, non-randomized study. Patients between April 2006 and July 2008. Analysis of Sex, Age, weight, Preop BMI, preoperative: fasting Glycemia, insulin, HbA1c, operating room time, morbidity, follow-up to 6 months, Postoperative BMI, EBML%, glycemia, insulin and HbA1c. Drug treatment before and after surgery.

Results 14 patients. 9 Women, 5 Men. Mean age 50.6±12.7 (24-70)years. Mean Preop BMI 38.3±6.7(31-51)kg/m², glycemia 131.9±17.6(84-158)mg/dL, Insulinemia 34.3±24.5(12-108)uU/mL, HbA1c 7.1±1.3(5.5-9.5)%. Medical treatment: 9 patients under monotherapy, 4 bitherapy and 1 patient without medical treatment. Operating room time 100.7±22.3(60-150)min. Morbidity: 1 extraluminal bleeding, no reoperations, no mortality. Mean Postoperative BMI 31.1±6.3(24.2-43.9)kg/m². EBML% 68.1±29.4(27.3-109)%. Postoperative mean glycemia 96.7±12.8(72-119)mg/dL. Insulinemia 14.2±5.7(6.9-22.2)uU/mL. HbA1c 5.5±6.7(4.4-6.1)%. 11 patients are no longer under medication and 2 decreased dosage, the remaining patient did not require treatment.

Conclusion LSG is a safe procedure. It proved to be effective in weight loss and metabolic control with significant reduction in levels of glycemia, insulinemia and HbA1c. Longer Follow up is necessary.

P-085 Prohormone Convertase (PC1/3) Jejunum MRNA Expression may be Related to Morbidly Obese Type 2 Diabetes Mellitus

Presenter: R. M. Guaragna (Universidade Federal Do Rio Grande Do Sul, Porto Alegre, Brazil)

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Background Bariatric surgery is the most effective therapeutic option for obesity and its complications, especially in type 2 diabetes; this can be for the exclusion of part of gastrointestinal tract with endocrine activity. The aim of this work was to investigate the mRNAs expression of proglucagon (GLP-1 precursor), GIP, PC1/3 and DPP-IV in the gastrointestinal jejunum cells of morbidly obese (OB).

Methods jejunum mucosal samples were obtained at 60 and 100 cm from ligament Treitz, of 25 OB: 17 non type 2 diabetes mellitus (NDM2) and 8 type 2 diabetes mellitus (T2DM) respectively. Total RNA was extracted using TRIzol. Reverse transcripts of genes studied were determined by the quantitative real-time polymerase chain reaction (qRT-PCR).

Results NDM2 and T2DM subjects showed no statistical different proglucagon, GIP and DPP-IV mRNA, because the patients present heterogeneous expression. PC1/3 mRNA was not detected in jejunum of all patients. Only NDM2 present more PC1/3 mRNA expression with a tendency statistically significant (p=0.065). PC1/3 was correlated negatively with BMI, waist and hip. Proglucagon mRNA expression was negatively correlated with HbA1c. Triglycerides, cholesterol and glucose elevated in T2DM were normalized three months after surgery.

Conclusion At 60 or 100 cm of jejunum, morbidly obese NDM2 and T2DM presented heterogeneous incretins and enzymes mRNA expression without difference. PC1/3 and proglucagon may be related to the development of obesity and to the clinical outcome of OB. Heterogeneous mRNA expression of all genes studied in obese NDM2 and T2DM, may be modulated by epigenetic factor.

P-086 Surgical Treatment Seems to be More Effective than Medical Treatment for Patients with Bmi 30 - 35

Presenter: C. Boza (P. Universidad Católica de Chile, Santiago, Chile)

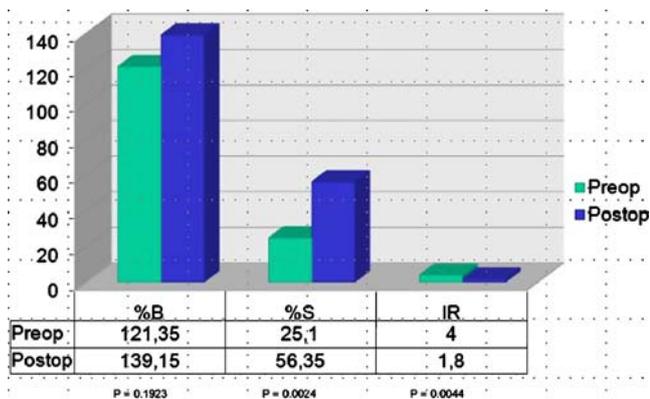
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Background The aim of our study is to evaluate efficacy of surgery in patients with mild obesity (BMI between 30 – 35 kg/m²) in terms of weight loss and complications.

Methods We conducted a review of our prospective electronic database of patients who underwent laparoscopic sleeve gastrectomy (LSG) or laparoscopic Roux-en-Y gastric bypass from November 2005 to December 2007. Clinical charts of patients who underwent a weight loss medical program at our institution were reviewed.

Result The surgical group (SG) consisted of 167 patients with a preoperative BMI between 30 and 35 kg/m², they underwent either a LSG (49.7%) or a LRGB (50.3%). These patients were randomly matched to 78 patients who carried out a weight loss medical program (medical group, MG) in terms of sex, age and BMI. Percentage of women was 85.6% for SG and 75.6% for MG (NS). Average age was 37.4±10.8 years for SG and 39.5±13.6 for MG (NS). Median BMI was 32.8 (30–34.9) kg/m² for SG and 32.6 (30–35) kg/m² for MG (NS). In the SG, conversion to open technique was 0%, operative time was a median of 85 (40-360) minutes. No reoperation 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%). Excess weight loss 1 year after surgery was a median of 111% (53–197) for SG and 21.8% (10–143) for MG.

Conclusion Surgical treatment for mild obesity seems to be more effective than traditional medical weight-loss program with acceptable morbidity.

P-087 One Anastomosis Gastric Bypass (BAGUA) as Procedure for Metabolic Surgery: Evolution of a Patient During the First Postoperative Year

Presenter: M. Garcia-Caballero (University Malaga, Malaga, Spain)

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Introduction The effect of bariatric surgery on healing the comorbidities of morbid obese patients, prompt us to think that they could also solved type II diabetes and other comorbidities in non obese patients that presented the above mentioned diseases.

Diabetes Mellitus type II due to its high frequency, the impact of chronic complications and factor of cardiovascular risk would be the most important indication.

Objectives To review the indication and first year evolution of a patient 34 BMI with Diabetes Mellitus type II of difficult control (until 600 IU insulin/day) operated by metabolic surgery with BAGUA.

Material and Methods Male patient 34 years old with family history of DM type II diagnosed in 2004 of type II DM after hyperglucemic coma. Glicemia 370 mg/dl, Hb glicosilade 13,2%, Ferritine 1144 ng/ml. Glucosuria 1000 mg/dl y microalbuminuria 16.6 mg/dl. Polidipsia and poliuria (4 l/día). Fatty liver with increased enzyme levels. Two try of suicide and anxiety in treatment. Was treated by oral anti-glicemic drugs and insulin between 180 and 600 IU/day. Send to us by endocrinologists for surgery that we performed 01-02-08 by BAGUA excluding 150 cm jejunum distal to Treitz ligament.

Results Glicemia was 125 mg/dl since the first postoperative day. During the first 4 months he do not need any anti-diabetic treatment. Since June 2008 Avaglim 8 mg/4 mg. The liver levels were normalized. He loosed 25 kg in spite of no alimentary restriction. He do not need more psychological treatment. He have an intense work and sportive life that he could not have before the operation.

Conclusions Metabolic surgery by BAGUA excluding 150 cm jejunum for type II DM of difficult control with conservative treatment, have demonstrated in this case to avoid the necessity of use insulin and solved all other metabolic and psychological problems of the patient. However although during 4 months the patient do not need any treatment, after that he need use oral anti-diabetic drugs.

P-088 Early Metabolic Effect of Roux-En-Y Gastric Bypass (RYGB) on Insulin-Resistance in Morbidly Obese Type 2 Diabetic (T2DM) Subjects

Presenter: S. Camastra (University of Pisa, Pisa, Italy)

Recent evidence has shown that biliopancreatic diversion, a predominantly malabsorptive procedure, restores peripheral insulin-sensitivity early after surgery before important weight loss. RYGB, a predominantly restrictive surgery, also has been associated with hormonal changes and improved HOMA-IR prior to substantial weight loss. However, there are no data regarding the early effect of RYGB on directly measured insulin sensitivity, endogenous glucose production (EGP) and acute insulin response to intravenous glucose (AIR). We studied eleven morbidly obese T2DM subjects (49±2 years, BMI = 49±2 kg.m⁻²) before and 19±1 days after RYGB with the euglycaemic hyperinsulinaemic clamp in combination with tracer infusion (6,6-2H₂-glucose; 1-2H-glycerol) to measure EGP and whole-body lipolysis, respectively. AIR was measured with C-peptide deconvolution. After surgery, body weight decreased by 7% (133±9 vs 123±8 kg, p=0.003). Fasting plasma glucose (7.9±0.6 vs 6.8±0.4 mmol/l, p=0.01) and insulin levels (Ins=162±26 vs 92±13pmol/l, p=0.003) were significantly reduced. On the clamp, peripheral insulin-sensitivity was increased (MI = 46±6 vs 33±7mol/min/kgFFM/pM, p=0.03). EGP was not modified (EGP = 12.6±0.7 vs 11.4±0.7mol/min/kgFFM, p=ns) but the hepatic insulin resistance index (EGPxlins) was reduced (2.26±0.36 vs 1.25±0.12 mmol/

min/kgFFM/pM, p=0.04) as was whole-body lipolysis (rate of systemic glycerol appearance) (494±51 vs 267±43mol/min, p=0.02). AIR, on the other hand, did not change (65±19 vs 67±20pmol/min/m²/mM, p = ns). We conclude that in morbidly obese T2DM subjects RYGB is associated with an early improvement in glycaemia due to increased peripheral, hepatic and adipose tissue insulin sensitivity, while beta cell function is unchanged. As weight loss at this time postsurgery is minimal, these metabolic changes are likely to be the result of calorie restriction.

P-089 Diabetics Have Poorer Weight Loss Following Gastric Band and Bypass Surgery but Not Following Duodenal Switch

Presenter: C. Magee (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

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Background Diabetic patients are known to have significant improvement in their condition following bariatric surgery, although there is no clear consensus as to whether malabsorptive or restrictive procedures are better. The aim of this study was to assess whether the type of bariatric procedure performed affected weight loss differently in diabetic patients.

Methods All patients who underwent a primary bariatric procedure (laparoscopic gastric bypass [LRYGB], laparoscopic gastric band [LAGB] or laparoscopic duodenal switch [LDS]) were identified from a prospective database. Data were analysed by the Mann-Whitney U (MWU) test using SPSS 16.0.

Result Nine hundred and forty-eight cases were studied (342 LAGB, 489 LRYGB and 117 LDS). There were 219 diabetic patients. In the LAGB group, diabetics (n=34) lost less excess weight than non-diabetics at one-year (30% vs 38%, P=0.028 MWU) and two-year follow-up (36% v 56%, P=0.038 MWU). Similarly, in the LRYGB group, diabetics lost less excess weight than non-diabetics at one-year follow up (62% v 72%, P=0.0009) and two-year follow-up (67% v 80%, P=0.024 MWU).

In contrast, there was no significant difference in excess weight loss in diabetics following duodenal switch at one and two years (68% v 75%, P=0.58 MWU and 88% v 92%, P=0.48 MWU).

Conclusion Diabetic patients have a poorer outcome in terms of weight loss following gastric banding and gastric bypass than following duodenal switch. Furthermore LDS produces similar outcomes in diabetic and non-diabetic patients.

P-090 The Utilization of Exenatide as a Predictor of Success for the Resolution of T2DM in Patients with BMI < 30 Kg/M2 After Laparoscopic Ileal Interposition

Presenter: A. Halpern (Hospital das Clínicas, Faculty of Medicine, University of Sao Paulo, São Paulo, Brazil)

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Background The laparoscopic ileal interposition in the proximal jejunum is a surgical procedure with a high rate of resolution of type 2 diabetes mellitus (T2DM) in obese and non obese patients. The most possible rationale for this resolution is the enhancement in glucagon-like peptide-1 (GLP-1) production after the operation. Therefore, we advocate that a very good therapeutic response to exenatide (Byetta, Lilly), a GLP-1 analogue produced by *Gila monster*, could be a strong predictor of success with this sort of surgical procedure.

Methods We describe a 54 year-old female patient with a 20-year duration T2DM. Her body mass index was 27 kg/m, fasting plasma glucose 146 mg/dl and HbA1c 7.8% and she wanted to be submitted to a metabolic operation. She has received exenatide for four months, losing weight (BMI 25 kg/m)

and improving the T2DM control (fasting plasma glucose 132 mg/dl, HbA1c 7.3%). She was then submitted to laparoscopic ileal interposition.

Result One year after the surgical procedure she weighs 58.4 kg (BMI 21.2 kg/m²), her fasting glucose levels are 98 mg/dl and the HbA1c is 6.7%, without any antidiabetic medication.

Conclusion We propose that a good therapeutic response to a GLP-1 analogue predicts the resolution of T2DM with laparoscopic ileal interposition.

P-091 Laparoscopic Bariatric Surgery is Very Effective for the Treatment of Obesity-Related Diabetes

Presenter: M. Pellen (Castle Hill Hospital, Hull, Hull, United Kingdom)

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Background To compare the efficacy of Laparoscopic Gastric Banding (LGB) and Laparoscopic Roux-en-Y Bypass (LRYGB) for the treatment of Diabetes in morbidly obese patients.

Methods A retrospective analysis of morbidly obese patients with Diabetes Mellitus undergoing laparoscopic bariatric intervention.

Results Between June 2001 and November 2008, 133 morbidly obese diabetic patients underwent laparoscopic bariatric surgical interventions. 81%(107) underwent LRYGB and 19%(25) underwent LGB. 63% were female. The median age (range) was 45(18-69) years. The median postoperative follow up was 12(2-86) months. The median preoperative BMI was 47(32-75) kg/m². The median postoperative BMI was 39 (28-59) kg/m². Seven patients (5.5%) were lost to follow up. 82%(103) were cured or had significant improvement in their diabetes. Of 25 patients with Insulin Dependent Diabetes 40%(10) were cured and off all diabetic medication. Of 101 patients with Non-Insulin Dependent Diabetes, 68% (69) were cured of their diabetes. Seventy-six percent (67) of patients undergoing LRYGB were cured of their diabetes compared with 42% (12) undergoing LGB ($p < 0.05$, Chi square test). Median percent excess weight loss was (63 (18-148) % vs 31 (5-61) % . $p < 0.05$, Mann-Whitney test) respectively.

Conclusions Bariatric surgery is very effective for the treatment of both insulin and non-insulin dependant diabetes in morbidly obese patients. LRYGB is more effective than LGB. This is likely related to a greater weight loss.

P-092 Type 2 Diabetes Resolution After Bariatric Surgery. Scopinaro's Biliopancreatic Diversion

Presenter: T. Gonzalez de Francisco (Complejo Asistencial de León, León, Spain)

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Background Type 2 diabetes has been found to resolve or improve in a great majority of patients after bariatric surgery.

Methods Retrospective analysis of our database of morbidly obese patients who underwent biliopancreatic diversion from June 1998 to January 2009. Descriptive data are shown as mean (standard deviation).

Results 161 patients underwent biliopancreatic diversion: 81,4% female, age 41,3 (SD 11,2), initial weight 137,3 Kg(SD 21,3), initial BMI 52,9 kg/m² (SD 7,5, range 40,0-76,4) . 35,6% of the patients were type 2 diabetics (T2DM), 13,6% had impaired glucose tolerance or impaired fasting glucose and 18,6% had insulinresistance with normal glucose levels. 97,6% of the T2DM patients were resolved after bariatric surgery: diabetes was considered "cured" at a mean of 6,2 months after surgery. 66,9% of the patients met IDF criteria for the metabolic syndrome, but it was resolved in 96,2% of patients after surgery. Mean plasma glucose was 113,3 mg/dl (SD 43,5), Hb A1 c 6,6% (SD 2,7), insulin 15,9 pg/mL (10,7) and 1 year after surgery glucose 82,6 mg/dl (SD 43,5), Hb A1 c 3,3% (SD 2,7), insulin 8,6 pg/mL (10,7) in the global group. In the subgroup of diabetic patients, Mean plasma

glucose was 146,6 mg/dl (SD 58,2), Hb A1 c 8,1% (SD 2,7) and 1 year after surgery glucose 87,9 mg/dl (SD 12,7), Hb A1 c 3,8% (SD 2,0).

Conclusion Biliopancreatic diversion is an effective way of resolving type 2 diabetes in morbidly obese patients.

P-093 Improvement of Proteinuria After Bariatric Operations: Does it Reverse Renal Damage in Hypertensive and Diabetic Patients?

Presenter: A. Keidar (Hadassah Medical Center, Jerusalem, Israel)

Co-authors: C. Schweiger¹, R. Weiss¹, I. Raz¹

¹Hadassah Medical Center Jerusalem Israel

Background It has been consistently shown that bariatric operations result in high rates of diabetes remission. Little is known, however, about end-organ damage reversal after this type of surgery. We aimed to investigate the effect of bariatric surgery on proteinuria and microalbuminuria.

Methods Through a retrospective analysis of our prospective database of two hundreds seventy patients (all with a BMI > 35) that underwent bariatric operations between Feb 2006 and March 2009 we identified 18 patients (15 males, 3 females; age 49±6.6 years) with preoperative evidence of either microalbuminuria (<30 mg/g microalbumin/creatinine ratio) or proteinuria (> 150 mg/24 h) and at least 6-months postoperative follow-up (range 6-34). Three patients had microalbuminuria, while 15 patients had frank proteinuria. Seventeen patients had Type 2 Diabetes (T2D) or impaired glucose tolerance. Also, hypertension was present in 17/18 patients. The operations performed included 9 Roux-en-Y gastric bypass, 2 Biliopancreatic Diversion with Duodenal Switch, 5 Sleeve Gastrectomy, and 2 Gastric Banding.

Result In 10 out of 18 patients there was a complete normalization of the urinary protein and microalbumin excretion; 6 patients had major improvement and two no significant change. Mean urinary protein and Alb/Cre ratio were 181 mg/24 h (13-617), and 42.7 (4-60), respectively. In all 17 patients with preoperative diabetes there was either a major improvement or resolution of diabetes postoperatively. Excess weight loss in the whole group was 49.8± 18%.

Conclusion Bariatric surgery resulted in resolution or major improvement of proteinuria in most of our diabetic and hypertensive patients. More research is warranted to define the exact mechanisms involved and the clinical significance of this phenomenon.

P-094 Unrealistic Expectation for Weight Loss After Weight Loss Surgery Seems to be Commonplace

Presenter: B. Snyder (University of Texas in Houston, Houston, United States of America)

Co-authors: E. Wilson¹, T. Wilson¹, B. Leong¹, C. Klein¹

¹University of Texas at Houston Houston United States of America

Background While most bariatric surgeons try to help patient achieve a realistic goal weight after surgery, patients are often disappointed that they have not reached "ideal" body weight.

Methods At the University of Texas in Houston, we collected the expected goal weights of 125 gastric banding patients and 36 gastric bypass patients. Then we calculated what percent excessive weight loss (%EWL) that would mean for them.

Result Despite abundant education about the procedure and the average weight loss for our patients in our program, patients drastically overestimated the %EWL they would obtain. In the banding group, 88 out of 125 patients (70%) expected to lose more than 80% excessive weight (EW). For the bypass group, 24 of the 36 (67%) patients expected to lose more than 90% EW.

Conclusion Despite lengthy discussion and educational processes, patients have a set image or number in their mind. This goal weight is overinflated and may lead to disappointment in some patients. Having patients reach out for more obtainable goals will ultimately result in repeated success and positive reinforcement for the patients. Bariatric surgeons should stress the realistic goal weights for their patients.

P-095 Obesity as a Risk Factor for Hepatocellular Carcinoma (HCC)**Presenter: C. Guillat (Hopital de la Croix Rousse, Lyon, France)**

Background HCC has become a common occurrence among obese and diabetic individuals. This work reviews evidences assessing obesity as a risk factor for HCC.

Methods Studies regarding occurrence of HCC in obese patients were reviewed, together with the author's experience both in liver and bariatric surgery.

Result

- Epidemiological studies demonstrated an increased risk of HCC in obese and diabetic patients
- Obesity and diabetes are frequently associated with non-alcoholic fatty liver disease (NAFLD)
- NAFLD is considered the hepatic manifestation of the metabolic syndrome
- Obesity, diabetes and NAFLD are often found in patients with HCC developed on cryptogenic liver disease
- There is data suggesting that NAFLD can initiate malignant transformation, particularly in patient with fibrosis or non-alcoholic steatohepatitis (NASH)
- Bariatric surgery results in a decrease of cancer-related mortality. However there is still insufficient data to assess outcome of NASH and fibrosis after surgery.

Conclusion There is evidence that obesity is a risk factor for HCC, particularly in patient with metabolic syndrome.

Further studies are necessary to assess the benefit of bariatric surgery to prevent HCC.

P-096 Intermittent Vagal Blocking with an Implantable Device Reduces Maximum Tolerated Volume (MTV) During a Standardized Nutrient Drink Test in Obese Subjects**Presenter: M. Herrera (Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran (INCMNSZ), Mexico City, Mexico)**

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Background An implantable device that intermittently blocks intra-abdominal vagal trunks has been shown to cause significant excess weight loss (EWL) in obese subjects. At 12 months, mean EWL in 12 patients with vagal block (VBLOC therapy) was reported to be 29%. The hypothesis was that VBLOC therapy results in increased satiation. The aim of this study was to assess the effect of chronic VBLOC therapy on maximum tolerated volume (MTV) during a standardized nutrient drink (satiation) test.

Methods Obese subjects were implanted at one center in an open-label study. Subjects underwent standardized nutrient drink tests at baseline and after at least 12 months of VBLOC therapy. At each evaluation, subjects ingested Ensure (1 kcal/ml) in 120 ml volumes separated by 4 minute intervals until maximum tolerated satiation. MTV was calculated as total volume ingested.

Result Eight subjects (5 females and 3 males, age 42±5 yrs, BMI 40±4 kg/m², weight 105±4 kg; mean ± SE) completed follow-up visits after the chronic VBLOC treatment period (range 13-17 months). EWLs in this cohort ranged from 8% to 54% (mean EWL 19%) at the time of evaluation of satiation. Baseline MTV was 1383±161 ml. Following chronic VBLOC therapy, MTV was reduced by 246±122 ml relative to baseline (P=0.05), representing a mean decrease of 18% in ingested volume at maximum satiation. Seven of these 8 subjects had reductions in MTV (mean 306±122 ml) from a mean baseline of 1397±185 ml (P=0.02), representing a mean decrease of 22% in ingested volume at maximum satiation. VBLOC therapy was well tolerated.

Conclusion Intermittent, intra-abdominal vagal blocking to treat obesity resulted in reduction of maximum tolerated volume during a standardized nutrient drink test. These findings provide objective evidence that chronic VBLOC therapy results in early fullness in obese subjects, and this is sustained for at least one year after onset of therapy.

P-097 Does BMI Underestimate Obesity and Surgical Eligibility?**Presenter: C. Buffington (Florida Hospital Celebration Health, Celebration, United States of America)**

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Background Overweight and obesity are generally categorized according to BMI. However, overweight and obesity are conditions associated with excess body fat. In the present study, we determined the percentage of individuals with excessive body fat who, according to BMI criteria, are classified as lean, overweight or obese.

Methods The study population included 162 males (mean age=49 years) and 77 females (mean age = 48 years). Body fat composition was determined by air displacement (Bod Pod). Metabolic assessments included lipids, glucose, C-reactive protein, homocysteine, and blood pressure.

Result The data show that the categorization of obesity according to BMI criteria significantly (p<0.0001) underestimates the numbers of individuals with excess and high excess body fat composition. Among individuals considered lean (BMI<25), 56% of males and 50% of females had excess or high excess body fat, defined as > 20% and > 30% for males, respectively, and > 30% and > 40% for females. Individuals with excess body fat, as compared to those with normal fat composition, had higher systolic and diastolic blood pressure (p<0.05), lower HDL (p<0.01) and significantly (p<0.01) greater levels of glucose, C-reactive protein, homocysteine, apolipoprotein B, and triglyceride.

Conclusion BMI significantly underestimates the number of individuals with excess or high excess body fat. Excessive body fat is associated with a number of metabolic abnormalities. The findings suggest a need for the inclusion of body fat composition in the classification of obesity. Such reclassification of obesity would likely increase significantly the numbers of individuals eligible for bariatric surgery.

P-098 Surgery Concerns and Desired Outcomes of Potential Bariatric Candidates**Presenter: P. Toor (Florida Hospital Celebration Health, Celebration, United States of America)**

Co-authors: A. Rao¹, K. Kim¹, E. Parra Davila¹, T. Damon¹, C. Buffington¹

¹Florida Hospital Celebration Health Celebration United States of America

Background Severely obese individuals either choose or fail to choose surgery for a variety of reasons. In the present study, we have surveyed surgery-eligible persons attending bariatric surgery information sessions in order to identify their primary surgical concerns and desired outcomes.

Methods The questionnaire instructed individuals to rank what they consider the most important aspect of bariatric surgery. Choices included safety, costs, effectiveness (ability to reach weight loss goals), and durability (long-term weight loss maintenance). The questionnaire also instructed participants to rank what they consider the most important outcome of surgical weight loss, i. e. health benefits, cosmetics, mobility, improved life quality.

Result Among the survey population, nearly everyone was severely obese, i. e. BMI = 45.7±7.7 (mean + SD) and had one or more major co-morbidities (mean + SD=2.9±2). According to the survey findings, the majority (67%) of potential bariatric candidates ranked safety as the most important aspect of a bariatric procedure, followed in order by durability, effectiveness and cost. All

individuals surveyed (100%) ranked health issues as the primary desired weight loss outcome.

Conclusion Among individuals seeking information about surgery, safety is a major issue and health improvement the most important desired outcome. These findings suggest that in providing bariatric information to potential candidates, special emphasis should be placed on the low risks of surgery and the high rates of co-morbid disease improvement and/or resolution.

P-099 To a Question of Obesity Epidemiy and to Necessity of Bariatric Operations

Presenter: M. Fishman (Medical State University, St.Petersburg, Russian Federation)

Co-authors: V. Sedov¹

¹Medical State University St.Petersburg Russian Federation

Background Obesity and accompanying diseases are considerable medico-social and economic problem of modern society. Obesity statistic data for Eastern and Western Europe and North America are well known and studied. On the other hand data about Russia are not so well presented.

Main goal for our study was to identify the degree of obesity and metabolic syndrome spreading among the population of North-Western region of Russian Federation (NW RF).

Methods In accordance with WHO recommendations two areas of NW RF were overlooked in search of patients suffering from obesity (BMI), Arterial hypertension (AH, 5993 patients), Diabetes of I and II type (DM) (6949 patients) and 1082 cases of ischemic stroke. Statistic analysis was conducted, using Descriptive statistics methods, parametric and nonparametric analysis.

Result At NW RF obesity was found in 14,1% of males and 27,3% of females. Abdominal type of obesity is more common for women. Among patients with II type of Diabetes 38,1% males and 49,5% of females suffer from obesity. Distribution peak reaches it's max at 30-39 y.o. AH was found in 59,6% of males and 63,8% females. Thus, for the patients with II type of diabetes obesity and AH combination is common regardless of age and sex. If we will take a look at the main complication of AH – ischemic stroke, it was proven that in most cases all fatal complications occurred if such risk factors as acute heart attack, atrial fibrillation (AF) and diabetes combined. Combination of DM and F 6 times exceeds frequency of acute heart attack.

Conclusion NW RF had gained all the diseases of "the developed society". Our results show that it is necessary to begin correcting obesity with the help of bariatric operations in the youngest possible cohort.

P-100 Bariatric Surgery Decreases the Inflammatory Response in the 6 Months Post-Operatory

Presenter: C. A. Malheiros (Santa Casa School of Medicine - São Paulo, São Paulo, Brazil)

Co-authors: W. Freitas JR¹, M. Saleh², M. Taha¹, M. Bertolami²

¹Santa Casa School of Medicine São Paulo Brazil; ²Dante Pazzanese Institut of Cardiology São Paulo Brazil

Background Severe obesity constitutes an isolated risk factor in cardiovascular diseases which are of a known inflammatory bent. Some techniques make up a good method of treatment for morbid obesity, such as gastroplasty. The inflammatory response is believed to be increased in obese patients and it can undergo changes, depending on changes in the physical state of the patients. Our objective was to evaluate the behavior of the High-sensitivity C-reactive protein (hs-CRP) by means of serum dosage in patients submitted to surgical treatment for obesity with gastroplasty.

Methods Of the 25 obese patients studied, 23 were female and 2, male, with an average age of 39+9.7 years (23-58 years), a BMI of 47.5+6.2 and a waist size of 133.9+10.5 cm. The hs-CRP was dosed in the pre-operative and 6 months into the post-operative, with statistical analysis.

Results The patients were analyzed in the pre-operative and 6 months into the post-operative. There was a reduction in weight from 127+22.5 kg to 85.3+20 kg; and in the BMI, from 47.5+6.2 to 31.7+5.7 kg/m². The laboratory data

showed a significant reduction in the hs-CRP which varied from 0.89+0.6 (with a normal value of 0.50 for the material utilized) to 0.25+0.25, with p<0.05.

Conclusion The weight loss 6 months after gastroplasty led to a reduction in inflammatory levels measured with hs-CRP from 0.89 to 0.25 (with a normal cutoff of 0.50).

P-101 Creation and Validation of the Measured Outcome Results of Bariatric Interval Data: the Morbid Score

Presenter: B. Snyder (University of Texas in Houston, Houston, United States of America)

Co-authors: T. Wilson¹, B. Leong¹, E. Wilson¹, C. Klein¹

¹University of Texas in houston Houston United States of America

Background The bariatric community is in desperate need of a quality controlled, standardized outcome scoring system to determine the "success or failure" of patients after bariatric surgery. This system should be created such that it can be statistically manipulated to provide meaningful conclusions.

Methods We collected the Moorehead-Ardelt quality of life (MA-QoL) score of 330 consecutive post operative bariatric patients and used our prospective database to calculate weight loss and change in co-morbid ailments. Interval data was created by multiplying percent of excessive weight loss and co-morbid conditions worsened, improved or resolved by a constant of 3 so that they would equally balance with the QoL score. In addition, we sought good results to comprise low MORBID scores and desired only positive numbers; therefore the negative values of the scores were scaled into a positive range. To show the utility of the score, the total BAROS and MORBID scores were compared using correlation coefficients.

Results The median BAROS score was 3.3+/-1.3 compared to the MORBID median score of 5.6+/-2.2. When scores were compared using Pearson's correlation coefficient there was a significant correlation (r=0.91).

Conclusion The BAROS and the MORBID scores represent similar descriptions of outcome; however, the MORBID score gives interval data. Consequently, it is invaluablely useful in that it allows the use of interval statistical descriptions to investigate the variables that lead to particular outcomes.

P-102 Morbidity and Mortality After Bariatric Surgery in Sweden: A Nationwide Population Based Study

Presenter: M. Plecka Östlund (Unit of Upper Gastro-intestinal Research, Stockholm, Sweden)

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Background Bariatric surgery results in a reduction of co-morbidities and mortality compared to non-operated obese persons. It is unclear if this reduction approaches the mortality and morbidity seen in the general population.

Methods A nationwide, population-based cohort study consisting of 13,301 patients identified in the National Patient Register who underwent bariatric surgery between 1980-2006. Each patient was compared with 10 controls, selected from the general population (Total Population Register) and matched with regard to sex, age and socioeconomic status. Logistic regression was used to calculate hazard ratios (HR) with 95% confidence interval (CI).

Result The preoperative risk of obesity-related co-morbidities was higher in the surgical cohort. After surgery the adjusted risk remained elevated for studied co-morbidities: myocardial infarction (HR 1.6; 95% CI 1.4-1.8), angina pectoris (2.1; 1.9-2.3), stroke (2.1; 1.8-2.3), hypertension (2.4; 2.3-2.6) and diabetes (1.7; 1.5-1.8). The adjusted risk of mortality was increased in the surgery cohort compared with the general population (HR 1.2; 95% CI 1.1-1.3), and no gender difference was identified. The most common cause of

death in the surgery cohort was coronary heart disease, followed by cancer, while the opposite was seen in the general population.

Conclusion Bariatric surgery does not appear to decrease the risk of in-patient care for obesity-related co-morbidities to population levels. The mortality remains elevated after surgery, but the pattern of death is different in the post-surgical obese population compared to the general population.

P-103 Population-Based Risk of Obesity-Related Cancer After Bariatric Surgery

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Background Obesity increases risk of several cancers. Bariatric surgery improves the prognosis in obese patients, but its role in preventing obesity-related cancer is unknown. We addressed the hypothesis that risk of obesity-related cancer decreases with time after bariatric surgery.

Methods A nationwide, population-based cohort study of bariatric surgery in 1980-2006 as registered in the Swedish Patient Register. Cohort members' risk of developing overall obesity-related cancer and groups of obesity-related cancer (breast, prostate, colorectal, endometrial, kidney) were compared with the risk of the Swedish background population of corresponding age, sex, and calendar year. New cancers were identified through the Swedish Cancer Register. Standardized incidence ratio (SIR) with 95% confidence intervals (CI) estimated relative risk.

Result Among 13,123 bariatric surgery patients, contributing with 125,049 person-years of follow-up, 296 new cases of obesity-related cancer were identified. There was no overall decreased risk of obesity-related cancer (SIR=1.04, 95% CI 0.93-1.17) or any decrease with time after bariatric surgery (p for trend 0.40). There was however a decreased risk of breast cancer (SIR=0.55, 95% CI 0.44-0.68), and the risk of prostate cancer seemingly decreased with time after surgery. The risk of colorectal cancer increased with time (p for trend 0.01). The risk of endometrial and kidney cancer remained about 2-fold and 3-fold increased, respectively, during follow-up.

Conclusion Bariatric surgery might not be entailed by an overall decreased risk of obesity-related cancer, while reduced risks of breast and prostate cancer and increased risk of colorectal cancer were indicated. The divergent risk development of specific cancers suggests differences in obesity-related carcinogenic mechanisms between cancer types.

P-104 Pulmonary Function Profile of Obese Patients in Pre-Operative Roux-En-Y Gastroplasty Bypass

Presenter: M. Melendez-Araújo (Clínica Dr. Sérgio Arruda - Cirurgia Geral e Bariátrica, Brasília, Brazil)

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Background Android fat distribution in obese individuals may influence negatively ventilatory function by decreasing diaphragmatic excursion. The purpose of this study is to evaluate the correlation between waist circumference (WC) and fat distribution, through waist-to-hip ratio (WHR), with pulmonary function in obese patients

Methods From 114 patients tested by spirometry, 93 (81,5%) were women. Two groups were divided regarding WHR, first group (GA) with 55 (48,2%) patients and android distribution (fem.:WHR > 0,85; male:WHR > 0,90). In the second group (GG) with 59 (51,8%) patients and gynoid distribution (fem.: WHR 0,85; male:WHR 0,90). In both groups, were correlated WHR and WC

with Forced Vital Capacity (%FVC) and FEV1/FVC. The groups were compared each other by unpaired t test for pulmonary test values.

Result Mean BMI in GA was $42,5 \pm 4,9$ kg/m² and in GG was $42,1 \pm 5,3$ kg/m². Mean FVC% in GA was $93,8 \pm 17,5$ and in GG was $94,6 \pm 14,1$. Mean FEV1/FVC in GA was $0,85 \pm 0,06$ and in GG was $0,84 \pm 0,07$. Mean WC in GA was $117,1 \pm 12,1$ cm and in GG was $105,5 \pm 7,90$ cm. FVC % < 0,75 was found in 6 patients (10,9%) in GA and in 2 patients in GG (3,4%) [$p=0,15$]. In both groups, there were no correlation between WHR and FVC% and WHR and FEV1/FVC. It was found negative correlation between WC and FEV1/FVC in GA [$p=0,02$]($r=-0,31$; $r^2=0,09$). There was no correlation between WC and FVC%. In GG, there were no correlation between WC and FVC% and WC and FEV1/FVC. No statistical significance was found when comparing means of FVC%, FEV1/FVC in both groups.

Conclusion There was a negative correlation between android distribution and FEV1/FVC and no other correlation was found. Although the major prevalence of FVC % < 0,75 in GA (10,9%) against 3,4% in GG, it was not statistically significant in this study.

P-105 Metabolic Analysis of Obese Patients with Hepatic Steatosis Submitted to Bariatric Surgery

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Background Non-alcoholic fatty liver disease (NAFLD) has a prevalence of 50-75% in obese patients and obesity and insulin resistance are major risk factors for metabolic syndrome in NAFLD. The purpose of this study is to compare the metabolic profile of patients with and without hepatic steatosis before bariatric surgery

Methods 435 patients were evaluated with abdominal ultrasound. This exam results was correlated with anthropometric data (BMI and abdominal circumference-AC), biochemical tests, duration of surgery and incision size

Result There were 362 women (83,2%). The mean age was $37,1 \pm 10,4$ years; BMI was $42,0 \pm 4,7$. 279 patients (64,1%) had hepatic steatosis (group E1). Thus, 222 (61,3%) were women and 57 (78,0%) were men [$p=0,0096$]. The mean BMI from E1 was $42,0$ kg/m² compared to $41,9$ kg/m² in the group without fatty liver (group E2) [$p=0,43$]. The mean ages in E1 and E2 were 38,7 years and 34,2 years respectively [$p<0,0001$]. Triglyceride mean level was $178,0 \pm 121,4$ mg/dl in E1 and $132,9 \pm 67,7$ mg/dl in E2 [$p<0,0001$]. TGO mean level was $27,2 \pm 13,7$ U/l in E1 and $21,4 \pm 6,8$ U/l in E2 [$p<0,0001$]. The mean TGP level in group E1 was $36,7 \pm 24,5$ U/l and in E2 $26,3 \pm 14,8$ U/l [$p<0,0001$]. AC mean in E1 was $111,7 \pm 11,9$ cm and in E2 $107,2 \pm 9,3$ cm [$p=0,0045$]. Surgical procedure mean duration in E1 was 3,0 hours and in E2 was 2,9 hours [$p=0,97$]. Mean incision size was $10,7 \pm 1,8$ cm in E1 and $10,0 \pm 1,6$ cm in E2 [$p=0,0001$]. HOMA-IR mean level was $5,3 \pm 4,7$ in E1 and $4,16 \pm 3,1$ in E2 [$p=0,0002$]. Metabolic syndrome was present in 256 (58,8%) patients, in which 188 (67,3%) were from E1 and 68 (43,5%) were from E2 [$p<0,0001$].

Conclusion NAFLD was more prevalent in men. Age, triglycerides levels, TGO, TGP, AC, HOMA-IR and incision size were significant statistically different in patients with hepatic steatosis. The percentage of patients with metabolic syndrome were higher in E1 compared to E2. There were no differences in mean BMI and surgery duration in both groups.

P-106 Evaluation of Visceral Fat Loss After Bariatric Surgery by Abdominal Ultrasonography

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Background Clinical evaluation of visceral fat is limited because of the lack of reliable and low-cost methods and ultrasonography has a good

reproducibility and accuracy comparing with the computed tomography. The purpose of this study was to evaluate the amount and loss of visceral and subcutaneous fat before and after 6 months of Roux-en-Y gastroplasty bypass.

Methods 17 patients were submitted to the abdominal ultrasound (AU). Weight and biochemical exams (glucose-G, total cholesterol-TC, HDL, LDL, triglycerides-TG, uric acid-UA and insulin-I- levels) were performed 1 month before and 6 months after surgery. Two ultrasonographic measurements were taken of subcutaneous fat (SF), distance between the skin and external face of retro-abdominal muscle and of visceral fat (VF), distance between the internal face of retro-abdominal muscle and the anterior wall of the aorta.

Result From 17 patients, 13 were women (76.5%). The means of age and BMI before the surgery were 44 ± 11.7 years and 40.7 ± 4.2 Kg/m². The SF measure was 6.5 ± 1.7 cm before surgery and, after 6 months, about 4.3 ± 1.4 cm ($p=0.0003$). Similarly, visceral fat loss was statistically significant after surgery, with 8.9 ± 2.6 cm before and 4.6 ± 1.7 cm after ($p<0.05$). The percentage of Excess Weight Loss (%EWL) mean was $52.5 \pm 11.6\%$. It was found higher loss of VF in comparison with SF after 6 months ($p=0.0006$) and there was no correlation between %EWL and VF loss. It was found, also, reduction of G, TG and I levels after surgery.

Conclusion In this study, after 6 months, all patients had VF measurements below 8 cm. This value is considered a threshold for cardiovascular risk. Moreover, it was found a higher loss of VF comparing with SF and also a reduction in G, TG and I levels. The ultrasonograph method has been a great method to identify patients with adverse metabolic profile.

P-107 Weight Loss Curve for Anthropometric Follow-Up of Patients Submitted to Roux-En-Y Gastric Bypass

Presenter: M. Melendez-Araújo (Clínica Dr. Sérgio Arruda - Cirurgia Geral e Bariátrica, Brasília, Brazil)

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Background anthropometric follow-up after bariatric surgery is an important monitoring instrument of success for patients and health professionals. The purpose of this study is to create a curve of percentage of excess weight loss (%EWL) for the first 1 year after surgery.

Methods Weight data of 359 patients were analyzed in different postoperative moments: after the first, second, fourth and seventh weeks and after third, fourth, fifth, sixth, seventh, eighth, ninth, tenth, eleventh and twelfth months of surgery. Based on these data, a %EWL curve were created.

Results From all analyzed patients, 301 (84%) were women. Averages of age were 38 ± 10.3 and 34 ± 10.5 years for women and men, respectively. Preoperative weight (Kg), excess weight (Kg) and ideal weight (Kg) means were, respectively, 107 ± 12.9 Kg; 48 ± 13 Kg and 59 ± 3.3 Kg among females and 135 ± 18.2 Kg; 65 ± 16.5 Kg e 70 ± 4 Kg among males. In 1 week, women lost 12.9% EWL and, in 5 months, reached 51.9%, considered a successful weight loss rate for this surgery. In 12 months, woman lost 72.5% EWL. Among males, it was found 12.9% of EWL 1 week after surgery, 50.2% after 5 months and 62.9% in 1 year.

Conclusions In this study, after 1 week, there was around 12% of EWL. Success in weight loss was reached in 5 months and after 12 months, women had a higher weight loss comparing with men. Results are compatible with literature. Weight Loss Curve could be an efficient instrument to follow-up anthropometric evolution of patients. This study suggests that each service can trace your own curve, so each patient can be elucidated about their anthropometric evolution in each meeting.

P-108 Analysis of Metabolic Profile and Excess Weight Loss in Obese Hypothyroid Patients Submitted to Roux-En-Y Gastric Bypass

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Background Hypothyroidism is prevalent in about 10-15% in obese patients. The pathophysiologic relationship between morbid obesity and thyroid hormones is not well understood. The purpose of this study is to analyse the metabolic profile and excess weight loss in hypothyroid patients before bariatric surgery.

Methods 505 patients were divided into two groups: hypothyroid (H) and euthyroid (E). They were compared in regard to BMI, percentage of excess weight loss (%EWL), metabolic profile (metabolic syndrome and HOMA IR), free T4 and TSH.

Results From all patients, 423 were women (83.7%). The mean age was 37.2 ± 10 years, mean BMI was 42.1 ± 4.7 kg/m². 54 subjects (10.7%) had hypothyroidism (H), from which 51 (94.4%) were females. The percentage of females and males affected by hypothyroidism was 12.1% vs 3.7% respectively [$p=0.04$]. The mean BMI of H was 41.5 ± 5.1 kg/m², while in E was 42.2 ± 4.7 kg/m² [$p=0.22$]. The mean age of the H was 39.9 ± 10 years and E was 36.8 ± 10.3 years [$p=0.03$]. Metabolic syndrome was present in 294 (58.2%) patients. Of these, 57% were in H and 59% in E [$p=0.92$]. The % EWL after 1 year was, in H, $61.4 \pm 10.2\%$ and, in E, $71.3 \pm 15.1\%$ [$p=0.0001$]. After 2 years, the H had %EWL $68.9 \pm 13.7\%$ and E, $71.2 \pm 16.4\%$ [$p=0.18$]. In H, the preoperative TSH in was 2.82 ± 2.85 and after 1 year of follow up, was 3.38 ± 2.26 [$p=0.35$]. The average free T4 before surgery was 5.2 ± 5.2 and after a year of follow-up was 1.1 ± 0.2 [$p=0.024$].

Conclusions Women showed a higher percentage of hypothyroidism (12.5%). Patients with hypothyroidism were older than euthyroid patients. The %EWL and free T4 of H was lower in the first year of follow-up. There was no difference with statistical significance between groups as far as BMI, HOMA IR, number of affected by the metabolic syndrome and alteration in TSH (H) pre and postoperatively.

P-109 Nutrition and Gastrointestinal Quality of Life Assessment Post Roux-En-Y Gastric Bypass, Sleeve Gastrectomy and Adjustable Gastric Banding

Presenter: N. Zarshenas (The St George Hospital, Sydney, Australia)

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Background The aim of this study was to determine which of the three commonly performed bariatric procedures, Roux-en-Y gastric bypass (RYGBP), adjustable gastric banding (AGB) and sleeve gastrectomy (SG), produces adequate weight loss without compromising nutritional status or gastrointestinal quality of life (GIQOL).

Methods 19 RYGBP, 11 SG and 11 AGB patients were included in this cross-sectional study. The researchers were blinded to the surgeries. The data collected were: GIQOL (GIQOL questionnaire), diet history, Food intolerances and compliance with the micronutrient supplementations (open and closed ended questioner).

Results RYGBP patients had significantly greater percentage excess weight-loss (%EWL) (76.11 ± 20.60) than both SG (52.36 ± 22.62) and AGB (25.72 ± 33.10 , $p<0.05$). AGB patients reported more gastrointestinal symptoms, food intolerances and scored lower than RYGBP for sadness, anxiety and frustration ($p < .05$). Folate, calcium and fibre intakes were significantly below Recommended Daily Intake. Haemoglobin and ferritin levels were lower after RYGBP compared to SG ($p < .05$). Compliance with daily multivitamins were $36 \pm 50\%$ in AGB, followed by $73 \pm 47\%$ in SG and $74 \pm 45\%$ in RYGBP patients.

Discussion RYGBP was the most effective in treating obesity, without compromising GIQOL or nutritional status. AGB produced inadequate weight loss and led to the poorest GIQOL outcomes. Low intakes of several micronutrients and food groups reiterate the need for multivitamin supplementation and the development of specific recommendations for use in the bariatric population.

P-110 Comparison of Gastrointestinal Quality of Life Following Laparoscopic Mini-Gastric Bypass, Sleeve Gastrectomy and Adjustable Gastric Banding Surgery

Presenter: Y. H. Su (Min-Sheng General Hospital, Taoyuan, Taiwan)

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Background Laparoscopic mini-gastric bypass (LMGB), sleeve gastrectomy (LSG) and adjustable gastric banding (LAGB) surgeries are currently recommended procedures for morbid obesity. Previous studies disclosed a significant improvement in the health-related and gastrointestinal quality of life among each specific surgery. However, there has been no comparative data regarding the specific gastrointestinal quality of life between different procedures.

Methods From October 2001 to Dec 2006, 640 consecutive patients with morbid obesity underwent different procedures (LMGB: 423 patients; LSG: 110 patients; LABG: 107 patients). The mean body weight (BW), body mass index (BMI), and gastrointestinal quality of life index were recorded and compared before operation and at 3, 6, 12 and 24 months after surgery.

Result All procedures were completed laparoscopically and the three different surgeries were successful in weight loss in morbidly obese patients. Patients underwent LMGB and LSG had similar mean BW loss and BMI reduction at 1-year after surgery (27.9 kg/m² and 23.7 kg/m² respectively). However, the BMI in sleeve gastrectomy and gastric banding groups began to increase after 1 year and only mini-gastric bypass group showed persistent and steady decrease in BMI. The overall GIQLI improved significantly 2 years after LMGB (106.1115.2; $P < 0.05$) between groups. The LAGB group only disclosed short-term benefit along with BW loss in one year, then the value returned to similar values before surgery.

Conclusion The overall GIQLI improved significantly 2 years after LMGB. And the LAGB group only had short-term benefit along with BW loss in one year, the value returned to similar values before surgery. When the time-follow extended to 2 years, the overall values all declined and the sleeve gastrectomy group had the worst result than others. The laparoscopic mini-gastric bypass seemed to have better results than other bariatric surgeries 2 years after surgery. However, each patient still should be individualized for the bariatric surgeries according to the patient's decision.

P-111 Prevalence of Surgically Treatable Obesity in México

Presenter: J. A. Lopez Corvala (Hospital Angeles Tijuana Baritratric Group, Tijuana, Mexico)

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Background ¿What is the prevalence of surgically treatable obesity in Mexico, based on NIH criteria?

Methods Population based survey (ENSANUT 2006) of Mexican adults (20 years). Variables: sex, age, classification of BMI and comorbidities. Descriptive statistics.

Result 32 940 adult citizens analyzed, 9 248 had normal weight (28.1%), 12 980 (39.4%) were overweight, 7 137 (21.7%) had obesity class 1; 2 275 (6.9%) obesity class 2 and 859 (2.6%) obesity class 3; 8.6% of women (n=1699) and 4.3% of men (n=576) have obesity class 2; 3.6% of women (n=713) and 1.1% of men (n=146) have obesity class 3; ³Of the obesity class 2 Mexican adults, 1 287 (56.6%) have at least one comorbidity, 362 were men and 925 were women (62.8% and 54.4% of this subgroup, respectively); 2 146 (6.5%) of Mexican adults could be surgical candidates; extrapolated to the last census, 3 759 040 Mexican adults could be eligible. The prevalence of main comorbidities is: hypertension 32.4% (n=10 686), dyslipidemia 9.4% (3 095), diabetes 6.5% (n=2 157) and heart disease 4.2% (n=1 384).

BMI – general distribution

| | Frequency | Percent |
|-----------------|-----------|---------|
| Underweight | 441 | 1.3 |
| Normal | 9248 | 28.1 |
| Overweight | 12980 | 39.4 |
| Obesity class 1 | 7137 | 21.7 |
| Obesity class 2 | 2275 | 6.9 |
| 1 comorb | 1287 | 3.9 |
| Obesity class 3 | 859 | 2.6 |
| Total | 32940 | 100.0 |

Conclusion The prevalence of surgical obesity in this survey is 6.5%, the total population that could undergo surgery is estimated in 3 759 040.

P-112 Quality of Life Following Malabsorptive Bariatric Surgery

Presenter: J. Brocklehurst (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, C. Magee¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

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Background Laparoscopic Duodenal Switch (LDS) and Roux-en-y Gastric Bypass (LRYGB) are complex bariatric procedures that require strict postoperative compliance with dietary regimens, vitamin supplementation and biochemical monitoring. We assessed the effect of each of the procedures on patients' quality of life (QOL) following surgery.

Methods The Bariatric Analysis and Reporting Outcome System (BAROS) questionnaire was sent to 150 patients who had undergone either LRYGB or LDS with a minimum of 1 year follow up (70 LRYGB and 80 LDS patients).

Result The response rate was 60% (55 LDS patients and 35 LRYGB). Overall 97 % of patients had a BAROS score of good (26% LRYGB and 15% LDS), very good (29% LRYGB and 35 % LDS) or excellent (40% LRYGB and 49% LDS). QOL improved in all but one patient. There was no significant difference in QOL between the types of surgical procedure with a median score of 6.75 following LRYGB and 7 following LDS ($P = 0.067$ Mann Whitney U [MWU]). There was a difference in excess weight loss (EWL) scores between the groups with a median of 2 (50-74% EWL) following LRYGB and 3 (75-100% EWL) for LDS.

Conclusion Quality of life following malabsorptive bariatric surgery improved in 97 % of cases, with a very good or excellent BAROS score in 78% of patients. There was no significant difference in quality of life between the LRYGB and LDS despite a significantly better EWL at two years following LDS (71% vs 91% $P < 0.001$ MWU).

P-113 Is Morbid Obesity Related to Hiatal Herniation?

Presenter: P. Crookes (University of Southern California, Los Angeles, United States of America)

Background Obesity is alleged to worsen gastroesophageal reflux (GER) and hiatal hernia (HH). We investigated the relationship between obesity and HH by studying patients seeking treatment primarily for either obesity or symptoms of GER.

Methods We studied 201 (163 F: 38 M, median BMI 50) consecutive bariatric patients (Group A). Symptoms and medication use were recorded. HHs were classified as small (2 cm.), moderate (>2-5 cm.) or large (>5 cm) on radiologic or endoscopic evaluation. We similarly studied 228 (114F: 114 M, median BMI 27) consecutive patients presenting for treatment of GER (Group B) and 56 (20F: 36 M, median BMI 24) asymptomatic volunteers (Group C).

Result The prevalence of HH was 22% in Group A (small 14%, moderate 6.5%, large 1.5%), 68% in Group B (small 12%, moderate 47%, large 9%) and 27% in Group C (small 20%, moderate 7%). In Group A, reflux symptoms were reported by 55%, and 16% took PPIs, and in Group B, typical symptoms were reported by 94%, and 83% took PPIs. Patients in Group B had a 9.3 greater risk of HH compared to Group A on multivariable analysis ($p < .001$).

Increasing age (RR 1.6 for 10 year interval, $p < .001$) was also found to be predictive of HH but BMI was not.

Conclusion The prevalence of HH in the morbidly obese is comparable to that in normal subjects: their hernias are small and their symptoms rarely require PPIs. Patients presenting primarily with reflux are rarely obese. Morbid obesity appears to be unimportant in the pathogenesis of HH.

P-114 Randomized Clinical Trial of Local Pain Control by Infusion Pumps After Bariatric Operations

Presenter: D. Halmi (Bluepoint Surgical Group, Woodbridge, United States of America)

Co-authors: E. Kolesnikov^{1,2}, D. Tran¹, N. Kolomiets²

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Background Postoperative pain management is critical to a successful recovery after bariatric surgery. The aim of the study is to evaluate the effectiveness of the pain control infusion pumps (PCIP) for continuous ambulatory analgesia after bariatric procedures.

Methods 166 patients were prospectively randomized. Group A; 80 patients with PCIP for postoperative local pain management. Group B (control); 86 patients without PCIP after bariatric surgery. The groups were similar in age, BMI and type of bariatric surgical procedure. In Group A two micro-catheters were inserted at the end of bariatric surgical procedure for continuous infusion of a long-lasting local anesthetic (0.25% Bupivacaine with Epinephrine) for 48 hours. Statistical analysis regarding postoperative need for opioids in both groups was performed.

Results Opioid use was significantly reduced in Group A. No need for opioids on day one after surgery 42.5% (34 Patients) in Group A, versus 3.75% (3 patients) in Group B ($P < 0.001$). On day two no need for opioids 73.8% (59 Patients) in Group A, versus 9.3% (8 Patients) in Group B ($P < 0.001$). Length of hospital stay was 2.8 days for Group A and 3.3 days for Group B. Post Anesthesia recovery room stay was also longer for Group B patients. There were no major complications or infections associated with using PCIP.

Conclusion The use of PCIP significantly decreased postoperative need for opioid analgesics after bariatric surgical procedures. PCIP is a safe and effective adjunct in postoperative pain management and can reduce the risk of respiratory failure from oversedation.

P-115 Result and Quality of Life with Gastric Band Ten Years After

Presenter: Y. Matussiere (espace Medico Chirurgical de la Sauvegarde, LYON, France)

Co-authors: Y. Matussiere¹, V. Frering¹, E. Fautaudard¹, S. Rode¹

¹Espace Medico Chirurgical de la Sauvegarde LYON France

Background Among bariatric procedures Gastric banding is very useful in France since more than ten years.. The aim of the study was to assess the results ten years after laparoscopic adjustable gastric banding.

Methods From January 1999 to December 1999, 478 patients were operated on by laparoscopic adjustable gastric banding (Lapband Inamed[®]). Mean age was 48,4 years (range 26-74), mean preoperative weight 112,8 kg (range 80-196), and body mass index was 42,5 kg/m² (range 35-71). Out of them, 182 patients answer to BARO's questionnaire ten years after.

Result The mean BMI loss is 13,7 kg/m². Patients felt very better in 55,3% and better in 35,3%. Patients would ask for gastric banding again in 90,6%. Regarding clinic tolerance, night reflux nocturnes is present every day in 13,3% of case and every week in 26%. Vomiting are describe every day in 20% and in 13,3% every week. Patients describe a higher implication in social life in 48%, a better ability to work in 56,6%. 36,6% declare a better sexual life and in 69,3% more physical activity.

Conclusion After their weight loss and despite having a gastric band can be difficult, patient assess their quality of life good in 77,3%. In majority, they admit a social, professional and physical amelioration.

P-116 Changes in Pelvic Floor Disorders After Gastric Bypass in Obese Women: Preliminary Results of a Prospective Study

Presenter: S. Cariani (University of Bologna, Bologna, Italy)

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Background This study was designed to assess the prevalence and severity of pelvic floor dysfunctions (PFDs) as well as their impact on quality of life in obese women before and after gastric bypass surgery.

Methods 60 obese (BMI 30 kg/m²) females completed 6 validated specific and quality of life (QoL) questionnaires about PFDs. All patients were evaluated by pelvic floor physical examination, endoanal sonography and dynamic MRI. 29 patients were reassessed with the same questionnaires 6 months after bariatric surgery.

Results Mean age was 42.5±10.8 yrs and mean BMI was 43.4±7.2 kg/m². Prevalence of PFDs was 80.0% and 54.2% of patients reported that their symptoms adversely impacted QoL. Urinary incontinence (UI) was the most common disorder (63.3%), with linear association between BMI and UI ($r^2 = 0.08$; $p = 0.03$). Prevalence of fecal incontinence (FI) was 23.3% and it concerned only loss of gas in 57.1% of cases. Urogenital prolapse and rectocele were documented in 68.3% and 78% of patients respectively. 44% of patients complained symptoms of obstructed defecation. With mean BMI reduction of 10 kg/m², prevalence of PFDs decreased to 62.1% ($p = 0.04$) with a significant improvement of QoL. Prevalence of UI decreased to 17.2% ($p = 0.003$) and reduction was associated with postoperative BMI ($p = 0.04$). On the whole 75% of patients who complained UI and 100% of patients with FI reported resolution of symptoms postoperatively.

Conclusion In this sample of obese women, PFDs were more common than in the general population and adversely impacted QoL. A clear association was found between BMI and UI. Weight loss results in improvement of UI and FI.

P-117 Endothelial Response After Bariatric Surgery

Presenter: C. A. Malheiros (Santa Casa School of Medicine - São Paulo, São Paulo, Brazil)

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Background Severe obesity constitutes an isolated factor of risk for cardiovascular diseases. New techniques have been employed in the treatment of obesity, such as gastric bypass. The endothelial function is a factor which is precociously altered in atherosclerosis and can undergo changes according to the alteration in the physical state of the patient. Our objective was to evaluate the behavior of the endothelial function, by means of brachial activity, in patients submitted to surgical treatment for obesity in the form of gastroplasty.

Methods A study was made of 25 obese patients, of which 23 were female and 2 were male, with an average age of 39+9.7 years (23-58 years), a BMI of 47.5+6.2 and a waist size of 133.9+10.5 cm. A brachial reactivity study was done by means of ultrasound and laboratory exams of glycemia and cholesterol were collected.

Results The patients were analyzed in the pre- and post-operative for 6 months. There was a weight reduction from 127+22.5 kg to 85.3+20 kg and a BMI of 47.5+6.2 to 31.7+5.7 kg/m². The laboratory data showed a significant reduction in the glycemia (98.3+26.6 to 84.3+8.6), total cholesterol (180.4+40.9 to 151+2.4) and LDL (109.5+40 to 87.6+21). There was an improvement in the dependent endothelial vasodilation (from 11.6+6.8% to 25.6+8.5%, with $p < 0.05$).

Conclusion The weight loss following gastric bypass is associated with a reduction in the levels of total and LDL cholesterol, with a consequent improvement in the endothelial function.

P-118 Effects of Laparoscopic Sleeve-Gastrectomy on Obstructive Sleep Apnea in Morbidly Obese Patients

Presenter: E. Letessier (IMAD, Nantes, France)

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Background Morbid obesity is associated with obstructive sleep apnea (OSA) in 40% of patients. This complication alters quality of life, professional integration and can lead to death if not treated. Several prospective studies have shown effectiveness of bariatric surgery in OSA treatment. However, laparoscopic sleeve-gastrectomy (LSG), a recent purely restrictive procedure, has not been tested in these studies.

Methods The aim of this prospective study was to determine if clinical and overnight ventilation polygraphic signs improve after LSG in morbidly obese patients. Between 2005 and 2007, 48 morbidly obese patients underwent LSG for morbid obesity. Mean age was 44.9 +/- 10.7 years. Before LSG, 25 patients had OSA and 20 of them were treated by nocturnal continuous positive airway pressure (C-PAP). Weight, OSA clinical signs and overnight ventilation polygraphic results were collected. OSA resolved when patients had normal overnight ventilation polygraphy (apnea/hypopnea index <30/hour) and no more clinical signs without nocturnal C-PAP. OSA improved when apnea/hypopnea index decreased or when clinical signs improved without nocturnal C-PAP.

Result After a mean follow-up of 16.5 +/- 5.2 months, pre-operative and post-operative mean body mass index was respectively 51.4 +/- 9.4 Kg/m² and 40.5 +/- 9.8 Kg/m² (p < 0.001). Mean excess weight loss was 43.9 +/- 25.9%. Among the 25 cases of OSA, 10 resolved and 3 improved. The percentage of patients whose OSA resolved was 40% (p < 0.05) and the percentage of patients whose OSA resolved or improved was 52% (p < 0.01). Patients whose OSA improved or resolved had higher excess weight loss (p < 0.05) than others patients affected of OSA.

Conclusion LSG was an effective treatment of OSA in morbidly obese population in more than 50% of cases. However, effects of LSG on OSA need to be evaluated in a long term follow-up.

P-119 Psychiatric Co-Morbidities in Morbidly Obese Subjects Candidates for Bariatric Surgery in Brazil

Presenter: F. D. L. Osório (UNIMED- Ribeirão Preto, Ribeirão Preto, Brazil)

Co-authors: R. Martins da Silveira Garcia¹

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Background There is a high prevalence of psychiatric disorders among candidates to bariatric surgery, especially depression, anxiety and compulsive eating. The correct identification and treatment of these symptoms are essential for a better postoperative prognosis.

Methods In order to detect the prevalence of these disorders in the Brazilian context, 115 subjects were evaluated using the following instruments: Beck Depression Inventory, Beck Anxiety Inventory and Binge Eating Scale.

Result 76.6% of the subjects were women, mean age was 36.8 years and mean BMI was 44.1 kg/m. Regarding the evaluation of depression, 92.2% presented symptoms classified as absent/mild and 7.8% symptoms classified as moderate/severe. Regarding anxiety, 90.4% presented absent/mild symptoms and 9.6% moderate/severe symptoms. The evaluation of compulsive eating indicated that 63.5% of the subjects presented absent/mild symptoms and 46.5% moderate/severe symptoms. There was no significant difference in the prevalence of the cited disorders in terms of sex or BMI (p > 0.005). There was a significant positive correlation between symptoms of anxiety, depression and compulsive eating (r = 0.47-0.64, p < 0.0001), denoting a tendency to the joint occurrence of more than one set of symptoms.

Conclusion A lower prevalence of psychiatric disorders was identified in this sample of Brazilian morbidly obese subjects compared to international rates, a fact that may be associated with cultural differences. However, we question the efficacy of self-assessment instruments for the screening of psychiatric symptoms within this context, in which the personal desire and interest for the execution of the surgery may be superimposed on the self-perception and signaling of symptoms.

P-120 Drotrecogin in Post Operative Gastric By-Pass Complication

Presenter: M. J. Guangioli (C.I.T.O, neuquen, Argentina)

Co-authors: F. Villagra¹, J. Molina², L. Espinosa³, R. Vaca Narvaja⁴, A. Oliva⁵, E. Bishels⁶, C. Pagano⁷, W. Leitner⁸, A. Nazra⁹

Background and Objectives Sepsis syndrome results from a generalized inflammatory and procoagulant host response to infection. Recombinant human activated protein C (rhAPC) or Drotrecogin alfa activated as treatment in severe sepsis limits the endothelial inflammatory response mediated by thrombin and reduces mortality, though it has not been shown in patients with APACHE < 25 or assessed in patients with weight > 135 kg.

The case of a patient with severe sepsis as a complication of morbid obesity surgery treated with rhAPC is described.

Material and Method A clinical case with postoperative septic shock as a gastric bypass complication is presented.

Results 47 year-old male patient; weight 161 kg; body mass index (BMI) 51,5, with arterial hypertension and type 2 diabetes.

The patient presented, the first day after laparoscopic gastric bypass, diffuse peritonitis caused by small intestine perforation. He developed septic shock and multiorgan failure (metabolic acidosis with hyperlactacidemia, severe hypoxemia and renal failure). APACHE: 23 and SOFA: 8. He was given crystalloid solutions, inotropic drugs and antibiotic therapy with imipenem. He required mechanic respiratory assistance and a surgical reintervention. A treatment with intravenous Drotrecogin alfa activated was started and a positive culture for Escherichia Coli in abdominal liquid was obtained.

The patient evolved favorably from septic shock with improvement of renal function, lactacidemia decreased and no hemorrhage complications occurred. He continued being treated for fistula with vacuum-assisted closure (V.A.C.) technique.

The patient is now on 300 day follow-up after bariatric surgery.

Conclusions The treatment for septic shock with Drotrecogin in this patient with APACHE < 25 and weight > 135 kg was safe and effective.

P-121 Treatment by Somatostatin Analogs: an Alternative to Surgery for Severe Hypoglycaemia After Roux-En-Y Gastric Bypass

Presenter: F. Baudoux (Service de Nutrition, Lille, France)

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Background Hypoglycaemia after Roux-en-Y gastric bypass (RYGB) is a rare but disabling complication. Its pathogenesis remains controversial. Several medical treatments have been tried but partial pancreatectomy often the last resort.

Case study A 44 y-old man who underwent a RYGB (body mass index (BMI) 40 kg/m) presented with severe hypoglycaemia 18 months after RYGB (BMI 31,9 kg/m²). Nearly every day, 30 minutes after his midday meal, he suffered from blurred vision, nausea, dizziness and sweating. Severe hypoglycaemia was confirmed on several occasions (lowest blood glucose = 0,23 g/l). An insulinoma was excluded by a normal 72 h fasting test and pancreatic MRI. The increase in the post meal response of GLP1 and insulin after surgery was much more than usual. Despite dietary advice hypoglycaemia persisted and we had to start medical treatment. We used an alpha glucosidase inhibitor (acarbose 50 mg, tds), which reduced the frequency and severity of

hypoglycaemic episodes with a moderate decrease of post-prandial GLP1 and insulin response. One year later, the patient re-presented with hypoglycaemia (BMI 34.7 kg/m²). A somatostatin analog (Somatuline Long Acting, 10 mg intra muscular injection per month) was started. The frequency of hypoglycaemic episodes fell to once a week and GLP1 response was dramatically attenuated.

| | pre operative | post operative | with acarbose | with somatuline |
|-----------------------------|---------------|----------------|---------------|-----------------|
| Peak insulin mUI/l | 228,0 | 582,0 | 416,6 | 366,4 |
| Area Under Curve of insulin | 26793 | 25778 | 17558 | 17373 |
| Peak GLP1 ng/ml | 11,7 | 42,6 | 31,2 | 24,2 |
| Area Under Curve of GLP1 | 933 | 2315 | 2204 | 1746 |

Conclusion Somatostatin analogs seem to be an alternative to partial pancreatectomy, by reducing post-prandial GLP-1 and insulin secretion.

P-122 Evaluation by Using Computed Tomography (CT) of Visceral Fat, Hepatic Volume and Density in Operated Obese Patients Pre- and Post-Operatively: Preliminary Results Concerning a New Program

Presenter: E. Letessier (CHU Hôtel Dieu, Nantes, France)

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Background Bariatric surgery allows, in particular by acting on the volume of visceral fat, to reduce cardiovascular mortality.

Methods We evaluated, by a scanographiques method, changes in visceral fat volume and in hepatic volume and density in 12 patients from 5 to 11 months after bariatric surgery. An abdomino-pelvic scanographiques acquisition was performed before and after surgery, from the tip of the xyphoïde to the pubic symphysis. Software for semi-automatic detection of fat, by using a pixel density selected and highlighting the abdominal cavity, allowed us to calculate the volume of visceral fat. The same method is used to measure the volume and density liver. The average age of patients was 47 years (range: 24 and 57 years). The average of body mass index of patients was 50 kg/m² (range: 40 and 70 kg/m²). The interventions were a by-pass in 2 cases, a sleeve gastrectomy in 10 cases.

Result The median follow-up was 7.5 months (range: 5 and 11 months). The average loss of excess weight was 15% (range: 5 and 28%). The average of the volume of visceral fat before and after bariatric surgery was 7764 ml and 5626 (range: 3878 and 11642 ml before surgery, 2761 and 9371 ml after surgery). The average volume of the liver before and after bariatric surgery was 2641 ml and 2107 (range: 1969 and 3244 ml before surgery, 1355 and 3049 ml after surgery). The average density of the liver before and after bariatric surgery was 31 and 50 Hounsfield units (range: 7 and 65 UH before surgery, 25 and 90 UH after surgery).

Conclusion By scanographics method we could calculate the precise changes in visceral fat volume, and in volume and density liver. There is a significant change in these parameters after bariatric surgery. The average results obtained in this patient group are: average loss of 2138 cm³ of visceral fat (-27%), 534 cm³ of liver volume (-20%) and average increase of 20 Hounsfield Units in hepatic density. These results are easy to obtain and reproducible, allowing the monitoring of these patients. The volume of subcutaneous fat, often out of the field of view in obese patients could not be assessed.

P-123 Endoscopic Finding of Remnant 4, 5 and 6 Years After Roux-En-Y Gastric Bypass on Vertical Banded Gastroplasty: Preliminary Results of Prospective Study on 65 Consecutive Patients

Presenter: L. Agostinelli (University of Bologna, Bologna, Italy)

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Background The technique of Roux-en-Y Gastric Bypass on Vertical Banded Gastroplasty (RYGB-on-VBG) allows the traditional endoscopic evaluation of gastric remnant. Aim of the study was to detect any alteration of the excluded stomach in the mid-term post-operatively.

Methods In this study were enrolled 65 consecutive patients, with mean BMI 61.8, underwent RYGB-on-VBG from 2002 to 2004. All patients had undergone gastroscopy before surgery, and at the time of follow-up nobody was under therapy with PPI. The trial started January 2008 and will be complete in August 2009. Upper endoscopy was performed with Olympus Video Gastro-scope GIF-Q 165 (Ø9,2 mm distal-end), using standard biopsy forceps in oral sedation. Biopsies of corpus, angulus and antrum of the functionally excluded stomach were done.

Results Until March 2009 we collected datas of 25 asymptomatic patients with a mean BMI of 34 Kg/m². At follow-up, for all the patients the gastroscopy of remnant was possible, and mild gastritis in 14 cases (56%) and severe gastritis in 8 cases (32%) were detected. Despite only one patient (4%) was HP positive, the histologic examination showed: 12 (48%) active gastritis, 10 (40%) mild chronic gastritis, 1 (4%) intestinal metaplasia, 1 (4%) acute lymphoma-like gastritis. Only 1 patient (4%) had a normal histologic pattern. **Conclusions** Preliminary results of upper endoscopy after RYGB-on-VBG, showed a normal mucosal pattern of functional excluded stomach for only 3 of 25 patients (12%). The high incidence of gastric mucosae alterations in the mid-term suggest the importance of a surgical technique which allows the endoscopic study of the remnant.

P-124 Refeeding Syndrome in a Patient Who Underwent Gastric Banding: What are the Risks?

Presenter: E. Segaran (Whittington Hospital, London, United Kingdom)

Co-authors: E. Segaran¹, K. McDougall¹, P. Sufi¹, D. Heath¹

¹Whittington Hospital London United Kingdom

Background Slippage of a gastric band or dilatation of the pouch above the band can lead to obstruction of the stomach requiring deflation or remove the band. We report the case of a patient who presented with acute obstruction due to the band on a background of chronic obstruction. Following removal of the band she developed re-feeding syndrome.

Case report A 32 yr old female underwent laparoscopic gastric banding three years previously at another institution. At this time her weight was 85 Kg (height 157 cm, BMI 32 Kg/m², Ideal body weight 62Kg). She was admitted as an emergency with a 3 month history of a progressive failure to be able to tolerate eating solids and liquids, in spite of all the fluid having been removed from the band. She was malnourished and dehydrated and weighed 43Kg (BMI 16 kg/m²). A Gastrografin swallow revealed an obstructed gastric pouch. The gastric band removed. With a BMI of 16, unintentional weight loss > 15% of her weight within 6 months and little nutritional intake for > 10 days she was considered at high risk of refeeding syndrome. Postoperatively she was inadvertently allowed 1500 Kcal per day rather than the 450 Kcal recommended by the dietician. Her weight rose by 8 kg in three days and her serum potassium remained low at 3.4 mmol/l and phosphate fell to 0.73 mmol/l, indicating a mild re-feeding response. Her calorie intake was restricted and oral phosphate, potassium, thiamine, B vitamin complex and multivitamin supplements given.

Conclusions Bariatric teams should be aware that patients who have gastric bands may develop excessive weight loss and are susceptible to re-feeding syndrome when food is reintroduced.

P-125 Is Ambulatory/Day Case Gastric Banding Safe?

Presenter: S. Irukulla (Ashford&St.Peter's Hospital, Chertsey, United Kingdom)

Co-authors: M. Kubli¹, K. Gallagher¹, J. Horner¹

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Background A high BMI has been considered a contra indication to day case surgery. Patients requiring gastric band surgery commonly have co-morbidities which have previously precluded them from day care surgery. A successful day-case gastric band surgery is possible with careful planning.

Methods We report our own experience in gastric band surgery. We evaluated our gastric band surgery practice and the factors influencing the outcome. Patient data including BMI, co-morbidities, length of hospital stay and re-admission rates were recorded. A patient satisfaction survey was also undertaken.

Result A total of 202 (non-suture MidBand) gastric bands were inserted by a single surgeon between July 2004 and March 2009. 145(72%) were discharged on the day of surgery. 33(16.3%) patients in less than 23 hours, and the remainder 24(11.7%) stayed in for various reasons. 90% of the last hundred patients were managed as day-cases. Length of stay for in-patients ranged from 2 to 5 days (mean-2.57). BMI ranged from 37-63 (mean 49.2). 11% of day-case patients requested post surgery help. No patient required re-admission. 7.5% experienced mild to moderate nausea, and none vomiting. 23% suffered from mild pain, 69% moderate pain, and the remainder (8%) did not respond. 92% of day case patients thought their home instructions were good to excellent, and 8% regarded them as poor.

Conclusion Our results confirm that with experience, appropriate planning, close anaesthetic involvement, detailed patient information and adequate analgesia, a high rate of ambulatory gastric band surgery can be safely achieved, and with significant economic advantage.

P-126 Non-Alcoholic Fat Liver Disease and Liver Biopsy

Presenter: F. Quarella (Santa Casa School of Medicine - São Paulo, São Paulo, Brazil)

Co-authors: M. Fabreti¹, J. Salles¹, W. Freitas Jr¹, P. Castro¹, C. Malheiros¹

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Background The Non-Alcoholic Fat Liver Disease (NAFLD) has gained importance in recent years as a major metabolic complications of obesity, may have a serious form of evolution known as Nonalcoholic steatohepatitis (NASH). Our objective was to correlate laboratory data and ultrasound with preoperative liver biopsy.

Methods Retrospective study with analysis of the frequency of age, BMI, laboratory tests, USG and liver biopsy in 94 patients undergoing gastric bypass from January 2004 to December 2007 at Santa Casa (Hospital) of São Paulo.

Results A liver biopsy showed fatty disease in 90.5% of patients, whereas 6.5% had NASH. Laboratory tests AST, ALT and GGT showed variable results, without regard to the degree of liver disease. The ultrasound was normal in 45% of cases and also showed no correlation with the intensity of histopathological changes.

Conclusion There was no correlation between laboratory tests and ultrasound with the results of liver biopsy. We recommend routine liver biopsy for complete metabolic evaluation of bariatric patients.

P-127 Roux-Y Gastric Bypass as an Antireflux Procedure in Lung Transplant Recipients: A Spin-Off Benefit of Bariatric Surgery in the Non-Obese

Presenter: P. Crookes (University of Southern California, Los Angeles, United States of America)

Co-authors: P. Frank¹

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Background Gastric bypass (GBP) reliably improves Type 2 diabetes and Gastroesophageal Reflux Disease (GERD) in the morbidly obese inde-

pendently of weight loss. GBP may have potential as an antireflux procedure in non-morbidly obese subjects. We report on the initial use of GBP to control reflux in patients with severe GERD-induced pulmonary disease.

Methods We identified three patients with GERD associated with profound esophageal dysmotility, precluding Nissen Fundoplication, with severe interstitial pneumonitis. BMI ranged from 22-28. One had bilateral lung transplants while the others are listed for transplantation. All underwent Roux Y GBP (RYGBP). The procedure is similar to conventional RYGBP but with a slightly less restrictive pouch and a Roux limb length of 65 cm. In one patient with a severe stricture and failed Toupet fundoplication, the Roux limb was anastomosed to the distal esophagus.

Result There were no intraoperative complications and CO₂ pneumoperitoneum was tolerated without serious hypercarbia. All patients have had total resolution of reflux symptoms. All patients can eat comfortably without vomiting. One patient had prolonged hospital stay after an episode of aspiration, but since discharge has had no further lung deterioration. Weight loss averaged 8 kg. No patient developed protein or vitamin deficiency. All patients can take their medications without difficulty.

Conclusion GERD may produce severe lung damage and may not be controlled by acid suppressant medication since this does not alter the process, only the pH of the refluxate. RNYGBP effectively abolishes GERD without inducing dysphagia or producing unwanted weight loss or malnutrition. This may be a good alternative to fundoplication in patients with GERD and a severely hypomotile esophagus.

P-128 Measurement of Abdominal Fat, Volume and Liver Density in Obese Patients. A New Program Using CT

Presenter: E. Letessier (CHU Hôtel Dieu, Nantes, France)

Co-authors: P. Arrigoni¹, E. Frampas¹, B. Dupas¹, E. Letessier²

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Background Visceral fat, often associated with liver steatosis, is strongly correlated with cardiovascular mortality. A reliable tool to assess and monitor these parameters in the obese patient has its importance. We have developed a process to measure the volume of visceral fat, the volume and density liver from a scanner (without injection) and a dedicated user-friendly and fast software.

Methods Scanographiques acquisition from the tip of the xyphoïde to the pubic symphysis is first performed, the examination is then worked with a specific software. To measure the volume of visceral fat, the software can recognize the pixels of fat density (-160 to -40 HU) and then excludes subcutaneous fat by highlighting muscles of the abdominal wall. This process is repeated over a dozen cuts, then the software calculates the volume of fat. In the same way, the liver volume is estimated by using a pixel density corresponding to. Liver average density is also calculated.

Result This method is accurate, reproducible and easy to use to calculate the volume of visceral fat and liver volume. It is also a simple way to assess the degree of hepatic steatosis.

Conclusion This method can be used to evaluate the evolution of post-operative visceral fat by repeated examinations and to correlate the improvement of co-morbidities. It presents against the disadvantage of being irradiante (DLP about 1300 mGy.cm) and expensive (110 Euros) compared to other techniques (anthropometric and ultrasound). The volume of fat under the skin, often outside the field of view of the examination, can not be accurately assessed. This examination can also detect hernia and eviscerated unknown to the clinical examination. The absence of injection does not allow diagnostic injury in solid organs (incidentalome). The interest of this technique in practice is being evaluated, especially in cases of central obesity and / or metabolic syndrome.

P-129 Should Drains be Used Routinely in Roux-En-Y Gastric Bypass Surgery?

Presenter: K. R. Mannur (homerton university hospital, london, United Kingdom)

Co-authors: K. Mannur¹, A. Ghanbari¹

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Background There is a controversy amongst the bariatric surgeons in the use of abdominal drains in laparoscopic Roux-en-Y gastric bypass surgery. In most centres drains are used routinely after gastric bypass as a mean of detecting anastomotic leak or post operative bleeding.

Method We performed a retrospective analysis of all the patients on our bariatric database over a 3 years period. There were 450 gastric bypasses performed by a single surgeon. We excluded revisional surgery patients. The BMI ranges were from 35 to 70 kg/m². The first 200 patients had drains inserted whilst the remaining 250 patients had none.

Results There was no anastomotic leak within this group. All the drains were removed on the 2nd post operative day. Only 1 drain had significant out put in the form of blood indicating intra abdominal haemorrhage. No bowel content to suggest anastomotic leak was detected in the drain bags. One patient in the non-drain group was laparoscoped 24 hours after surgery because of the pain and this did not reveal any leak. Only 39 out of 200 in the drain group went home by second day whereas 156 out of the 250 in the non-drain group.

Conclusion We conclude that there is no evidence for the routine use of drains in Roux-en-Y gastric bypass. The patient who had significant blood in the drain bag would have had laparoscopy anyway because of pulse rate and respiratory rate. The drain reduces post operative mobility of patients, increases pain and delays in discharge

P-130 Aggressive Postoperative Follow Up and Support Group Leads to Better Weight Loss in the First 4 Months After Gastric Banding

Presenter: B. Snyder (University of Texas at Houston, Houston, United States of America)

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Background Success after gastric banding is multi-factorial. A large burden is put on the patient to change their life style and eating habits. Support groups are the main stay for most centers of excellent. Here we show the positive results of aggressive follow up and support groups.

Methods Postoperative data was prospectively collected on 364 gastric band patients from a University center in which support groups are not mandatory and 161 patients from a private practice which conducts mandatory support each week. The postoperative outcomes for the groups were compared using student t-test.

Result The two samples were similar with respect to age, starting BMI, and years out from surgery (0.3 years). There was no differences in outcome with respect to changes in quality of life ($p=0.42$) or resolution of co-morbid conditions ($p=0.81$); however, there was a significantly higher percent excessive weight loss (%EWL) in the private group (28% vs. 22%, $p<0.01$).

Conclusion Best weight loss after banding requires behavior modification. This requires extensive education and support, leading to significantly better weight loss within only 4 months of surgery.

P-131 Comparison of the Occurrence of Anxiety and Depression in the Pre- and Post-Operative Bariatric Surgery Patients

Presenter: L. Pinto (Irmadade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

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Background According to the literature, the class III obese undergo significant physical and emotional suffering caused by excess weight. In this way, when they seek out surgical treatment for weight loss, they expect that this weight loss will bring them an improvement not only in physical aspects, but also in

the emotional symptoms. The objective of this study was to compare the occurrence of anxiety and depression in the pre- and post-operative patients of bariatric surgery.

Methods The Hospital Scale for Anxiety and Depression (HAD)—an instrument developed by Zigmond and Snaith in 1983 and validated in Brazil by Botega *et al.* in 1995—was utilized. The cohort consisted of 120 women divided into two distinct groups: Group 1 – 60 morbidly obese who were candidates for the surgical procedure; Group 2 – 60 patients who had undergone surgery at least two years before. The group samples were correlated as to age (an average of 45 years) and BMI (an average of 49 preceding surgery and 31.9 after surgery).

Results Group 1 – 6% presented depression, 20%, anxiety, 57%, anxiety and depression and 25% did not present the characteristic symptoms of these emotional states. Group 2 – 1.67% presented depression, 26.67%, anxiety, 28.34% anxiety and depression and 71.66% did not present the characteristic symptoms of these emotional states.

Conclusions The presence of anxiety and depression is greater in patients who are candidates for surgery when compared to patients who have already undergone the procedure. The data suggests that the occurrence of anxiety and depression symptoms tends to decrease with weight loss.

P-132 Copper Deficiency Leading to Muscular Weakness and Peripheral Neuropathy Post Gastric Bypass

Presenter: D. Heath (Whittington Hospital, London, United Kingdom)

Co-authors: G. Bapat¹, P. Sufi¹

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Background Micronutrient deficiencies due to malabsorption are not infrequent. However, deficiencies of trace elements are rare. We present a case of a patient on haemodialysis who underwent a Roux-en-Y gastric bypass and developed copper deficiency 6 months post-operatively

Results A 32 yr old female patient presented to the bariatric service with a weight of 136.4 kg (BMI 51.2 kg/m²). She suffered from polycystic ovaries, impaired glucose tolerance, hypertension, hyperlipidaemia and chronic renal failure for which she had just started haemodialysis. She was seeking weight loss surgery in order to be able to undergo renal transplant from a living related donor. A match had been found however, her obesity was considered to be a contraindication to surgery. She underwent laparoscopic Roux-en-Y gastric bypass with Roux and pancreatico-biliary limb lengths of 80 cm. She was discharged home on day 6; She did not develop any complications but was kept in hospital in order to undergo haemofiltration in the immediate postoperative period. Six months post procedure she presented to the Accident and Emergency Department with weakness and numbness in her legs. She was discharged home but the next day was unable to get out of her chair due to weakness in her legs and was admitted to hospital. Her serum copper concentration was half the lower limit of normal and her ceruloplasmin was found to unrecordably low. Following copper supplementation during haemodialysis her serum coppers have risen and are currently half the normal value. Her lower limb weakness and numbness improved although currently she is able to walk unaided.

Discussion Two cases of copper deficiency have been reported previously following gastric bypass but not in association with haemodialysis. Possible causes include a relative malabsorption in the upper GI tract where copper is normally absorbed, following RYGB. Subnormal serum concentrations of Vitamin D, A, and iron support the theory of reduced absorption. It is also possible that the high flux dialysis has contributed to the deficiency.

Conclusions Care should be taken to measure copper concentrations in patients on renal dialysis and to ensure adequate supplementation. In patients presenting with a myopathy and peripheral neuropathy consideration should be given to the diagnosis.

P-133 V.A.C. Treatment of Wound Infection in a Morbid Obese Patient

Presenter: M. Bekavac Beslin ("Sestre Milosrdnice" University Hospital, Zagreb, Croatia)

Co-authors: B. Franjic¹, F. El Tanany¹

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Background The value of V.A.C treatment for acute large wounds, primarily infected wounds, decubital and diabetic wounds, wounds combined with open fractures of long bones and leg ulcers has been proven repetitively.

Methods Nevertheless, we believe it is of great importance to demonstrate its application in wounds with large secretion (*Pseudomonas aeruginosa* infection, MRSA, *Proteus mirabilis*) that are characterized with large abdominal wall defects and large defects of the anterior abdominal wall fascia. V.A.C. treatment in super-obese patients with wound infections after median laparotomy, sleeve resection and duodenal switch is not a commonly used option and there are no clear recommendations in available literature.

Result The problems of wound infection in the super- and super-super obese patients cannot be evaluated isolated from the well know problems of comorbidity, which frequently occurs in these patients: diabetes mellitus, respiratory infections, cardiomyopathy and psycho-organic changes. The cost of this therapy is not insignificant as V.A.C. treatment does not exclude expensive antibiotic treatment.

Conclusion The presentation of the case of a 61 year old female patient, BMI 60.7, (weight 159 kg, height 162cm) who died in the intensive care unit after 4 months of treatment of complications after bariatric surgery followed by gastric stump dehiscence and infection of the abdominal wall contributes to understanding the difficulty and specificity of the surgical treatment of pathologic obesity.

P-134 Use of the Proseal TM Laryngeal Mask Airway in 1230 Patients Undergoing Gastric Band Surgery

Presenter: L. Sanmiguel (Obesity Control Center hospital, Tijuana, Mexico)

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Background The ProsealTM Laryngeal mask(LMA) has been used in anesthesia practice for several years. It is design to isolate the airway from the digestive tract and to provide positive pressure ventilation. Although It has proven useful in difficult airway management, most bariatric surgery centers do not use it regularly or as a first choice option. The purpose of this study is to determine if the use of the Proseal LMA is safe airway control method in morbidly obese patients submitted for gastric band surgery and port replacement.

Methods We study the cases of 1230 patients who underwent elective adjustable gastric band surgery (AGB) under the same anesthesiology and surgical team from January 2008 to December 2008. Patients with a diagnosis of AGB slippage schedule for either elective or emergency surgery were excluded because of the increased risk of pulmonary aspiration from gastric pouch obstruction. Mean surgery time was 22 minutes, mean anesthesia time was 28 minutes, patients aged 13-82 their mean BMI was 42.3±8.2 kg/m². ASA physical status I and II. The induction of anesthesia performed with remifentanyl/propofol/cisatracurium and maintained with Desflurane 5%, Oxygen 100%. The LMA was inserted using an introducer, and tested the correct placement using the #14 drainage tube and we aspirated air and gastric content to deflate the stomach.

Results An effective airway was obtained in all 1230 patients. There were no signs of pulmonary aspiration and there were no episodes of hypoxia (spo₂ < 90%). 32 patients (2.09%) required the placement of the LMA using the finger technique, and 14 patients (0.91%) required intubation due to excess air leakage.

Conclusions This review demonstrates that airway management using the PLMA is safe and effective in bariatric patients undergoing gastric band

surgery and it contradicts the widely known notion that a laryngeal mask may cause pulmonary aspiration on the bariatric patients.

P-135 A Remifentanyl Based Sedation/Analgesia During Bib System Positioning in the Treatment of Morbid Obesity

Presenter: F. Torchia (Clinica Tricarico, Belvedere Marittimo (CS), Italy)

Co-authors: S. Civitelli¹, V. Mancuso¹, A. Di Maro¹, P. Cariello¹, M. Cesareo¹, C. Aloia¹, G. Sionne¹, A. Crusco¹, M. Carelli¹, M. Calabria², S. Pignata¹, A. Fiserova¹, M. Carrozzino¹, D. Impieri¹, F. Martorello¹

¹Clinica Tricarico Belvedere Marittimo Italy

Background The aim of this study was to find the best sedation/analgesia for patient satisfaction, comfort, short duration, and above all, patient safety during the positioning of BIB System in the treatment of morbid obesity. From 2003 we utilized several methods for patients sedation for endoscopic BIB positioning, but a more safe technique to compare haemodynamic responses, recovery and discharge times, and physician satisfaction was still not found. The use of a new drug: remifentanyl could be the answer to this problem.

Methods All patients were monitored with ECG, SPO₂, NIBP, basal values of heart rate, mean arterial pressure, oxygen saturation, respiratory rate and Ramsay sedation score were recorded.

Result From January to March 2009, were scheduled for BIB positioning 59 patients obese patients (age, mean age 37±21, range 16-59 years), 38F/17 M, mean BMI was 43.1±7.8, all the patients were ASA 3-4. BIB placement mean duration was 8 minutes. All patients received a premedication with atropine 0.01 mg/Kg e.v., oxygen inhalation and 40 mg of topical pharyngeal lidocaine spray prior to endoscopy. All vital parameters were recorded 1 min and 5 min after continuous remifentanyl infusion (0,7-0,8 /Kg/min); after the first minute the infusion was 0,3-0,4 /Kg/min up to three minutes of the end of the procedure. We had no episodes of apnoea and SPO₂ lower than 90, hypotension was significantly lower, never less than 85/45. Full patient recovery happened 5 minutes after the stop of infusion. No episodes of a ramsay score higher than 2 were recorded.

Conclusion Remifentanyl's advantages include a rapid onset of action, full relief of discomfort, spontaneous breathing and rapid recovery without residual sedative effects. For this reason we believe could be safely routinely used during BIB® System placement.

P-136 Improvement of Hyperuricemia and Gout Resolution After Bariatric Operations

Presenter: A. Keidar (Hadassah Hospital, Jerusalem, Israel)

Co-authors: R. Elazary¹, R. Weiss¹, A. Rivkind¹

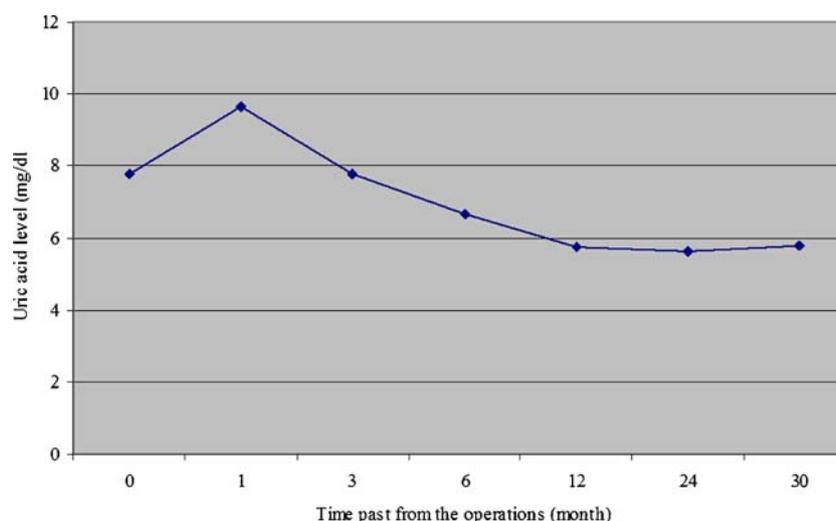
¹Hadassah Hospital Jerusalem Italy

Background Bariatric operations are effective in inducing weight loss and improving metabolic syndrome. It has been recently suggested that uric acid is an independent risk factor for developing cardiovascular diseases and renal failure. The study aimed at clarifying the effect of bariatric operations on the hyperuricemia and gout.

Methods Data was collected prospectively. Parameters included: demographic data, uric acid levels and anti-gout medications. The parameters were evaluated before the operations and through long term clinic follow up.

Result Out of 270 operated patients 28 with hyperuricemia were identified, of them 7 suffering from gout, all treated by medications. The mean BMI was 46 kg/m² (35-70). The mean age was 43 years (21-65). The mean levels of uric acid before the operation and one year after, were 7.8 mg/dl (5.7-9.9) and 5.7 mg/dl (4.1-8.2) respectively (p<0.01). The mean level of uric acid was increased during the first month after the operation (9.7 mg/dl), and returned to the preoperative level three month post the operations. Two third of the patients who suffered from gout discontinued taking medications one year postoperatively. The curve of the uric acid levels is shown at the following graph.

Conclusion Bariatric operations are effective in reducing uric acid levels. This is an additional co-morbidity the operation may improve and another proof for the metabolic influences of these operations.



P-137 Gastric Volvulus Following Linear Gastrectomy with Sleeve Gastrectomy in a Patient With Triple Morbid Obesity

Presenter: D. Del Castillo Déjardin (University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain)

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Background In the treatment of morbidly obese patients, laparoscopic sleeve gastrectomy used either alone or as a first step in duodenal switch has proved to be a safe technique with few complications. Gastric volvulus is the condition by which a twist, or volvulus, of the stomach is caused by laxity of the gastric attachments or malposition of the stomach.

Methods We present the case of a morbidly obese male patient (BMI = 70 kg/m²; weight = 220 kg) who was given laparoscopic sleeve gastrectomy without intraoperative incident. Following the operation the patient did not tolerate liquid intake. Esophagogastroduodenoscopy (EGD) revealed a “stop” at the level of the new antrum. Fibroendoscopy revealed a malposition of the stomach that made an endoscopy impossible. A new laparoscopic surgical operation revealed organoaxial volvulus of the tubulized stomach. Devolvulus and antrectomy were then performed and the operation was completed by duodenal switch without preservation of the pylorus.

Result The patient was later admitted to Intensive Care due to TPN catheter sepsis. After 95 days the patient tolerated intake and was discharged from hospital. One year after the operation his weight is 110 kg and he enjoys a good quality of life.

Conclusion With sleeve gastrectomy the stomach has no attachments to the greater curvature and the laparoscopic approach reduces adhesions, so there is a greater risk of gastric volvulus. As no case of this type has been described in the literature, it is not possible to recommend a preventive attachment mechanism. In the case presented here we opted to perform a small resection of the area of the volvulus and complete the bariatric surgical procedure.

P-138 A Pilot Pre-Operative Quality of Life Survey Designed to Identify the Degree of Pain Experienced by Patients Undergoing Bariatric Surgery

Presenter: J. Banicek (Whittington Hospital, London, United Kingdom)

Co-authors: K. McDougall¹, D. Heath¹

¹Whittington Hospital London United Kingdom

Background Obesity is associated with restrictions in lifestyle, psychological co-morbidities and pain which can prove debilitating. In this prospective study we examine the preoperative quality of life in a group of patients undergoing bariatric surgery.

Methods Between July 2008 and March 2009 50 patients (median age 43 yr, range 24 to 66 yr) referred for bariatric surgery completed a quality of life questionnaire based on the -EORTC QOQ-C30 questionnaire and adapted to suit bariatric patients.

Results 59% of patients reported some pain with 31% experiencing a lot of pain. This was most commonly situated in the back, hips and knees but included upper limb pain and some patients with diabetic associated peripheral neuropathy and regional pain syndrome. 69% of patients reported that pain interfered with daily activities with 22% reporting severe interference. When asked to rate their overall health during the last week on a scale of 1 to 10 the median score was 5 with only 34% of patients rating their overall health as > 6 and 12% rated it as < 4. Comparable values for quality of life were 5, 44% and 18% respectively. 37% of patients reported being very tired and 20% not all tired. 20% worried a lot and 18% felt very depressed. 27% and 39% respectively did not feel tired at all and did not worry at all.

Conclusions Being overweight is associated with significant reporting of poor health and quality of life as well tiredness, worry, depression and pain.

P-139 Preoperative CPX Testing in Patients Undergoing Bariatric Surgery: What is its Role?

Presenter: D. Heath (Whittington Hospital, London, United Kingdom)

Co-authors: E. Segaran¹, K. McDougall¹, P. Sufi¹

¹Whittington Hospital London United Kingdom

Background Pre-operative evaluation of fitness for bariatric procedures is essential to assess the risk of morbidity and mortality. There are a variety of ways in which this risk can be assessed including cardio respiratory exercise testing (CPX). It has been suggested that an anaerobic threshold (AT) of < 11 ml/kg/min is associated with a poorer outcome. A study of patients of undergoing oesophageal resection suggested this was of limited value whilst others have suggested it identifies patients at high risk.

Case Report A 39 yr old female weighing 140 kg (height 164 cm, BMI 52 kg/m², ideal body weight assuming a BMI of 25 Kg/m² was 65 kg) sought advice regarding bariatric surgery. She had a history of hypertension and had an antero-septal myocardial infarction two and a half years previously. She underwent a cardiac echo that demonstrated an adynamic septum and subsequently underwent CPX testing. This showed a peak V_{O₂} (oxygen uptake at maximal exercise) of 12 ml/kg/min and AT of 10 ml/kg/min (52 and 44% of predicted values respectively). A repeat CPX after a four-week exercise programme showed her peak V_{O₂} had increased to 14 ml/kg/min and AT reduced to 9 ml/kg/min (61% and 38% of predicted values respectively). She underwent laparoscopic gastric bypass, required no intraoperative or postoperative cardiovascular support, was allowed back to the ward from HDU the day after surgery and was discharged home well on the third postoperative day following an uneventful recovery.

Conclusion In view of the conflicting results regarding the effectiveness of CPX testing in predicting the risk of morbidity and mortality and the lack of data regarding obese subjects further study in this area is required.

P-140 Evaluation of the Loss of Lean Mass and Fat Following Bariatric Surgery by Means of Bioimpedance

Presenter: C. A. Malheiros (Santa Casa School of Medicine - São Paulo, São Paulo, Brazil)

Co-authors: W. Freitas Jr¹, P. Leme¹, M. Taha¹, F. Rodrigues¹

¹Santa Casa School of Medicine São Paulo; ²Dante Pazzanese Institut of Cardiology São Paulo

Background The expressive loss of weight in the first 2 years following bariatric surgery is accomplished at the expense of diminishing the percentage of fat, as well as that of muscle mass. Bioimpedance is useful in this assessment, as it is a portable device which is easy to use, permitting the follow-up of the obese during their period of weight loss. Our objective was to measure the differences in body composition in the pre- and post-operative at 1 and 2 years, comparing the losses of muscle mass and fat.

Methods We followed up on 36 morbidly obese patients submitted to Roux-en-Y distal gastric bypass with silastic ring, monitoring the percentages of fat, water and lean mass, measured on the eve of the surgery and in the post-operative at 1 and 2 years. The analysis was performed using a bioimpedance device (R.J.L Systems).

Results The results show a linear drop in average fat weight, from 51.48 kg in the pre-operative, to 25.82 kg in the post-operative at 1 year ($p < 0.05$) and 21.98 kg in the 2 year post-op ($p < 0.05$). There also was a linear drop in the average BMI, which varied from 43.02Kg/m² to 30.38Kg/m² in 1 year and 28.43 in 2 years of follow-up. There was a drop in total lean mass from 61.31 kg in the pre-operative to 53.34 kg in the post-operative at year 1 ($p < 0.05$) and 52.46 kg in the 2 year post-op (n.s.).

Conclusion After gastric bypass there was a significant loss of lean mass after 1 year in relation to the pre-operative. In relation to the loss of fat, there was statistical significance between the pre-operative and the measurements at 1 and 2 year post-op.

P-141 Group Therapy After Bariatric Surgery Can Enhance Behavioral Changes

Presenter: N. Kafri (Lin Medical Center, Clalit Health Care, Haifa, Israel)

Co-authors: R. Valfer¹, O. Nativ¹, D. Hazzan²

¹Bariatric Clinic, Lin Medical Center, Clalit Health Care Haifa Israel; ²Minimally Invasive Unit, Carmel Medical Center; Bariatric Clinic, Lin Medical Center, Clalit Health Care Haifa Israel

Background Success in maintaining weight loss after bariatric surgery requires the ability to go through changes in eating habits, life style and to develop new coping skills with stressors. Group therapy is known to be an essential tool used to enhance behavioral change processes. In the current study we evaluated whether participation in group therapy, following bariatric surgery, enhance behavioral changes among its participants.

Methods Patients attended post-surgery group therapy. Each session of group therapy consisted of ten weekly meetings with 9-13 participants. The group therapy model that was used was based on the psycho-educational model and experimental learning with focus on motivation and self efficacy. To evaluate behavioral changes, data were obtained from structured questionnaire at the end of each group therapy session.

Results 35 patients were included in the study. Mean age: 48±9 years old. 34 patients were female. Summary of the questionnaires demonstrated that 89% consume healthy food, 70% eat 3-5 meals a day, 84% performed physical activity regularly (3-7 days a week) and 83% take their vitamins regularly. 75% reported improvement in their coping skills with a stressors life event, and 80% reported taking real steps toward behavioral changes.

Conclusions These preliminary results suggest that group therapy after bariatric surgery enhances behavioral changes, promote self efficacy and improved internal locus of control. Since all of those have a major role in long-term success in maintaining weight loss, it may indicate the essential role that group therapy have in bariatric post-surgical care.

P-142 Band Infections After Lap-Banding: Bacteriological Control of the Band Adjustment Fluid

Presenter: M. Bekavac-Beslin ("Sestre Milosrdnice" University Hospital, Zagreb, Croatia)

Co-authors: B. Franjic¹, S. Cesarec¹

¹"Sestre Milosrdnice" University Hospital Zagreb Croatia

Background Numerous complications associated with the adjustable gastric band is the reason for surgeons' growing skepticism towards the method and switching to other bariatric procedures that are more difficult to perform, are irreversible and are associated with severe complications.

Methods Beside the surgical preventive measures against contamination during band placement, we take special care with ambulatory filling and emptying of the band as we believe that infection can be introduced during these manipulations. Prospectively, during follow up visits of operated patients 6 months to 4 years after the Lap-Banding procedure we do bacterial analysis of the band contents. All findings so far have been sterile.

Result The five-year results of treating morbid obesity with Lap-Banding (2004-2009) concur with the results in the literature. On 102 operated patients we encountered following complications: esophageal dilatation, herniation of the anterior and posterior gastric wall through the band, pouch dilatation, intolerance of foreign material-band, skin decubitus over the port, gastric fundus perforation with the goldfinger and erosion of band closure mechanism in the stomach.

Conclusion A definitive answer to the question on how long such a bacterial control of the filling fluid is necessary can be given only in the case that bacterially contaminated fluid used for band filling concurs with bacterial results of cultures at port or band infections.

P-143 Influence of Multidisciplinary Follow-Up on Bariatric Surgery

Presenter: N. Danel Buhl (Service de Nutrition, Lille, France)

Co-authors: M. Pigeyre¹, A. Beaugiraud¹, R. Caiazzo², F. Baudoux¹, L. Arnalsteen², H. Verkindt², F. Pattou², M. Romon¹

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Background French guideline on bariatric surgery point out the need of a multidisciplinary follow-up pre and postoperatively. This multidisciplinary follow-up was set up in our team from 2006. The aim of this study is to compare retrospectively the influence of this organisation.

Methods All patients who had gastric banding bariatric surgery between 1995 and 2009 were included in this study (n=372). They were divided into two groups: "before multidisciplinary follow-up" (n=230) and "multidisciplinary follow-up" (n=142). The following parameters compared were age at surgery, sex repartition, maximal weight, maximal loss weight before surgery, duration of hospitalisation and postoperative complications. We also studied BMI and albuminemia on preoperative, 6 months and 12 months follow-up.

Result

| | Before multidisciplinary follow-up | Multidisciplinary follow-up | p |
|---|------------------------------------|-----------------------------|--------|
| Female sex (%) | 83% | 80% | NS |
| Age (years) | 40,78+/-9,82 | 39,21+/-11,67 | NS |
| Maximal weight (kg) | 138,30+/-22,20 | 135,81+/-23,94 | NS |
| Maximal loss weight before surgery (kg) | 22,83+/-14,10 | 21,48+/-14,09 | NS |
| Preoperative albuminemia (g/l) | 40,12+/-3,00 | 42,59+/-2,71 | <0,001 |
| Preoperative BMI (kg/m) | 47,52+/-6,36 | 46,72+/-6,45 | NS |
| Hospitalisation duration (days) | 3,70+/-1,90 | 2,61+/-1,79 | <0,001 |
| Postoperative | 14% | 3% | <0,001 |

| | | | |
|------------------------------------|--------------|--------------|--------|
| complications (%) | | | |
| 6 months after surgery | 39,88+/-2,44 | 41,77+/-3,00 | <0,001 |
| albuminemia (g/l) | | | |
| 6 months after surgery BMI (kg/m) | 42,37+/-6,32 | 41,27+/-6,05 | NS |
| 12 months after surgery | 40,40+/-2,47 | 42,83+/-2,88 | <0,001 |
| albuminemia (g/l) | | | |
| 12 months after surgery BMI (kg/m) | 40,70+/-6,49 | 38,78+/-6,58 | <0,05 |

Conclusion Consequences of multidisciplinary follow-up on bariatric surgery are a diminution of hospitalisation duration and postoperative complications, resulting in lower human and financial costs. Multidisciplinary follow-up also allows better pre and postoperative nutritional states with better weight loss after 1 year.

P-144 Predictive Factors of Weight Loss After Laparoscopic Gastric Bypass at One Year: Impact of Anthropometric Parameters, Metabolic Status And Dietary Habits Before Surgery

Presenter: M. Coupaye (Service des explorations fonctionnelles, Hôpital Louis Mourier, COLOMBES, France)

Co-authors: B. Castel², S. Msika², S. Ledoux¹

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Background Substantial weight loss is achieved in a majority of severely obese subjects who undergo gastric bypass (GBP) surgery but a minority of them fails to reach expected results.

Methods We studied the predictive value of several preoperative factors on GBP effectiveness, including anthropometric parameters (BMI, waist to hip ratio), metabolic parameters (fasting glycemia, insulin level, HOMA index, lipidic parameters, gammaGT, blood pressure) and dietary habits (caloric intake, percent of lipids, glucids and proteins). Weight loss was assessed at one year after GBP in 100 obese subjects (90 women, age 43±11 years; BMI 48.5±7.9 kg/m²; mean ± SD).

Result Mean absolute weight loss (AWL) was 40.1 kg±11.2 kg at one year, corresponding to a mean percentage of excess weight loss (%EWL) of 68.1 ± 21.1 %. AWL was positively correlated with initial weight (R=0.461, p<0.001), initial BMI (R=0.380, p<0.001), total cholesterol (R=0.235, p=0.0467), preoperative energy intake (R=0.329, p=0.001) and negatively correlated with age (R=-0.271, p=0.007) and preoperative protein intake (R=-0.203, p=0.045). In multivariate analysis, only initial weight and preoperative energy intake were independently associated with AWL.

Conclusion In addition to initial weight, dietary habits influence weight loss one year after GBP surgery. These findings allow improvements in patient information about expected weight loss after GBP and lead to take into account dietary habits in surgical decision. These results would be strengthened by a larger cohort of patients and a longer follow-up.

P-145 Correlation Between Physical Image and Social Skills in Women Who are Awaiting Bariatric Surgery

Presenter: L. Theodoro (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: A. Barreto¹, C. Benedetti², W. Bruscatto³, C. Malheiros⁴

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Background Obesity is a chronic disease of multifactorial etiology. The interference of psychological factors can be observed, especially those related to a negative physical image, which can cause as consequences: feeling of inadequacy as a human being, inadequacy in social interactions and

low self-esteem. The aim of this study is to evaluate the Physical Image and the possible inter-relation of it with these patients' social skills.

Method 20 female patients with an age range between 23 and 58 years, were evaluated with the Physical Image Questionnaire – Version for Women (BSQ) and with the Social Discomfort and Aloofness Scale (SAD). The average weight was 122.45 kg and a body mass index varying between 40.7 and 72.26. All the patients evaluated were part of the preparation Group for Bariatric Surgery.

Results 95% demonstrated a change in Physical Image, 10% of those with a small alteration, 50% with a moderate alteration and 35% serious alteration. Regarding the Social Skills, 60% of the patients presented a good ability for them and 40% presented low ability in the social skills, however, the correlation between Physical Image and Social Skills was not significant.

Conclusions Most of the patients presented a different Physical Image and all those who presented difficulties in social interactions demonstrated a serious alteration in physical image, nevertheless there was no significant correlation between these aspects. This data suggests that the manner in which these patients interact in the social environment does not only depend on the quality of their physical image, but also on internal aspects of their personality.

P-146 Closed Gastroduodenal Obstruction by Pancreatic Cancer Following Gastric Bypass. Case Report

Presenter: C. A. Malheiros (Santa Casa School of Medicine - São Paulo, São Paulo, Brazil)

Co-authors: R. Silva¹, F. Rodrigues¹, M. Carvalho¹, G. Wakin¹, A. Pacheco Jr.¹

¹Santa Casa School of Medicine São Paulo Brazil

This case study deals with a white, 55-year-old female. In 2003, she underwent an open gastric bypass, having the weight of 160 kg. and the height of 1.60 m (BMI = 62.5). In 2004, her laparoscopic cholecystectomy and intraoperative cholangiography were both normal. In 2006, she returned with obstructive jaundice, which upon investigation led to a diagnosis of pancreatic tumor. She was submitted to a laparotomy, a 5-cm. tumor from the head of the pancreas was biopsied and invasion of the superior mesenteric vein, as well as billiodigestive bypass were observed. The biopsy revealed pancreatic adenocarcinoma. She was referred to chemotherapy (Gemcytabin + Oxaliplatin – GEMOX), and presented a good response.

In 2009, she again returned with epigastric discomfort, fecal acolia and absence of jaundice. The computed tomography of the abdomen showed a great distension of the excluded gastric chamber, in addition to the 2-cm. tumor in the head of the pancreas and a bulky incisional hernia. She had the weight of 120 kg (BMI = 46.9)

She again underwent a laparotomy which confirmed the presence of a 2-cm. tumor on the head of the pancreas and the invasion of the superior mesenteric vein. The opening of the volumous excluded gastric chamber permitted the draining of 2000 ml. of bile. A retrogastric gastroenteroanastomosis in the first jejunal loop and an incisional hemioplasty with a Vypro II™ mesh were performed. The progress was good and the patient was again referred to chemotherapeutic treatment.

P-147 Sexual Functioning in Women Waiting for Obesity Surgery and Women Already Submitted to Obesity Surgical Treatment

Presenter: I. Silva (Fernando Pessoa University, Porto, Portugal)

Co-authors: J. Pais-Ribeiro², L. Pedro³, H. Cardoso⁴, M. Vazão⁵, M. Abreu⁶, N. Costa⁷, A. Martins-da-Silva⁸, D. Mendonça⁹, E. Vilhena¹⁰, S. Maes¹¹, J. Pennebaker¹²

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Background This study aims to compare sexual functioning between women who are candidates to obesity surgery and women who were already submitted to surgical treatment.

Methods Two groups of patients were assessed:

- Group 1: 55 women already submitted to obesity surgery, with a mean age of 44.11 (SD=9.31), 60% married, with a mean body mass index of 36.44 (SD=7.32).
- Group 2: 30 women candidates to obesity surgery, with a mean age of 42.38 (SD=11.09), 73.3% married, with a mean body mass index of 43.65 (SD=6.82).

There were no statistically significant differences between the two groups concerning age ($p > .05$), school level ($p > .05$), disease duration ($p > .05$) and civil status ($p > .05$). Nevertheless, Group 1 patients' present a lower body mass index than Group 2 patients' ($p < .0001$). Patients answered to the Sexual Functioning Scale in the context a personal interview and clinical data were collected from their hospital registers after their informed consent.

Results Data analysis suggest that there are no statistically significant differences between patients from Group 1 and Group 2 concerning Sexual Interest, $t(75) = 1.39$; $p > .05$; Inadequate Lubrication $t(75) = 1.49$; $p > .05$; Difficulties in Orgasm, $t(75) = .83$; $p > .05$; Capacity to satisfy her sexual partner, $t(74) = .39$; $p > .05$; and General Satisfaction with Sexual Functioning, $t(75) = 1.18$; $p > .05$.

Conclusions There were not found significant differences between women submitted to obesity surgery and those waiting for obesity surgical treatment concerning sexual functioning. Globally, sexual functioning (interest, lubrication, orgasm, capacity to satisfy the partner, general satisfaction) is not identified as a major problem by patients of both groups.

P-148 Objective Measurement of Physical Activity Before and Immediately After Bariatric Surgery in Morbidly Obese Subjects

Presenter: P. Crooke^S (University of Southern California, Los Angeles, United States of America)

Co-authors: P. Frank¹, P. Crookes¹

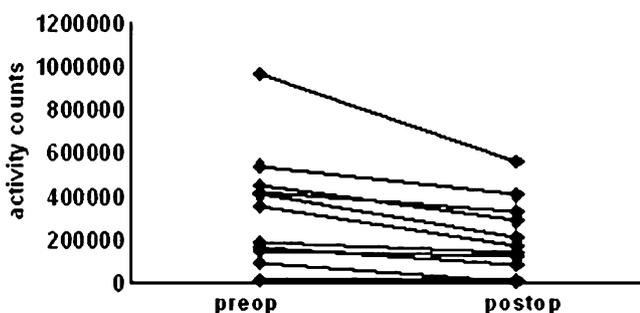
¹University of Southern California, Los Angeles, United States of America

Background Physical activity is important in patients undergoing bariatric surgery for morbid obesity but is difficult to measure objectively. The early effect of surgery on physical activity in the obese has not been objectively measured. We compared omnidirectional accelerometry with patient self-reported assessments to evaluate the effect of bariatric surgery on the degree of physical activity in morbidly obese patients.

Methods Patients undergoing laparoscopic and open bariatric surgery were invited to wear a waistband-mounted omnidirectional accelerometer (Actical) for at least 72 hours before and for one week immediately after surgery, and to record their daily activity during the monitored period. Measured activity was expressed as activity counts in 15-second epochs. Data acquisition incorporates intensity of movement into the activity count.

Result Eleven subjects (median age 43, M:F:4:7, median BMI 51) were studied. Activity counts before and after surgery are shown in the Figure. In 10 of the 11 subjects there was a noticeable reduction in physical activity, despite the use of the laparoscopic approach. Sample size was too small to detect a difference in open vs laparoscopic operations, but the same pattern was observed. Mobility status improved in one patient who immediately abandoned a cane.

Conclusion Even laparoscopic bariatric surgery is associated with a substantial reduction in physical activity. This conclusion was unexpected since it was at variance with patients' self-reported activity. This technology has the potential to provide feedback to patients recovering from bariatric surgery and could be extended to the more general problem of activity after a wide variety of surgical procedures.



P-149 Correlation Between the Regaining of Weight and the Occurrence of Anxiety and Depression in Patients Submitted to Bariatric Surgery

Presenter: L. Azevedo Pinto (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

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Background It is known that the regaining of weight is directly connected with the difficulty in adaptation to the new eating pattern suggested along with the surgical treatment and that psychological factors, above all the presence of anxiety and depression symptoms arising from the condition of maintaining the minimum weight achieved, also interfere. In this manner, the objective is to verify the correlation between the regaining of weight and the occurrence of anxiety and depression in patients submitted to bariatric surgery.

Methods The Hospital Scale of Anxiety and Depression (HAD) – an instrument developed by Zigmond and Snaith in 1983 and validated in Brazil by Botega et al. in 1995 was utilized. The anthropometric data was obtained from patient files. The cohort consisted of 50 female patients submitted to bariatric surgery within 2 to 9 years previously. The age bracket of the participants was between 28–63 years.

Results The patients were divided into 3 groups: Group 1 – without regaining of weight (18%); Group 2 – regaining of weight less than 10% (34%) and; Group 3 – regaining of weight greater than 10% (48%).

In group 1: 77.7% did not present anxiety and depression; 11.1% presented anxiety and depression and; 11.1% presented only anxiety.

In group 2: 35.2% did not present anxiety and depression; 25.5% presented anxiety and depression and; 41.1% presented only anxiety.

In group 3: 25% did not present anxiety and depression; 50% presented anxiety and depression; 20.8% presented only anxiety and; 4.2% presented only depression.

Conclusions The occurrence of anxiety and depression is more frequent in the population with the regaining of weight greater than the expected. A factor worth considering is the prevalence of anxiety symptoms over those of depression.

P-150 Study of Factors Related to the Regaining of Weight in Patients Submitted to Bariatric Surgery

Presenter: L. A. Pinto (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Theodoro¹, J. Souza², C. Benedetti³, W. Bruscato⁴, C. Malheiros⁵

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Background It is a known fact that the recuperation of weight following bariatric surgery depends less on the quality of the procedure technique performed than on the capacity of adaptation of each patient to new eating habits which the treatment proposes. The objective of this study is to analyze the perceptions of the patients as to the attributable causes for the regaining weight and the conditions under which they could revert the weight regaining scenario.

Methods The cohort consisted of 24 women who presented a regaining of weight of over 10% of the weight they had lost upon being submitted to bariatric surgery at least 2 years prior. The age bracket of the participants varied from 28 to 63 years, the average BMI on the collection date was 31.3 kg/m², as opposed to that of 49.3 kg/m on the day of the surgery. The data was collected by means of a questionnaire and was subsequently analyzed qualitatively.

Results Of the interviewees, 37.5% considered the regaining of weight to be caused by emotional problems, 33.3%, due to organic factors and 37.5%, as a result of inadequate diet. The solution for the problem lay, for 29.1% of the interviewees, in the assistance of the health team, for 45.8%, in the changing of eating habits, for 16.6%, in the practice of physical exercise and for 12.5%, in willpower.

Conclusions The regaining of weight is related to the difficulties in the late post-operative changing of behavior, even for patients previously informed of the necessity for a significant change in eating habits, demonstrating that

simply providing information in the pre-operative is not sufficient to prevent weight regain in the post-operative.

P-151 Using a Pharmacokinetic Model Adjusted to Obese Patients in Anesthesia for Laparoscopic Gastrojejunal Surgery

Presenter: M. F. Herrera (The American British Cowdray Medical Center IAp, Distrito Federal, Mexico)

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Background Target Controlled Infusion (TCI) is a method of drug administration. It is not known much of the pharmacokinetic behavior of some anesthetic drugs in obesity. Models have been developed for the administration of fentanyl, some of these based on the "pharmacokinetic mass" and using TCI. We assessed the efficacy and safety of the administration of fentanyl using this model in obese patients undergoing laparoscopic gastrojejunal surgery.

Methods A quasi-experimental, comparative, prospective and randomized study. We included 20 patients from April to June 2008, 10 patients were in the control group (traditional administration of fentanyl) and 10 experimental (TCI administration of fentanyl). The results were analyzed using parametric and nonparametric statistical, fixed the level of significance with an alpha value less than 0.05.

Results There were 8 men and 12 women. The mean age was 39.3±12 years, the weight of 111.3±22.3 kg, BMI 40.5±5.5 kg/m². The total dose of fentanyl was higher in the experimental group (P = NS). There was no difference in hemodynamic stability by groups in the different events of the perioperative. The elapsed time between the closing of fentanyl and spontaneous ventilation and extubation time was longer in the experimental group (P = NS). Nor were there differences when assessing pain, nausea and vomiting in recovery room, at 12 and 24 hours.

Conclusions It is feasible to use the traditional method of administration of fentanyl in obese patients, where there are no pumps TCI to maintain stable plasma concentrations.

P-152 Weight and Fat Mass Loss in Gastric Banding and Sleeve Methods

Presenter: D. Lazaridis (Neo Athineon Hospital, Athens, Greece)

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Background Gastric Banding (GB) and Sleeve are common therapeutic methods for morbid obesity. These two methods are compared in terms of both weight and fat mass loss. The impact of exercise is also evaluated.

Methods Patients undertaken surgery between June 2006 and March 2008 were included. Our research was confined to the 1st year follow-up. ANOVA analysis was used to perform statistical tests.

Result 63 patients, fully documented, were included in this preliminary report (mean age: 41.94; women: 68%; Sleeve: 19 vs GB: 44). Sleeve led to:

- 1) higher weight reductions in the 1st, 3rd and 6th month (mean: 10.9% vs 8%, p=0.001; mean: 16.5% vs 12.1%, p<0.001; mean: 25% vs 15.7%, p<0.001 respectively),
- 2) higher BMI reductions in the 3rd and 6th month (mean: 16.6% vs 12.2%, p=0.007; mean: 26.8% vs 16.9%, p=0.001, respectively),
- 3) higher decrease in the Excess of Fat Mass (EFM) in the 3rd and 6th month (mean: 28.3% vs 19.7%, p=0.005; mean: 48.6% vs 28.1%, p<

0.005 respectively). However, the average proportion of lean mass in the weight loss was higher in the Sleeve method in all months (month 1: 40.8% vs 40.4%; month 3: 43.2% vs 36.5%; month 6: 33.2% vs 30.9%; month 9: 24.5% vs 24.2%; month 12: 31.7% vs 27.6%). In the 9th month exercise led to a statistically higher decrease in weight loss (mean: 24.7% vs 15.5%; p=0.03), BMI (mean: 25% vs 19%; p=0.03) and EFM (mean: 24.1% vs 47%, p=0.049).

Conclusion Sleeve performed better than GB especially in the first 6 months. However, the higher proportion of lean mass in the weight loss may imply that protein supplements are essential for patients undertaken the Sleeve method. Exercise seemed also to exert a positive impact on the total outcome in both methods.

P-153 Evaluation of the Occurrence of Anxiety and Depression in Morbidly Obese Patients on the Waiting List for Bariatric Surgery

Presenter: L. Theodoro (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Pinto¹, K. Hidaka³, W. Bruscato⁴, C. Malheiros⁵, V. Amaral²

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Background It is a known fact that class III obesity (BMI > 40) presents a quite elevated frequency of co-morbidities, a worsening in the quality of life and a reduction in life expectancy and, above all, a greater probability in the failure of conventional treatments for weight loss. Thus, due to the necessity for a more effective intervention for these patients, the elected treatment is surgical. In a addition to the detriments mentioned above, the interference of psychological factors in these patients can also be observed, anxiety and depression symptoms being foremost. Therefore, the objective of this study is to verify the occurrence of anxiety and depression in patients on the waiting list for bariatric surgery.

Methods The instrument utilized was the Hospital Scale for Anxiety and Depression (HAD) – developed by Zigmond and Snaith in 1983 and validated in Brazil by Botega *et al.* in 1995. The cohort consisted of 132 patients (15.15% male and 84.85% female), candidates for bariatric surgery who are under multidisciplinary accompaniment at the Morbidly Obese Outpatient Ward at Santa Casa of São Paulo. The age bracket of the participants varied between 22 and 60 years. The average BMI was 49.

Results Of a total of 132 patients 3.7% presented depression, 15.9%, anxiety, 42.4%, anxiety and depression and 25% did not present symptoms characteristic of these emotional states.

Conclusions The majority of the obese patients presents anxiety and/or depression, suggesting that the difficulties stemming from the state of obesity, being emotional or physical, directly influence the emotional state of these patients.

P-154 Improvement in Quality of Life After Laparoscopic Sleeve Gastrectomy

Presenter: D. Nocca (chu montpellier, montpellier, France)

Co-authors: M. Chauvet¹, C. Cassafieres¹, A. Jaussent¹, R. Schaub¹, G. Fabre¹, V. Salsano¹, J. G. Rodier¹, E. Deneve¹, C. de Seguin de Hons¹, P. Lefebvre¹, M. Baccara Dinet¹, E. Renard¹, J. Bringer¹, J. M. Fabre¹

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Background Improvements in quality of life (QOL) obtained by weight loss have mainly been reported after bariatric surgery. QOL has not been investigated in surgical patients who have undergone a laparoscopic sleeve gastrectomy.

Methods Prospective data were obtained from 78 consecutive patients (mean age :42.4 years, body weight :131 kg, body mass index (BMI): 47 kg/m², 24.4 % of superobese patients). Two different QOL questionnaires, the generic Medical Outcomes Study Short Form-36 (SF-36) and the Impac of Weight on

Quality of Life Lite questionnaire (IWQOL-Lite), were evaluated at three points in time: at the start, 6 months, and 12 months after the LSG.

Result The mortality rate was nil as the conversion rate. Excess Weight Loss was respectively 45.67% and 57.18% at 6 and 12 months. Resolution of type 2 diabetes was found in 80% of patients after 12 months. QOL scores revealed a significant improvement in all health domains. However the efficacy of the procedure in terms of weight loss was not obligatory correlated to the improvement in quality of life.

Conclusion LSG is an effective and safe procedure. Improvement in quality of life is emphasized but needs to be evaluated in a longer follow up.

P-155 Evaluation of the Correlation Between Ponderal Evolution and Satisfaction with the Treatment in Patients Submitted to Bariatric Surgery

Presenter: J. S. Souza (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Pinto¹, L. Theodoro², W. Bruscato⁴, C. Malheiros⁵, C. Benedetti³

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Background The post-operative weight variation is an indicator of possible failure in the surgical treatment. The condition of obesity appears to occasion in the individual a significant degree of dissatisfaction, which transcends health and touches upon issues related to work, relationships and self-esteem. Being so, the objective of this study is to correlate the evolution of weight loss with treatment satisfaction in patients who have undergone bariatric surgery.

Methods The cohort consisted of 50 women who had been submitted to bariatric surgery - within an average of 4 years and 3 months. For this analysis, the patients were divided into 3 groups: Group 1 – without regaining of weight; Group 2 – regaining less than 10% and. Group 3 – regaining over 10%. The degree of satisfaction with the surgery and perceptions as to quality of life were later investigated and correlated in each group.

Results 18% maintained the minimum weight achieved; 34% presented a weight regaining less than 10% and; 48% presented a regaining of weight over 10%. In Group 1: only 2% did not feel satisfied with the surgery, however 100% of the patients reported a better quality of life following surgery. In Group 2: 100% presented satisfaction and improvement in the quality of life after the surgery. In Group 3: only 8.3% reported satisfaction with the surgical procedure and 12.5% did not report any improvement in quality of life.

Conclusions The majority of the patients considers itself satisfied with the procedure and report an improvement in their quality of life. This data also applies to patients who have regained weight, suggesting that the fact that they recuperated part of the excess weight lost does not affect the reported improvement in quality of life and also is not related to the dissatisfaction with the procedure.

P-156 Evaluation of the Regaining of Weight After Bariatric Surgery

Presenter: L. Theodoro (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Pinto¹, J. Souza², C. Benedetti³, W. Bruscato⁵, C. Malheiros⁶, W. Freitas Jr⁴

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Background The specialized literature concurs that in the long run the success of the surgical treatment for obesity depends less on the technical quality of the surgical procedure than on the adaptive capacity of the patient for new eating habits. The observation of the weight variation in the post-operative is one of the indicators for possible deviations in eating behavior, which when altered would make intervention by a multidisciplinary team necessary. The objective of this study is to evaluate the evolution in the weight of patients who have undergone bariatric surgery.

Methods The cohort consisted of 100 patients (13% male and 87% female) who had undergone bariatric surgery within the previous 2 to 9 years (4 years and 3 months, on average) and monitored by the Morbidly Obese Outpatient Ward of Santa Casa of São Paulo.

Result Twenty-three percent did not reach the expected weight loss (less 35% of the initial weight), 34% reached the expected weight loss (35 – 45% of the initial weight) and 43% exceeded the expected weight loss (over 45% of the initial weight). As for the regaining of weight, 24% maintained the minimum weight attained and 86% gained weight during the study period. Among the latter, 26% recuperated less than 5% of the weight they had lost, 20% recuperated between 5 –10% and 30% recuperated over 10%.

Conclusion The majority of the patients who have undergone the surgery present weight gain, which indicates that this surgery promotes initial weight loss, but does not guarantee the maintenance of the same.

P-157 Evaluation of the Occurrence of Anxiety and Depression in Patients Who have Undergone Bariatric Surgery

Presenter: J. Souza (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Pinto¹, C. Benedetti³, W. Bruscato⁴, C. Malheiros⁵, L. Theodoro²

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Background The specialized literature is in concurrence that the long-term success of surgical treatment for obesity depends less on the technical quality of the surgical procedure than on the adaptational capacity of the patient to new eating habits and for this adaptation the emotional conditions of the patient have a significant influence. Therefore, the objective of the present study is to verify the occurrence of anxiety and depression in patients submitted to bariatric surgery.

Methods The instrument utilized was the Hospital Scale for Anxiety and Depression (HAD) – developed by Zigmond and Snaith in 1983 and validated in Brazil by Botega *et al.* in 1995. The cohort consisted of 50 women who had undergone bariatric surgery at the Outpatient Ward for Obesity of Santa Casa of São Paulo 2 to 9 years before – (average of 4 years and 3 months). The age bracket of the participants varied from 28 to 63 years (average 43.8 anos). The average BMI following surgery was 31.3 kg/m.

Results Of a total of 50 patients, 2% presented depression, 28.6%, anxiety, 34.7%, anxiety and depression and 34.7% did not present the characteristic symptoms of these emotional states.

Conclusions The majority of the patients who underwent surgery presented signs of anxiety and/or depression. If these signs represent the continuity of aspects presented before the procedure or the development of the same following the procedure is left open in the present study.

P-158 Caribbean Prospective Multidisciplinary Study of Management of Obesity with the Air-Filled Intra-gastric Balloon

Presenter: R. Romney (Hepatology-Gastroenterology, Baie-Mahault, Guadeloupe)

Co-authors: M. Durand¹, D. Siarras², S. Beauvarlet³, S. Dagnaux¹, P. Bourgeois¹, R. Riahi⁴, S. Clairville-Etzo⁵, Y. Partouche⁶

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Background In the French Caribbean, obesity has recently become a plague due to diminution of exercise, stressful life and occidental diet. 40% of the adult population is considered overweight and children's obesity has reached 10 % at the age of; ⁶The aim of the study was to assess the benefit of a multidisciplinary program to cure obesity in our population including the Hélosphere air balloon.

Methods From February 2007 to March 2009, 75 patients were followed by a multidisciplinary group and treated with Heliosphere. The group was composed of two gastroenterologists, a psychologist, a nutritionist and a physical coach. Every patient signed up to see regularly each member of the group. The results are given in mean \pm standards deviations.

Results 75 patients (6 M/69F, age: 36.6 years \pm 2.06) have an average initial BMI of 39.43 kg/m \pm 1.48. After 6 months follow-up, subject showed significant reduction in weight (15.18 kg \pm 1.88), percent excess of mass loss (42.49 % \pm 5.44) and BMI loss (5.44 kg/m \pm 0.68). There were few side-effects: epigastric pain (7%), no early removal. Minor complications were oesophagitis reflux (4%) and constipation (16%). 5 patients experienced spontaneous deflations after more than 6 months, only one led to a small-bowel obstruction solved by a surgical approach. We observed 65% of improvement or resolution of comorbidities.

Conclusions With a multidisciplinary approach, Heliosphere intragastric balloon has been effective to control obesity inducing an excess weight loss of almost 43 %. It was not associated with mortality nor major complication during the 6 month period.

P-159 Evaluation of the Respiratory Muscle Strength in Women with Class II and III Obesity

Presenter: C. A. Malheiros (Santa Casa School of Medicine - São Paulo, São Paulo, Brazil)

Co-authors: L. Martins³, V. Alves¹

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Background Currently obesity is considered to be a public health issue, defined as an excessive accrual of fat caused by a positive energy balance. It has to be faced as a multifactorial worldwide issue, and social awareness and guidance campaigns should be organized in order to prevent it. Our objectives were to evaluate the respiratory muscle strength (RMS) in obese women and compare it to the values obtained by the equations proposed for the calculation of maximal respiratory pressures (MRP), Check the a correlation between the body mass index (BMI), and the RMS and the correlation between the FRM and age.

Methods This study was a preoperative follow-up for gastric bypass surgery. 84 women with BMI greater than 35 Kg/m², mean age of 39.49 \pm 10.15 years old, with anthropometric and RMS measures taken and compared to the regular values foreseen in equations proposed by Neder were studied.

Results There is a statistically significant difference between the maximal inspiratory pressure found and foreseen. The average MRP values found are higher than the regular percentage foreseen.

Conclusion The MRPs are usually above the regular percentage foreseen when compared to the values obtained by the equations proposed by Neder for non-obese population. There was no correlation between the BMI and the MRPs, as well as between MRPs and age.

P-160 Comparative Study of Weight Loss and Nutritional Status After Bariatric Surgery Between Patients Over 59 Years Old and Patients Under 30 Years Old

Presenter: A. Beaugiraud (Service de Nutrition, Lille, France)

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Background Benefit/risk ratio of elderly bariatric surgery remains a matter of controversy. Recent studies have shown no difference to patients > 60 y-old compared to patients 50-59 y-old. But no study compared these patients to younger people. Our objective consists in studying weight loss and nutritional status of patients 59 y-old compared to patients 30 y-old, one year following surgery.

Methods Out of a cohort of 729 patients who underwent bariatric surgery, we compared 31 patients >59 y-old (group 1, body mass index (BMI) 49.6 \pm 7 kg/m;

45% gastric banding (GB), 19% sleeve gastrectomy (SG), 29% gastric bypass (GBP), 6% bilio pancreatic bypass (BPB)) to 98 patients <30 y-old (group 2, BMI 49.3 \pm 9; 58% GB, 2% SG, 30% GBP, 10% BPB). We assessed at preoperative and one year following surgery: IMC and plasma concentrations of albumin, prealbumin, calcium, serum alcalin phosphatases (SAP), vitamins B12, B1, D, ferritin.

Result At preoperative assessment, the two groups were different: group 1 had higher means of ferritin (188 \pm 157 vs 96 \pm 85, p<0.001), prealbumin (0.28 \pm 0.09 vs 0.25 \pm 0.05, p=0.04), vitamin B12 (0.44 \pm 0.34 vs 0.34 \pm 0.15, p=0.03), and SAP (226 \pm 110 vs 187 \pm 56, p=0.01) than group; ²One year following surgery, the percent of excess BMI lost was lower in group 1 compared to group 2 (36.7 \pm 15.3% vs 50.2 \pm 23.6%, p=0.03, adjusted for intervention type). Means of albumin, prealbumin, calcium, vitamins B12, B1, D, became equivalent. Ferritin remained higher (172.2 \pm 129 vs 81 \pm 84, p<0.001) and SAP tended to remain higher in group 1 compared to group 2.

Conclusion Elderly are already different at preoperative assessment so the absence of difference in both groups at postoperative assessment may be falsely reassuring. News guidelines of nutritional follow-up in elderly might be developed, like use of grip test.

P-161 Eating Patterns in Patients Undergoing Bariatric Surgery

Presenter: A. Madan (University of Miami Miller School of Medicine, Miami, United States of America)

Co-authors: B. Beech², D. Tichansky³

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Background Bariatric surgery patients exhibit a range of preoperative eating patterns. Characterization of these baseline eating patterns may be helpful in guiding dietary changes postoperatively. This investigation was performed to test the hypothesis that poor eating patterns were common in preoperative bariatric surgery.

Methods Preoperative bariatric surgery patients completed two validated surveys: a revised version of the Three Factor Questionnaire and the unhealthy weight concerns scale of McKnight Risk Factor Survey. The Three Factor Questionnaire measured three aspects of eating behavior: cognitive restraint, emotional eating, and uncontrolled eating. The McKnight Risk Factor Survey measured the patient concerns regarding their weight.

Result There were 20 patients in this study. Most of the patients self-identified as emotional eaters (68%), having experienced trouble in discontinuing eating (68%), being prompted to eat when watching others eat (68%), eating when sad (58%), eating when lonely (63%). In addition, minimal dietary restraint was reported: 90% of the patients did not restrain themselves at meals in an effort to lose weight, 74% did not attempt to avoid "fattening foods", and 68% were not likely to consciously eat less than desired. In addition, we noted an inverse relationships between weight concerns and BMI (r=-0.46; p=0.65), body image and BMI (r=-0.59; p<0.03), and weight concerns and eating patterns (r=-0.744; p<0.002).

Conclusion Poor preoperative eating patterns are common in patients undergoing bariatric surgery. The bariatric surgery team should be aware of these eating patterns so they may be addressed in preoperative and postoperative education efforts.

P-162 A Study of the Clinical Evolution of Morbidly Obese Patients with Diabetes Mellitus Who Underwent Bariatric Surgery in the Nucleo Do Obeso Do Ceará, Fortaleza, in 2007

Presenter: K. Farias Borges (Núcleo do Obeso do Ceará, Fortaleza, Brazil)

Co-authors: L. Moura¹, G. Barbosa¹, J. Lima¹, C. Nogueira¹, A. Santos¹

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Background Evaluate, by use of the results obtained in a retrospective study of 2007, the evolutionary profile of patients treated in the Nucleo do Obeso do Ceará.

Methods Statistical survey of the records kept by the interdisciplinary team responsible for the patients who underwent bariatric surgery in 2007. The survey furnished information relative to the patients' profile, such as: age, sex, weight evolution, BMI, and abdominal circumference (AC).

Result In 2007, a total of 182 patients underwent surgery, including 40 diabetics. Of these, 27 were women and 13 were men, between the ages of 19 and 63. Among the women, the BMI reached a maximum of 48.7 kilos per m, and a minimum of 36 kilos per m. The maximum weight was 129 kilos and the maximum abdominal circumference was 133 cms. Among the men, the highest BMI found was 58.6 k per m, and the lowest, 37 k per m. The maximum weight found among the men was 160 kilos, and the maximum abdominal circumference was 150 cms. At the end of the second month after surgery we found an average weight reduction of 16.7%, and an average reduction in abdominal circumference of 14%. As to the average glycemic index, the 14 patients selected during the pre-surgery procedure showed an average of 240 mg per dl, which decreased to an average of 105.5 mg per dl one year after the operation, for a reduction of 44.7%.

Conclusion Not only does bariatric surgery guarantee a substantial loss of weight, but it has also been efficient in bringing about the clinical improvement of diabetes mellitus. The conclusion which can be reached is that, in accordance with world tendencies, surgery is a significant ally in the treatment of diabetes.

P-163 Gastro-Oesophageal Reflux Disease (GERD) Prevalence in Obese Patients Referred for Bariatric Surgery

Presenter: E. Letessier (IMAD, Nantes, France)

Co-authors: L. Eric¹, B. Kafra², A. Salvatore¹, B. Stanislas²

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Background GERD is reported as a complication sometimes occurring in the follow-up of bariatric surgery. In fact little is known about the prevalence of GERD in these patients before surgery. The aim of this prospective study was to determine oesophageal symptoms as well as functional and endoscopic parameters in a group of obese patients referred for bariatric surgery.

Methods All consecutive patients with a Body Mass Index (BMI) above 30 kg/m² referred for bariatric surgery had a standardized questionnaire, upper GI endoscopy, oesophageal 24 h pH-monitoring and manometric recording using a high resolution device with 36 sensors (Sierra Inc, Los Angeles, CA, USA). Standardized questionnaire assessed about typical or suggestive digestive symptoms (heartburn, regurgitation, epigastric pain and dysphagia), as well as extra-digestive manifestations (cough, ENT symptoms, thoracic pain) of GERD. Data were analyzed according to oesophageal acid exposure expressed by using percentage of time with pH < 4 [normal < 4.2%].

Result Fifty five patients were recruited (46 women, BMI: 47±7 kg/m², age: 42±11 yrs). There were manometric abnormalities in 40 patients (72%) (Hypotonic lower oesophageal sphincter (LES) = 26, abnormal peristalsis = 16, repeated waves = 11). Oesophageal acid exposure was abnormal in 21 patients (GER + group, mean weight: 125±20Kg and mean BMI: 45±5 kg/m²) and remained in the normal range in 34 (GER- group, mean weight: 130±23 Kg and mean BMI: 48 ±7 kg/m²). There was a negative correlation between age and acid exposure. In addition a significant correlation was found between the size of hiatal hernia and weight.

Conclusion In this group of obese patients referred for bariatric surgery, these results highlight the high prevalence of symptoms suggestive of GERD (75%), as well as pathological oesophageal acid exposure (38%). These results illustrate the need for a careful clinical and instrumental assessment of GERD before performing bariatric surgery. This strategy should help to a better analysis of specific post-operative symptoms.

P-164 Analysis of the Profile of Patients Submitted to Bariatric Surgery at the Surgery Ward of Santa Casa of São Paulo

Presenter: L. Theodoro (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

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Background Surgery is the elected treatment for patients with a body mass index equal to or over 35 because only 1% of these patients can lose weight by conventional treatments. In the long run, the success of the surgical treatment does not depend on the procedure, but on the patient's adaptive capacity. Therefore, the aim of this study is to analyze the profile of patients who have had surgery at Santa Casa of São Paulo.

Methods Analysis of the following variables: gender, age, schooling, body mass index, pre-surgery weight variation and associated diseases in 265 patients both male and female who have undergone Capella- type Gastroplastic surgery between 1999 and 2004 who are now in multidisciplinary monitoring at this institution.

Results 13.6% were male and 86.4%, female. As for age, 20.5% were between the ages of 20 and 29 years, 37.3%, between 30 and 39, 29.4%, between 40 and 49, and 13.7% were above 50 years. Regarding schooling, 36.2% had completed junior high school, 29.4%, had completed high school and 14.3% had completed college. The body mass index varied between 35-39 (10.1%), 40-44 (24.5%), 45-49 (24.9%), 50-54 (18.4%), 55-59 (10.9%), 60-64 (5.6%), 65-69 (5.2%), and over 70 (0.3%). The pre-surgery weight variation consisted of the greatest weight equal to 220 Kg and the smallest weight equal to 84Kg. Of the sample, 56.7% did not present associated diseases.

Conclusions Mostly women, with ages between 30 and 50 years and schooling with complete junior high school; with a body mass index between 40-50 and with no associated diseases.

P-165 The Impact of Statuettes and Images of the Obese on Gastroplasty Surgery Candidates During the Pre-Surgery Process of the Núcleo Do Obeso Do Ceará

Presenter: K. Farias Borges (Núcleo do Obeso do Ceará, Fortaleza, Brazil)

Co-authors: L. Moura¹, G. Barbosa¹, J. Lima¹, C. Nogueira¹, A. Santos¹

¹Núcleo do Obeso do Ceará Fortaleza Brazil

Background This study proposes to evaluate the impact of the presence of statuettes of the obese and of pictures of patients before and after undergoing stomach reduction surgery in the Nucleus for the Obese of Ceará.

Methods Individual interviews with candidates during the pre-surgery process, regarding their opinions of the statuettes in the clinic and the before and after surgery pictures.

Result A total of 26 patients, 9 men and 17 women, between the ages of 23 and 70, and BMI between 38 and 55 kilos per m, were interviewed. Regarding the presence of the statuettes, 64% of the women and 11% of the men felt offended, as opposed to 23% of the women and 66% of the men who were not bothered by the images. The remaining patients either felt nothing or were in favor of the images. Some of the patients identified with the statuettes and others looked upon them as a joke, an expression of the comic image of the obese. As to the before and after surgery pictures, 100% of those interviewed regarded them favorably, claiming to have been encouraged to operate as soon as possible, and also hoping that their pictures would be shown.

Conclusion The interviews demonstrated that the obese feel they are discriminated, and have an intense desire to revert this stigmatizing condition, which leads them to have high expectations regarding the results of the surgery. They also showed that the obese statuettes in the clinic and doctor's offices had a negative effect, as they were perceived as being offensive by most of the female patients. It was observed that the pre-surgery and post surgery pictures may also lead to the illusion that happiness, beauty and joviality are guaranteed. Furthermore, it encourages the idea of an increase in self-esteem and a better quality of life, given the appearance of the post surgery patients.

P-166 Stigma and Obesity: Comparative Study Between Candidates to Obesity Surgery and Patients Already Submitted to this Treatment

Presenter: I. Silva (Fernando Pessoa University, Porto, Portugal)

Co-authors: J. Pais-Ribeiro², L. Pedro³, H. Cardoso⁴, M. Vazão⁵, M. Abreu⁶, N. Costa⁷, A. Martins-da-Silva⁸, D. Mendonça⁹, E. Vilhena¹⁰, S. Maes¹¹, J. Pennebaker¹²

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Background This study aims to compare stigma perception between candidates to obesity surgery and patients who were already submitted to surgical treatment.

Methods Two groups of patients were assessed:

- Group 1: 57 patients already submitted to obesity surgery, with a mean body mass index (BMI) of 36.20 (SD=7.34).
- Group 2: 34 patients, candidates to obesity surgery, with a mean BMI of 43.21 (SD=6.55).

There were no statistically significant differences between the two groups concerning age, gender, school level, disease duration and civil status. Nevertheless, Group 1 patients' present a lower body mass index than Group 2 patients'. Patients answered to the Stigma Scale in the context a personal interview.

Results Data analysis revealed that there are no statistically significant differences between the two groups of patients concerning stigma perception – to feel different from other people, $t(88)=1.66$; $p>.05$; to feel that, because of his/her condition, the others feel uneasy, $t(88)=.76$; $p>.05$; to feel the others avoid him/her because of his/her condition, $t(88)=1.56$; $p>.05$; to feel that his/her condition prejudices his/her relationship with friends, $t(88)=.47$; $p>.05$. The single domain in which we have observed significant differences was to feel the others are afraid of him/her because of his/her condition, $t(88)=2.27$; $p>.05$, perception that is higher in Group 2 patients'. Stigma perception showed not to be high in patients of both groups.

Conclusions Contrary to the common-sense idea, this study shows that stigma perception associated to obesity is not high in candidates to obesity surgery and in patients who were submitted to obesity surgical treatment.

P-167 Well-Being, Ill-Being and Obesity Surgery: a Comparative Study of Candidates and Patients Already Submitted to this Treatment

Presenter: I. Silva (Fernando Pessoa University, Porto, Portugal)

Co-authors: J. Pais-Ribeiro², L. Pedro³, H. Cardoso⁴, M. Vazão⁵, M. Abreu⁶, N. Costa⁷, A. Martins-da-Silva⁸, D. Mendonça⁹, E. Vilhena¹⁰, S. Maes¹¹, J. Pennebaker¹²

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Background This study aims to compare well-being and ill-being (nervous system, muscular, respiratory and digestive symptoms) between candidates to obesity surgery and patients who were already submitted to surgical treatment.

Methods Two groups of patients were assessed:

- Group 1: 57 patients already submitted to obesity surgery, with a mean body mass index (BMI) of 36.20 (SD=7.34).
- Group 2: 34 patients, candidates to obesity surgery, with a mean BMI of 43.21 (SD=6.55).

There were no statistically significant differences between the two groups concerning age, gender, school level, disease duration and civil status.

Nevertheless, Group 1 patients' presented a lower body mass index than Group 2 patients'. Patients answered to the General Well-Being and to an Ill-Being Scale in the context a personal interview.

Results Data analysis suggested that there are no statistically significant differences between the two groups of patients concerning global ill-being, $t(89)=1.97$; $p>.05$, nervous system symptoms, $t(87)=1.47$; $p>.05$, and digestive symptoms, $t(89)=.43$; $p>.05$. Nevertheless, patients who were already submitted to obesity surgical treatment report higher well-being, $t(89)=3.80$; $p>.05$, and lower ill-being related to muscular, $t(88)=2.12$; $p>.05$, and respiratory symptoms, $t(89)=2.81$; $p>.05$. Moreover, patients of both groups revealed to present a medium level of well-being and of global ill-being (namely of muscular symptoms), but high level of nervous system symptoms and low level of respiratory and digestive symptoms.

Conclusions Surgical treatment seems to contribute to better well-being and to the improvement of ill-being in patients suffering from obesity. Nevertheless it will be necessary to develop longitudinal studies to confirm this impact.

P-168 Preoperative Treatment with the Antiobesity Medication Sibutramin Improves Perioperative Outcome

Presenter: J. Aberle (University Hospital Hamburg, Hamburg, Germany)

Co-authors: O. Mann¹, P. Busch¹, A. Freier¹

¹University Hospital Hamburg Hamburg Germany

Background Obesity is an independent risk factor for bariatric surgery. Previous studies have shown, that a preoperative weight loss is associated with a better long term outcome, fewer complications, and less time in the operation room in bariatric patients. However preoperative weight loss is hard to achieve in many patients.

Methods We therefore conducted a study in which 25 bariatric patients received 15 mg of the weight loss medication sibutramine prior to laparoscopic roux-en-y gastric bypass. It was our interest to find out, if these patients had a benefit compared to a control group who did not receive medication.

Result Obesity is an independent risk factor for bariatric surgery. Previous studies have shown, that a preoperative weight loss is associated with a better long term outcome, fewer complications, and less time in the operation room in bariatric patients. However preoperative weight loss is hard to achieve in many patients. We therefore conducted a study in which 25 bariatric patients received 15 mg of the weight loss medication sibutramine prior to laparoscopic roux-en-y gastric bypass. It was our interest to find out, if these patients had a benefit compared to a control group who did not receive medication.

Conclusion Medical therapy with sibutramine in preparation for bariatric surgery can improve health status of patients and lead to a reduction of liver size and operating time. It should be considered as an alternative or addition to dietary therapy or gastric balloon treatment in preparation of patients expecting a roux-en-y gastric bypass.

P-169 Obese Pregnant Women with Gestational Diabetes Mellitus: Fears, Anxieties and Beliefs as to Becoming Ill and Being Hospitalized

Presenter: A. Fregonese (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Theodoro¹, L. Pinto², C. Malheiros⁴, L. Hsu⁵, W. Bruscatto³

¹Irmandade da Santa Casa de Misericórdia de São Paulo São Paulo Brazil; ²Faculdade de Ciências Médicas da Santa Casa de São Paulo São Paulo Brazil

Background The so-called "high-risk pregnancy" represents an emotional and a social problem. The objective of this study was to identify the emotional questions involved in the diagnosis of gestational Diabetes Mellitus, with hospitalized pregnant women whose BMI was over 30.

Methods This was a retrospective study with 72 pregnant women, which made use of a semi-structured interview protocol.

Results The average age was 27 years. As for the gestational age, 30% were in their first quarter, 40%, in their second quarter, and 30%, in their third

quarter. Related to the diagnosis, it was observed that 34% of the patients reported a feeling of anxiety, surprise, fright and fear; 27% reported feelings of abandon and helplessness when faced with becoming ill; 24% expected the diagnosis due to previous pregnancies, albeit with negative feelings, and; 15% were not able to express in words the feelings that had been triggered. As for the fetal repercussions of the diagnosis, 55% expressed fear of fetal malformation, 35% feared prematurity and 10% did not relate any fetal repercussion to it. Related to the hospitalization, it was observed that 64% reported negative sentiments (anguish, increased anxiety, fear and sadness, restricted eating) and 36% described hospitalization with positive feelings (support, protection and care).

Conclusion The high-risk pregnancy may trigger a disorganization of thoughts and feelings, intensifying anxieties, fears and negative beliefs. As for hospitalization, more than half of the cohort presents negative feelings, such as something threatening to the continuity of the gestation. The increase in anxiety also stems from the necessity of getting accustomed to the controlled hospital diet. However, a considerable percentage understands hospitalization as protective, nurturing feelings of emotional continence and support.

P-170 Dietary Habits After Laparoscopic Gastric By-Pass in Spanish Patients

Presenter: J. Ortega (University Of Valencia, Valencia, Spain)

Co-authors: J. Ortega¹, G. Ortega¹, N. Cassinello², V. Sebastia¹, M. Garces², S. Lledo²

¹University Of Valencia Valencia Spain; ²Hospital Clinico Universitario Valencia Spain

Background An effect of laparoscopic gastric by-pass is food restriction. We have studied life style and dietary changes in Spanish population after bariatric surgery and their correlation to weight loss effectiveness.

Methods Dietary and life style habits questionnaire was answered by one hundred patients who have undergone a laparoscopic gastric by-pass. Epidemiological (age, sex), anthropometrical (BMI, weight, % of BMI excess weight loss), life style (sedentary, exercise, sport) and dietary habits (food quality, intake frequency, beverages, food tolerance) data were recorded and analyzed.

Result 80 women and 20 men (mean age of 42±10 yr) were interviewed. The mean postoperative time was 3±2 yr (one year minimum). The mean BMI was 50±13 kg/m² preoperative and 32±5 kg/m² postoperative. Paella (Typical spanish dry rice meal), red meat and carbonated beverages were the more frequently non-tolerated foods (37-40 % of patients) Although more than 50 % of patients kept eating fast-food, a positive dietary change after surgery was the increase of vegetables and fruits intake in more than 70 % of patients. Daily walking was correlated with a higher % of excess BMI loss than any dietary parameter.

Conclusion Morbid obese patients change dietary habits following laparoscopic gastric by-pass, but they usually keep some non-advisable alimentary routines. Paella and red meat were frequently not well tolerated even after a long follow-up time. Physical exercise was the prominent parameter correlating with the % of BMI excess loss.

P-171 Coping with Stress in Patients Waiting for Obesity Surgery and Patients Already Submitted to Obesity Surgical Treatment

Presenter: I. Silva (Fernando Pessoa University, Porto, Portugal)

Co-authors: J. Pais-Ribeiro², L. Pedro³, H. Cardoso⁴, M. Vazão⁵, M. Abreu⁶, N. Costa⁷, A. Martins-da-Silva⁸, D. Mendonça⁹, E. Vilhena¹⁰, S. Maes¹¹, J. Pennebaker¹²

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Background This study aims to compare coping strategies adopted by candidates to obesity surgery and patients who were already submitted to surgical treatment.

Methods Two groups of patients were assessed:

- Group1: 57 patients already submitted to obesity surgery, with a mean body mass index (BMI) of 36.20 (SD=7.34).
- Group 2: 34 patients, candidates to obesity surgery, with a mean BMI of 43.21 (SD=6.55).

There were no statistically significant differences between the two groups concerning age, gender, school level, disease duration and civil status. Nevertheless, Group 1 patients' present a lower body mass index than Group 2 patients'. Patients answered to the Brief-Copein the context a personal interview.

Results Data analysis revealed that there are no statistically significant differences between the two groups concerning the majority of coping strategies: to concentrate his/her efforts to face the situation, to say to himself/herself that "this is not true", alcohol or drug use, to feel upset and express his/her feelings, to ask advice to another persons, to look for consolation/understanding, to see something positive in what is happening, to do other things to avoid thinking about the situation, to think a lot about the best way to deal with the situation, to pray/meditate, to deal with the situation through humour. The unique domain in which we observed significant differences was to feel guilty about what is happening, $t(89)=2.01$; $p<.05$.

Conclusions Patients of the two groups did not differ concerning the majority of coping strategies adopted, but feelings of guilt seem to diminish.

P-172 Evaluation of the Degree of Satisfaction of the Pre-Surgery Expectations in Patients Submitted to the Obesity Surgery

Presenter: L. Dantas (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Theodoro¹, C. Benedetti², W. Bruscato³, C. Malheiros⁴

¹Irmandade da Santa Casa de Misericórdia de São Paulo São Paulo Brazil; ²Faculdade de Ciências Médicas da Santa Casa de São Paulo São Paulo Brazil

Background The objective of this study is to assess the degree of satisfaction of expectations regarding the results of weight loss in morbid obese patients submitted to the obesity surgery.

Method 40 patients who underwent the obesity surgery were evaluated and monitored in the Morbid Obesity Surgery Ambulatory of the Santa Casa de Misericórdia de Sao Paulo for at least one year, with ages between 25 and 67 years, 34 female and 06 male. The protocol for the routine evaluation of this institution's psychological consultation was used for this study. The variables analyzed were the expectations regarding professional life, appearance and esthetics, emotional, social and family relationships, health and leisure. At the first moment, the patients numbered which of the variables presented were the most important in ascending order; and then graded the same variables from 0 to 10 taking into consideration before and after the surgical procedure.

Results The expectations were prioritized in the following order: 1st Health, 2nd Appearance and Aesthetics, 3rd Professional Life and Emotional Relationships, 4th Social Relationship, 5th Family Relationship and 6th Leisure. As need for improvement in order of priority, the following were mentioned: Health with 55%, Appearance and Aesthetics 17,5%, Professional Life with 17,5% and Emotional Relationships with 10%. The other variables (social relationship, family and leisure) were seen as a need for secondary improvement, and it was also reported that these variables were significantly dependent on improvement of the first.

Conclusion Patients submitted to the obesity surgery significantly achieved the expectations expressed.

P-173 Obesity and Gestation: Emotional Aspects Involved

Presenter: A. Fregonese (Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil)

Co-authors: L. Pinto¹, L. Theodoro², L. Hsu³, W. Bruscato⁴, C. Malheiros⁵

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²Faculdade de Ciências Médicas de São Paulo São Paulo Brazil

Background The objective of this study was to identify the emotional aspects and factors related to the gaining of weight, presented by high-risk pregnant women hospitalized with a BMI over 30 and Diabetes Mellitus.

Methods This is a retrospective study on 72 pregnant women, by means of a semi-structured interview protocol.

Results The average age was 27 years. As for the multiparity, 20% are first-time pregnancies, 25% second-timers, 40% third-timers and 15% fourth-timers. Related to the overweight, 55% of the women associate the increase in weight to the aftermath of the first pregnancy, 15%, to the increase yet in childhood and 30%, to that in adolescence. As to the emotional aspects involved in the weight gain, 45% attributed the gain to anxiety, 20% did not associate any emotion with the gain and 35% associated it with insecurity, fear of erring and a feeling of impotence. Of the total, 70% of the women reported difficulty in accepting and administrating limits to their own diets and the raising of their children, 65% demonstrated fear of the future and of failing in the maternal function. In relation to eating desires, 60% reported an increase in necessities and desires, 30% associated them with the increase in physiological hunger—"eating for two"—and 10% did not know what to answer.

Conclusions For these women, the predominant feelings were: incapacity, insecurity, fear of failing as mothers and as women. The high-risk pregnancy is permeated with negative sentiments and cultural beliefs which authorize the increase of food intake during pregnancy, increasing physical and psychological morbidity in these women.

P-174 Pre-Gastroplasty Surgery Dietary Diary – A Proposed Method for Practicing Dietary Awareness During the Pre-Surgery Process

Presenter: K. Farias Borges (Núcleo do Obeso do Ceará, Fortaleza, Brazil)

Co-authors: L. Moura¹, G. Barbosa¹, J. Lima¹, C. Nogueira¹, A. Santos¹

¹Núcleo do Obeso do Ceará Fortaleza, Ceará Brazil

Background Practice dietary awareness during the pre-gastroplasty surgery evaluation and psychological preparation period. Material: Dietary diary.

Methods The proposed dietary diary suggests the listing of: foods ingested, reasons for choosing these foods, total time spent on eating, and perceptions regarding breathing, the surroundings, feelings, anxiety, compulsion, the taste of the food, and the differentiation between hunger and the desire to eat.

Result The accounts of the patients who adhere to the exercise confirm the importance of dietary awareness in the pre-surgery phase. They use expressions such as "brake", "awareness", "reflection", "practice". Nevertheless, some patients are not able to fill in the diary, or do so only partially, without attaining the "awareness" objective, seeming only to go through the steps of a pre-surgery requirement, as they would a laboratory exam.

Conclusion This exercise was instituted by the psychology service in July of 2008, and we have observed that those who effectively followed the dietary diary proposal are better adapted than the others.

P-175 Morbid Obesity: True Stories From Interviews

Presenter: M. Blaise (University Hospital of Sant Joan. Nurse Surgery Service, Reus, Spain)

Co-authors: Ma Del Mar Cabistañ¹, A. Ollobarren¹, J. Nievas¹, M. Luzón¹

¹University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain

Background Morbid obesity surgery requires a specific and clear support before and after its implementation. A joint approach is necessary and recommended to control obesity, and nurses view is crucial throughout this process

Methods Our goal was to identify their points in common to improve and personalize medical attention in our hospital. This highlights the story of two women and their experiences with this kind of surgery. A directed interview has been used to give an insight on their actual experience and their feelings.

Result During the period where patients lose weight very quickly, they lose confidence and need help.

Conclusion Therefore it should be pointed out that communication with nurses is essential to get a good approach to surgery.

P-176 Requirements of a Bariatric Surgery Centre

Presenter: P. Millo (regional Hospital , Aosta, Italy)

Co-authors: R. Allieta¹, R. Brachet Contul¹, M. Fabozzi¹, M. Nardi¹, M. Grivon¹

¹regional Hospital Aosta Italy

Introduction obesity is defined as a multifactorial pathology and therefore its treatment, whether it 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 care, 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, with the double purpose of:

- properly selecting candidates for bariatric surgery,
- following patient progress, with adequate supports, even after the operation.

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.

Conclusion 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.

P-177 Experience with 134 Consecutive Adjustable Gastric Band (AGB) Slippages

Presenter: A. Ortiz (Obesity Control Center. Bariatric Hospital, Tijuana, Mexico)

Co-authors: A. Martinez², H. Bernal³, H. Acosta⁴, M. Viramontes So⁵

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Background In most large series gastric prolapse or slippage is reported to be the most common complication that requires surgical management related to AGB surgery. Several precipitating factors have been described for slippage. Surgical treatment is necessary in most cases band repositioning or removal. The decision depends on surgical findings, patient wishes and compliance to follow medical advice. Some surgeons are advocates of conversion to a different procedure. In our center we do not convert to another procedure and we present our experience.

Results 6237 patients have undergone gastric band placement at our center from April 1999 to January 2009, we collected information prospectively in to

our data base for all patients submitted for AGB surgery from January 2004 to January 2009. A total of 134 patients were operated for AGB slippage (2.7%), 132 patients had the Allergan 10 cm LapBand and 2 the Allergan VG LapBand. Initial BMI was 42.2 (+/- 10.1) at the time of initial placement and 28.4 (+/- 11.3) kg/m² at the reoperation date. The time for slippage to occur after AGB Placement was 1.7 (+/- 1.6) years.

28 bands were repositioned because intra abdominal findings were favorable to do so (surgery time 92 +/- 33.5 minutes), and 106 patients had their band removed (surgery time 35 minutes +/- 16 min). In the reposition group, 3 patients had their slippage during the first week after surgery as a result of eating solid food. 2 patients in the band removal group never required adjusting the band after the recovery period. In the rest of the patients the slippage occurred after adjustments were started and in 124 patients at least one symptom of excessive restriction had occurred before diagnosis of slippage was made. The mean length of time from initial symptom to surgery was 3.3 months.

After band removal 54 patients (50.9%) had a new band implanted. The mean weight gain at the time of surgery was 47 (+/- 35) pounds. Mean surgical time 65 (+/- 35) minutes. A hiatal hernia was found in 23 cases. Mean Follow-up time 1.9 (+/- 1.65) years. BMI for this group is 32.1 (+/- 7.24) kg/m². Recurrence occurred in 4 patients (4.87%) and removal was performed in three of them. No mortality or complications were reported in our series.

Conclusion Good results are observed after reoperation in most patients whose band has slipped. When repositioning is not an option, band removal and placement 6 months later offers a safe and effective solution before consideration to convert to another procedure.

P-178 Redo Banding After Band Erosion. Advantages of the Minimizer Band

Presenter: J. Ritchie (Keyhole Surgery Centre, Sydney, Australia)

Background The choice of revisional procedure after band erosion is controversial. My experience of using re-do banding as a revision in this situation is presented with particular reference to the use of the MiniMizer band as a replacement device.

Methods A retrospective study of patients who underwent redo banding for band erosion was conducted and outcomes analysed.

Result Band erosion is a failure of the gastric banding technique and is reported to occur in between 0.5 and 15 % of band placements. The aetiology is obscure. Possible causes are discussed. The choice of a revisional procedure depends on the preference and expertise of the individual surgeon. My preference is advise re-doing the banding procedure if the patient has had a good result with the initial surgery.

1340 AGBs have been inserted since 1994, 427 SAGBS & 930 Lap Bands. There have been 24 Lap Band erosions (2.7%) and 52 SAGB erosions (12.2%) a overall erosion rate of 6.2%. 38 patients(47%) have had their bands replaced laparoscopically, all without complication. Two have been converted to open Fobi pouch bypass, two have undergone BPD and one sleeve gastrectomy. Two patients undergoing band replacement have re-eroded (2.5%). Patients undergoing band replacement have overall exhibited restoration of satisfactory weight control with a further reduction of 5 BMI points.

The looped MiniMizer band offers an advantage over bands that require gastric wrapping as in the revisional cases the stomach is frequently rigid, scarred and difficult to wrap causing difficulty with secure band fixation. It can be secured by suturing directly to the gastric wall.

Conclusion Redo banding can be conducted with safety and with a low incidence of re-erosion. It can restore weight control lost when the band is removed following erosion.

P-179 Acute Abdomen Following Laparoscopic Roux En Y Gastric Bypass: Retrograde Intussusception in Jejunojejunostomy

Presenter: S. S. Raquel (Complejo Hospitalario de Pontevedra, Pontevedra, Spain)

Co-authors: G. Sonia¹, L. Noemi¹, N. Raul¹, C. Rosario¹, E. Sergio¹, T. Catherine¹, P. Miguel Angel¹

¹Complejo hospitalario de Pontevedra Pontevedra Spain

Background Severe abdominal pain in patients who undergone Laparoscopic Roux en Y Gastric Bypass (LRYGB) mandates urgent Abdominal Computed Tomography (CT). Emergency doctor must be aware of late bariatric surgery complications as internal hernia, intestinal obstruction or even some rare bowel intussusceptions.

Methods A case of acute abdomen in a bariatric patient is described. Images of Abdominal CT scan and emergency surgery are provided.

Results Female of 33 years old who undergone a LRYGB one year ago with good weight loss results (95 %EWL) presented with severe abdominal pain persisting more than 6 hours. At physical examination an abdominal mass was detected. CT scan suggested bowel intussusception in jejunojejunostomy with indirect signs of ischemia. An emergency laparoscopy by a bariatric surgeon was performed and the diagnosis was confirmed. The common limb was intussuscepted traversing the enteroenterostomy into the Roux limb. The intussusception was irreducible with signs of bowel ischemia and required resection and reconstruction by minilap approach (8 cm). Postoperative period was uneventful.

Conclusion Intussusceptions although are not common, must be considered in the differential diagnosis in bariatric patients with abdominal pain in the emergency room. Early diagnosis with Abdominal CT scan and prompt consultation with a bariatric surgeon are vital to optimal outcome.

P-180 Long Term Outcome After Laparoscopic Adjustable Gastric Banding

Presenter: Y. Van Nieuwenhove (University Hospital Ghent, Ghent, Belgium)

Co-authors: A. Stockman¹, E. Snoeck¹, H. Van Ommeslaeghe¹, K. Van Renterghem¹, D. Van de Putte¹, W. Ceelen¹, P. Pattyn¹

¹University Hospital Ghent Ghent Belgium

Background The aim of this study was to investigate the long-term outcome of the LAGB.

Methods A retrospective study of patients who underwent LAGB at least 4 years earlier. Primary outcomes were the presence of the banding device and weight loss at the time of analysis.

Result From a total of 1085 patients, 4 (0,36%) patients had died, 10 (1%) refused to cooperate, 46 (4%) were lost from follow-up, and 664 (61%) were unreachable during a first telephone call. The mean age of the 361 (33%) responders was 36 years and 77% were women. The median follow-up after surgery was 90 months (range 48-152 months) and the mean initial BMI was 41,18±6,20 kg/m². BMI dropped to 30,10±5,44 kg/m² after a mean of 43±33 months, but rose to 33,64±6,74 kg/m² at the time of analysis, which corresponds to a 40±31% excess weight loss. Removal of the band was carried out in 83 (24%) patients after a median interval of 61 months (range 6-125). In 24 (7%) patients the band was simply removed, but a conversion to R-Y gastric bypass was performed in 47 (13%) patients, to sleeve gastrectomy in 11 (3%) patients and to duodenal switch in 1 (0,2%).

Conclusion These preliminary data show that after a follow-up of 4 to 12 years, more than 3 out of 4 devices are still functioning, having achieved a weight loss of 40% of excess body weight, with 1 out of 3 patients losing more than half of their excess weight.

P-181 Re-Banding Patients After Gastric Band Erosion

Presenter: A. Ortiz (Obesity Control Center Hospital, Tijuana, Baja California, Mexico)

Co-authors: A. Martinez Gamboa¹, M. Viramontes So², H. Bernal³, H. Acosta⁴

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Background Erosion of the adjustable gastric band (AGB) has been reported since experience started to accumulate. A gradual decline in its incidence has been observed. Management of gastric band erosion involves prompt removal of the band. The AGB removal is usually laparoscopic and in rare cases thru an

endoscopic approach. After Band removal most patients regain weight and are looking for a second gastric band. We do not replace any band during removal because there is a potential for bacterial contamination and increased technical difficulty from the severe inflammatory reaction that commonly accompanies this complication. When a patient requires a new band it is placed in no less than six months after band removal date. We present the results for patients that underwent gastric band placement after removal for gastric band erosion.

Results A total of 21 patients were operated for gastric band placement after removal for erosion. Mean BMI at the time of reoperation was 39.2 ± 4.5 kg/m². The mean waiting period for new band after band removal was 8 months. The surgical technique was laparoscopic AGB placement in 20 patients and in 1 patient the surgery could not be completed (findings confirmed with pathology studies a diagnosis of peritoneal tuberculosis). Mean surgical time 94 minutes. Mean hospital stay 18 hours. All patients were placed 3 weeks on a liquid diet after surgery. Mean follow up time 3.2 years (6 months to 5 years) on 17 patients. Follow-up endoscopy was performed in 9 asymptomatic patients (12 to 18 months after surgery) all negative for erosion. Constant epigastric pain developed in one patient 3 months after surgery, endoscopy was performed revealing erosion of the AGB (removed thru a laparoscopic surgery without incidents). EWL 51.4 ± 14 %.

Conclusion When an erosion of a gastric band occurs, there is no doubt that it has to be removed. Many patients do not want to convert to any other type of bariatric procedure and although larger series and more follow-up time are needed to determine the actual risk of re-erosion, AGB surgery should not be ruled out in that patients future.

P-182 Results of Laparoscopic Sleeve Gastrectomy in 207 Obese Patients

Presenter: J. E. Contreras Parraguez (Salvador Hospital / Santa Maria Clinic, Santiago Of Chile, Chile)

Co-authors: J. Bravo López¹, J. Nuñez Villegas¹, C. Carvajal Hafemann¹, J. Lombardi Azocar¹

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Background Currently, Sleeve Gastrectomy is a widely accepted bariatric procedures for the weight reduction and control of comorbidities in obese patients. Because of their results and low morbimortality, is a technique that has been disseminated widely and have extended their indications at the present time, besides being technically simpler and requires less surgical time than others techniques. However there are still some controversies, from a technical standpoint, some of which could influence the results and complications. The aim of this study is to show the results of Laparoscopic Sleeve Gastrectomy (LSG) as is done in accordance with our center.

Methods Prospective Uncontrolled Study from November 2005 to December 2008 which includes 207 patients undergoing LSG by the same team and under the same standards of surgical technique, preoperative evaluation and postoperative management. Demographic, perioperative and follow-up data were collected.

Result A total of 207 consecutive patients (62.8% female and 37.2% male) underwent LSG for the treatment of obesity. The average age was 38 ± 10.6 years. The average preoperative weight was 113.7 ± 22.2 Kg and body mass index (BMI) of 41.4 ± 6.7 Kg/m². Concomitant diseases were found in 96%, in order of frequency: dyslipidemia, insulin resistance, fatty liver, esophageal pathology, hypertension, osteoarticular pathology, sleep apnea, hypothyroidism, glucose intolerance, diabetes, among others. Surgical time averaged 71 minutes and the average length of hospital stay was 5 days. It reported a 3.8% of complications, mainly leaks in 1.9%, Pneumonia in 0.9%, stenosis 0.5%, among others. There were no conversions to open procedure or mortality. In following up at 6 and 12 months there was a loss of excess BMI of 70.3% and 71.5% respectively, with statistically significant difference. The 50% of diabetic patients had a remission of diabetes and a 20% improvement.

Conclusion The goods results obtained in our series, concluded that LSG is a safe and effective technique, with low morbidity and no mortality. Showed the best results in terms of reduction of excess weight at 6 and 12 months of postoperative follow-up. It is important for surgical success an adequate selection and evaluation of the patient to be involve. The learning curve of the surgical team and appropriate standardization of the technique are required to achieve good results. There should be a long-term monitoring to establish success and evolution of weight and comorbidities in later follow-up

P-183 Excess Weight Loss Failure After Laparoscopic Gastric by Pass Results of Redo Surgery

Presenter: J. Cady (Clinique, Paris, France)

Co-authors: F. Godfroy¹

¹cmcd Paris France

Background In our personal experience excess weight lost (ewl) failure after laparoscopic gastric by pass (lgbp) occur in 5 % of cases redo surgery is feasible in some cases we report our results

Methods personal experience (1996-2008)

bandings 4632

SLEEVE GASTRECTOMY 41

LGPD 21

LGBP 824

REDO SURGERY AFTER LGBP 64 CASES (44 personal 5 %)

Définition EWL < 20% at 1 year

Causes no compliance pouch distension length of common loop predicting factors male IMC > 60 anterior failure of banding

Technical choose

pouch reduction with or without resection of remain fundus 50 cases (personal first intervebtion 36)

less length of common LIMB 5 cases (personal 4)

Banding 6 cases (3 personal)

Scopinaro 1 case (no personal)

total gastrectomy 1 CAS

Result No mortality one gastric fistula after total gatsrectomy

EWL pouch reducing too recent or lost of view 16 cases

good and excellent results at 1 year and more 34 cases

common limb reducing too recent or lost of view 3 stabilized 2

banding

lost of view 1 good results 2 bad results 3

scopinaro

1 failure

total gastrectomy

1 good result

Conclusion Laparoscopic pouch reduction for ewl failure is a safe effective and secure procedure but it's necessary to select patients with low operative risk and good compliance for a restrictive procedure.

P-184 Bariatric Surgeon as Chief Inspector Clouseau

Presenter: M. Bekavac-Beslin ("Sestre Milosrdnice" University Hospital, Zagreb, Croatia)

Co-authors: B. Franjic¹, M. Nikolic¹, T. Kulis²

¹"Sestre milosrdnice" University Hospital Zagreb Croatia; ²University Hospital Center Zagreb Zagreb Croatia

Background We present the case of a 65 year old female patient who was admitted to our hospital in severe condition, malnourished, exhausted, of reduced mobility and diminished communication. She had an accompanying letter from her general practitioner stating that she was operated with the method of Lap-Banding in the 1980's in Padova, Italy for morbid obesity.

Methods During work-up and preoperative treatment hyper-alimentation, fluids, electrolytes and proteins were administered. During the physical examination a scar after median laparotomy from the xyphoid to the symphysis and a subcutaneous port from which a few bubbles of air were evacuated were found. Through radiologic and endoscopic work-up we suspected gastric herniation, but with normal gastric mucosa despite prolonged "herniation". After eight days of preparation and resuscitation the patient was operated. Laparoscopy was attempted at first, but converted to open procedure due to adhesions. Intraoperatively we found the subcutaneous disconnected adjustable band closed with sutures (model with no closing mechanism), all intestines in hard adhesions, fibrotic changes around the band but no gastric herniation through the band (VGB operation), a convolute of small intestines of the jejunoileal region that seemed to be an earlier made jejunoileal bypass; no uterus or adnexa were found. The band was removed, the intestines were freed, the intestinal convolute of about 50 cm was resected.

Result The postoperative period was uneventful, the patient "remembered" that she was operated in the meanwhile for small intestine ileus after hysterectomy and the surgeon concluded the operative finding as status following VGB, cachexia.

Conclusion Bariatric surgery is in some countries only in its beginnings despite that it is among the most commonly performed procedures in surgery. The surgeons have to be true detectives to be able to correctly diagnose and treat bariatric patients.

P-185 Late Post-Operative Complications After Laparoscopic Adjustable Gastric Banding

Presenter: A. Ferreira (Hospital de S. João, Porto, Portugal)

Co-authors: O. Alves¹, J. Preto¹, A. Gouveia¹, M. Baptista¹, G. Faria¹, S. Rodrigues¹, M. Pimenta¹, A. Madureira¹, J. Sarmento¹, A. Pimenta¹

¹Hospital de S. João Porto Portugal

Bariatric Surgery permits the best results in the treatment of morbid obesity. Laparoscopic Adjustable Gastric Banding (LAGB) has proved to be a safe and effective technique, with good and stable results in terms of weight loss and improving co-morbidities.

The mortality and morbidity rates, related to this operation are the smallest of all bariatric surgical procedures. Nevertheless there is a small percentage of post-operative complications, either recent or not.

Our centre began the surgical treatment of morbid obesity in 1999. From then on, a high number of obese patients have been operated at our institution, with a present number of about 200 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, demanding an adequate assessment and treatment management, either endoscopic or surgical.

Like others, we do have the classical described LAGB complications: slippage, pouch dilatation and band migration. In this presentation we want to show some of these complications and the treatments we did.

We also present some unusual late complications we had to treat: a case of complete gastric necrosis, a small bowel occlusion caused by a band migration and a gastrocolic fistula several years after a band removal.

We think that as time goes on new or different LAGB complications will appear, demanding well trained surgeons on this kind of surgery, to solve those, sometimes, difficult cases.

P-186 Inadequate Weight Loss After Purely Restrictive Bariatric Surgery: the Added Value of Conversion to Gastric Bypass

Presenter: G. Bonanomi (Chelsea and Westminster NHS Foundation Hospital, London, United Kingdom)

Background We hypothesised that conversion to RYGBP can rescue weight loss failure in purely restrictive bariatric procedures such as adjustable gastric banding (AGB) and vertical banded gastroplasty (VGB).

Methods A retrospective review of all AGB and VGB that were revised to RYGBP due to inadequate weight loss (mean % EWL < 30) was performed. Demographic, anthropometric, complications and outcomes data of the primary procedure were collected and compared with those of the secondary conversion to RYGBP.

Result A total of 27 revisions to RYGBP for failure to lose weight were undertaken between 2003 and 2008. Banding complications such as slippages or erosions were excluded. The conversions to RYGBP included 19 AGB, 6 open and 2 laparoscopic VGB. Mean age and BMI at the time of the primary operation and prior to revision were 36 years (range: 22-53) versus 44 years (26-58) and 45 kg/m² (39-59) versus 47.5 kg/m² (37-60), respectively. The mean time between the primary procedure and the revision was 4.5 years (3-10). Revisional surgery was performed laparoscopically and open in 24 and 3 patients, respectively. Major morbidity included 2 anastomotic leaks and 1 postoperative bleeding. No mortality was recorded. Mean % EWL was 30% after 6 months, 59% after 12 months, 62% after 18 months, 65% after 24 months and 71% after 36 months.

Conclusion RYGBP is an effective revisional procedure for inadequate weight loss following AGB and VGB. These results support the hypothesis that additional mechanisms to restriction might be responsible for enhanced weight loss after gastric bypass surgery.

P-187 Weight Regain Over the Minimum Weight Obtained by Patients Submitted to Roux-En-Y Gastric Bypass with and Without the Contensor Ring and the Implications of the Contensor Ring in Weight Regain

Presenter: R. Souza (Centro Integrado de Tratamento da Obesidade Mórbida (CITOM), Porto Alegre, Brazil)

Co-authors: M. Reginato Bettinelli¹, R. Carvalho Da Silva²

¹ Porto Alegre Brazil; ² Porto Alegre Brazil

Background The effectiveness of bariatric surgery in the treatment of morbid obesity is already established. However, very little is known about the long term results of this procedure. The main objective of this study is to investigate the patient's weight regain over the minimum weight obtained within at least two years postoperative Roux-en-Y gastric bypass. The influence of the use of the contensor ring in this complication is also observed.

Methods The data of this study was obtained from a questionnaire answered by 250 patients of the Morbid Obesity Treatment Center (CITOM), operated by the same surgeon from August 2001 to March 2007.

Results It was observed that 70,80% of the 250 patients analyzed had regained weight in comparison with the minimum weight obtained after surgery. The weight regained observed was 13,34%. The contensor ring was used in 119 procedures and 131 of them were performed without it. When the contensor ring was used it was observed that patients presented 7,07% weight regain. When this technique wasn't used weight went up to 19,03%.

Conclusions Analyzing the data of this research, it is possible to conclude that, even though the Roux-en-Y gastric bypass causes a considerable weight loss, it is possible to regain some weight in a certain period of time, but regaining preoperative weight is unlikely to happen. This study also showed that Roux-en-Y gastric bypass without contensor ring leads to a higher patient's weight regain.

P-188 Gastrojejunostomy Stricture in the Postoperative of Obese Patients Submitted to Bariatric Surgery by Roux-En-Y Gastric Bypass with and Without Contensor Ring, by Open and Videolaparoscopic Surgery

Presenter: R. Souza (Centro Integrado de Tratamento da Obesidade Mórbida (CITOM), Porto Alegre, Brazil)

Co-authors: R. Carvalho Da Silva¹, M. Reginato Bettinelli¹, G. Morales¹

¹ Porto Alegre Brazil

Background Gastrojejunostomy stricture in the early postoperative of obese patients submitted to Roux-en-Y gastric bypass is one of the main complications in this period. The purpose of this study is to question the influence of the laparoscopic or open gastric bypass and the use of the contensor ring.

Methods The data of the first one thousand patients operated by the same surgeon of the Morbid Obesity Treatment Center (CITOM) was analyzed in search of the occurrence of stenosis of the gastrojejunostomy.

Results Between 2001 and 2008, 1000 patients submitted to bariatric surgery by the same surgeon of the CITOM were analyzed. Open gastric bypass without contensor ring correspond to 137 of these procedures, 284 correspond to open gastric bypass with contensor ring, 375 correspond to laparoscopic gastric bypass without contensor ring and 204 correspond to laparoscopic gastric bypass with contensor ring. The incidence of stenosis is 8,0% in the open gastric bypass without contensor ring; 0,7% in the open gastric bypass with contensor ring; 13% in the laparoscopic gastric bypass without contensor ring and 0,9% in the laparoscopic gastric bypass with contensor ring.

Conclusions This study showed that laparoscopic surgery has a higher incidence of gastrojejunostomy stricture than the open gastric bypass. Also the absence of contensor ring has a higher incidence than the use of it. Probably due to the fact that in those situations the surgeon performs a stricter anastomose.

P-189 Adjustable Gastric Band as Revisional Surgery After Roux-En-Y Gastric Bypass

Presenter: R. Rumbaut (Hospital San Jose TEC de Monterrey, Monterrey, Nuevo León, Mexico)

Co-authors: R. Merino¹, L. Gonzalez², M. Rodarte¹

¹Hospital San Jose TEC de Monterrey Monterrey Mexico; ²Obesity Surgery Center Monterrey Mexico

Background Roux-en-Y gastric by-pass (RYGB) has a failure rate in weight loss of 10 -20%. It can be attributed to gastric pouch and stoma dilation in many cases. As a possible rescue for revisional surgery, it has been proposed to create more restriction by placing an adjustable gastric band (AGB) over the gastric pouch in those patients in which medical history and nutritional habits show a potential benefit, because of the amount of food ingested.

Methods We describe the technique and results of the placement of an AGB (LAPBAND) over a dilated gastric pouch in patients who were initially treated with a RYGBP and presented interruption of weight loss. Body Mass Index (BMI) was registered before and after the revisional surgery in two patients.

Result Revisional surgery was done by laparoscopy, without complications, minimal bleeding, with a mean surgical time of 52 minutes and no conversions. Hospital admission was for one day. The first patient had an initial BMI of 53 achieving a BMI of 27 after the RYGP. This patient presented a weight regain up to a BMI of 38. Revisional surgery was done placing an AGB obtaining a BMI of 33 in 6 months, representing a loss of 40.1% of the excess of weight. The second patient had an initial BMI of 46 achieving a BMI of 24 after the RYGP. This patient presented a weight regain up to a BMI of 33. Revisional surgery was done placing an AGB obtaining a BMI of 31 in the first month, obtaining a loss of 20% of the excess of weight.

Conclusion The placement of an AGB as a revisional surgery in patients with prior RYGBP with gastric pouch or stoma dilation is feasible. It represents a safe and effective alternative to continue weight loss.

P-190 Endoscopic Removal of Adjustable Gastric Band (AGB) Erosion. Lessons Learned After 5 Years and 78 Cases

Presenter: M. Galvao Neto (Gastro Obeso Center, Sao Paulo, Brazil)

Co-authors: A. Ramos¹, M. Galvao¹, Y. Souza¹, A. Murakami¹, A. Carlo¹, E. Canseco¹, J. Campos², A. Escalona³, M. Falcao¹

¹Gastro Obeso Center Sao Paulo Brazil; ²Federal University of Pernambuco Recife Brazil; ³Pontific Catholic University Santiago Chile

Background AGB is one of options on bariatric surgery. One of its complications is the migration into the stomach leading to a revisional procedure in order to remove it. Endoscopic removal is less invasive and seems more logical. Authors present the results of 5y multicentric experience

Methods Between August 2003 and June 2008, 78 AGB between 6 brands (Helioscopie – 13/ Midband - 12/ Lapband - 17/ SAGB – 33 / Maximizer - 1 / AMI – 1) were endoscopically removed from 82 patients (95,1%). 50 (64%) were female, age 25-55y (M=36y). pre-op BMI from 34-50 Kg/m² (M=43,2 Kg/m²). BMI at the procedure from 24-41 Kg/m² (M=31,8 Kg/m²).

Maximum weight loss in pos-op varied from 10-65Kg (M=33,8Kg). Migrations occurred in a range of 6-36 m (M=16,3 m). All migrations were discovered by endoscopy and the symptoms leading to diagnostic were pain in 25p(31%), porth infection in 21p(27%), weight regain in 20p(25%) and 12p(15%) patients had their AGB migration discovered in routine endoscopies

Result 63 AGB (85%) were removed in one session. The Lapband was the harder to remove representing more than 80% of the band that needed more than one session to be removed. 4 AGB (5%) were just divided and not able to be removed The procedure time were between 25 and 150 min (M=55 min). 5 patients (6,4%) had pneumo-peritoneum (3 clinical treat, 1 Verres needle puncture and 1 conversion to laparoscopy) with no mortality

Conclusion Endoscopic AGB removal is a safe and effective procedure granting first choice status

P-191 Post-Gastric Bypass Hyperinsulinemic Hypoglycemia Treated by Alimentary Limb-Excluded Stomach Anastomosis – Case Report

Presenter: C. F. Dillenburg (Hospital Regina Novo Hamburgo, Novo Hamburgo, Brazil)

Co-authors: S. Pioner¹, P. De Pádua Neto², R. Dias¹

¹Complexo Hospitalar Santa Casa Porto Alegre Brazil; ²Hospital Regina Novo Hamburgo Brazil

Background symptomatic hyperinsulinemic hipoglycemia has recently been described in a small series of patients after gastric bypass surgery for morbid obesity. In the limited published reports, this condition has been managed with distal or subtotal pancreatectomy, with the extent of resection guided by calcium angiography. However, this condition may involve the pancreas diffusely, and pancreatic resections may predispose patients to further hypoglycemic episodes or pancreatic failure.

Methods we have treated one patient with refractory hyperinsulinism and symptomatic hypoglycemia after successful gastric bypass surgery two years before. Ultrasonography, computadorized tomography and cintilography with analogous of somatostatin showed no abnormalities. Selective calcium angiography was positive in two of tree arteries tested. Analogous of somatostatin was unsuccessful to control the hypoglycemia after two months of treatment. We have performed an anastomosis from alimentary limb to excluded stomach, keeping the gastric pouch as restrictive component for the control of obesity. This procedure carries the food into the duodenum again, possibly re-stimulating the “anti-incretin” system described from Rubino, and recovering the later flow into the ileum, with consequent later stimulus for the secretion of glucagon-like peptide 1 (GLP-1).

Result the patient presented no weight regain, and achieved adequate symptoms and glycemia control, since the first hours after the surgery until now, four months later.

Conclusion this technique appears to be an valuable option in these situations, but studies with a greater number of patients and longer follow-ups are needed.

P-192 Emergency Re-Operation After Bariatric Surgery

Presenter: P. Granero Castro (Hospital Universitario Central de Asturias, Oviedo, Spain)

Co-authors: C. Bernardo¹, L. Sanz¹, M. Moreno¹, D. Arias¹, C. Dizy¹, J. González¹

¹General Surgery. Hospital Universitario Central de Asturias. Oviedo Spain

Background We analyze the causes of early and late emergency reoperation after bariatric surgery.

Methods From October 2003 to March 2009, 248 patients underwent bariatric surgery (44 M/204F; mean age 42.7±9.9; weight 126±18.3 kg; BMI 48.9±6.6 kg/m²). Surgical approach was open in 195 cases (78.6%) and laparoscopic in 53 cases (21.4%). 125 long limb gastric bypass (50.4%), 76 short limb gastric bypass (30.6%), 45 distal limb gastric bypass (18.1%) and 2 sleeve gastrectomy (0.8%) were performed. Complication rate was 96/248 (38.7%). Mortality rate was 0.4%. Reoperation occurred in 19 patients (7.7%).

Results 19 reoperations were performed (4 M/15F; mean age 41.9±8; IMC 41.2±7.4 kg/m²). As early complications 2 patients developed gastrojejunostomy leak (10.5%), 3 patients developed jejunoejunostomy leak (15.8%) and 1 patient iatrogenic perforation of small bowel (5.2%) between 2-6 postoperative day. One of this patients died after 34 days because of peritonitis and multiorgan failure. One thoracotomy and decortication for empyema must be performed 26 days after initial surgery (6.6%). 2 patients developed intra-abdominal abscesses (13%) with surgical drainage between 15-23 postoperative day and one splenectomy was performed. One patient developed an intestinal obstruction (6.6%) after 23 days. Hemorrhage at surgical site was present in one case (6.6%) 5 days after initial surgery. One incisional hernia (6.6%) and one internal hernia (5.2%) were present 6 and 9 postoperative day respectively. As late complications our patients developed 5 intestinal obstructions due to adhesions (26.31%) after 17-54 months and 1 internal hernia (6.6%) after 24 months.

Conclusions Bariatric surgery carries both short and long term risks. Our early emergency reoperation rate (5.2%) is in accordance with published data. The late emergency reoperations are due to intestinal obstructions.

P-193 Laparoscopic Sleeve Gastrectomy as a Revisional Procedure for Complicated Adjustable Gastric Banding

Presenter: N. Geron (Padeh-Poriah Medical Center, Tiberias, Israel)

Co-authors: D. Hazzan¹, A. Keidar², N. Kafri³, D. Froilich¹, E. Shiloni¹

¹Department of Surgery B, Carmel Medical Center Haifa Israel; ²Department of Surgery, Hadassah University Hospital Jerusalem Israel; ³Department of Nutrition, Lin Medical Center Haifa Israel

Background The use of laparoscopic sleeve gastrectomy (LSG) as a revisional surgery for complicated adjustable gastric banding (AGB) is not well described.

The aim of this study was to evaluate the feasibility, safety and efficacy of the conversion of AGB into LSG.

Patients and Methods All patients who underwent laparoscopic extraction of band and LSG for band related complications were included. Patients with inadequate weight loss were excluded. The data was collected from a prospective data base and included: Age, gender, BMI, indications for surgery, surgery time, complications, length of stay, resolution of co morbidities and weight loss.

Results Twenty one patients were included in the study. The mean BMI and weight before LSG were 41.8 (29-54.5) and 102.6 Kilograms (71-150). The mean operative time was 145 minutes (range 95-285). No patient required conversion to open surgery and there was no peri-operative mortality.

Post operative complications include one wound infection and a segmental pulmonary embolism.

The mean hospital stay was 4.3 days (range 4-8). After a mean follow up of 11.9 months (range 6-21), all but two patients lost weight. The mean BMI and weight after surgery was 32.25 (range 25-43.6) and 84.14 Kilograms (range 66-120).

50 % of patients with hypertension and 57 % of patients with type II diabetes had complete resolution of their disease, respectively.

Six patients had hypercholesterolemia; none of them had resolution of their disease.

Conclusion LSG proved to be safe and feasible after AGB with low morbidity and mortality comparable to primary LSG.

P-194 Ecoendoscopic Analysis of the Adjustable Gastric Band with Antierosive Mechanism

Presenter: B. Zilberstein (Gastromed Zilberstein Institute Sao Paulo, Sao Paulo, Brazil)

Co-authors: A. Garcia De Brito¹, H. Joaquim²

¹Gastromed Zilberstein Institute Sao Paulo Brazil; ²Gastromed Zilberstein Institute Sao 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 132 patients underwent this procedure since 2003. Twenty of them, operated between 2003 and 2004 were followed up by periodic ecoendoscopy at the end of the 1st month without inflation and after the 4th month with a 3 ml iodine contrast substance inflation. These patients were prospectively paired with 20 other patients who underwent the same procedure but using the Swedish Band-Obtech®.

Result The ecoendoscopic examination 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 no different tissue nor other changes between the gastric band and the gastric wall in both devices.

Conclusion The Echoendoscopic follow-up of both Gastric Bands, in a short period of time, showed a good adjustment of the device to the gastric wall. This study intends to continue in order to evaluate this adaptability in a long term follow up.

P-195 Could Additional Duodenal Switch be the Solution for Failed Restrictive Surgery?

Presenter: D. Krawczykowski (Polyclinique Priollet/Courlancy, Chalons en Champagne, France)

Background Biliopancreatic duodenal switch (BPD/DS) has 2 components a restrictive one the sleeve gastrectomy (SG) and a malabsorptive one the duodenal switch (DS). Many patients undergoing a restrictive surgery alone have poor long term results. Could a DS be added to any restrictive failed surgery?

Methods In our bariatric program, patients with an inadequate initial excess BMI loss (IEBMIL) (remaining BMI > 30) after a restrictive surgery are scheduled for an additional DS. Since July 2002, an additional DS has been performed in 22 patients either after a primary or a secondary SG, in 34 patients with an adjustable gastric banding (AGB), in 2 after a vertical gastric banding (VGB) and in 4 without any restriction because of a previous gastric surgery (3 AGB, 1 Hiatal Hernia).

Result The patients with the banded DS: 22 had a band removal (6 conversions to SG, 16 are free of any restriction). Those patients have been switched to either the SG group or to the group without restriction.

| Type of restriction | BMI | | | | % IEBMIL | |
|---------------------|--------------------|-----------|----------|----------|-----------|-----------|
| | Before restriction | Before DS | At 1 Y | At 2 Y | At 1 Y | At 2 Y |
| SG | 47.3±6.9 | 37.6±3.8 | 29.9±7.6 | 28.6±3.8 | 77.2±16.2 | 81.9±11.9 |
| Band | 47.6±6.7 | 41.3±6.9 | 32.3±5 | 30.6±4.5 | 67.5±22.8 | 65.9±18.9 |
| VGB | 47.1±0.7 | 42.1±8.6 | 30.6±5.1 | | 75.4±22.4 | |
| Without restriction | | 40.1±7.4 | 33.7±5.5 | 32.9±6.0 | 61.8±24.8 | 64.9±29.5 |

Conclusion Additional duodenal is feasible and allows patients to increase their % IEBMIL. The final result depends on the associated restriction.

P-196 Intussusception Following Roux-En-Y Gastric Bypass: Two Case Reports and Literature Review

Presenter: D. Tran (Bluepoint Surgical Group, Woodbridge, United States of America)

Co-authors: D. Halmi¹, E. Kolesnikov¹

¹Bluepoint Surgical Group Woodbridge United States of America

Intussusception, although rare, is a complication that can cause small bowel obstruction after Roux-en-Y (RNY) gastric bypass. It is not often considered in the differential diagnosis because of the extremely infrequent occurrence. We report two cases from our series of over 2500 RNY gastric bypasses.

Case 1: A 32 years old woman who underwent an open RNY gastric bypass three years ago presented to the emergency department with acute small bowel obstruction. A computed tomography (CT) scan showed an abruption of the oral contrast at the jejunojunostomy, which corresponded to a palpable mass on the abdominal examination. At exploratory laparoscopy, she was found to have a retrograde intussusception just distal to the jejunojunostomy. It was successfully reduced without the need for bowel resection.

Case 2: A 27 years old woman who underwent a laparoscopic RNY gastric bypass 19 months before presented with a two-month history of intermittent colicky abdominal pain with associated nausea. Pain was reportedly lasting a few hours but would resolve spontaneously. An elective CT scan of the abdomen showed thickened bowel with possible partial obstruction at the jejunojunostomy. At exploratory laparoscopy, she was found to have evidence of intermittent bowel obstruction by means of antegrade intussusception at the Roux limb immediate proximal to the jejunojunostomy. No resection was necessary. The Roux limb was anchored to the biliopancreatic limb to prevent future intussusceptions.

Most reported cases involved the jejunojunostomy. Clinical presentations are usually nonspecific but a delay in diagnosis can potentially lead to catastrophic consequences. An abdominal CT scan is often necessary for diagnosis. Awareness of this specific complication in bariatric patients and timely expert care are keys to optimal outcome.

P-197 Effect of Endoscopic Injection of Polymethylmethacrylate in Patients with Anastomosis Dilatation After Gastric Bypass

Presenter: S. R. Pioner (Santa Casa De Porto Alegre, Porto Alegre, Brazil)

Co-authors: J. Sanseverino¹, J. Hauck¹, C. Dillenburg², G. Kiss¹, M. Galvão Neto³

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Background To determinate the effect of endoscopic injection of polymethylmethacrylate (PMMA) after Roux-en-Y gastric bypass as an alternative in patients with anastomosis dilatation and weight stopped or regained.

Methods In the period of May 2004 to February 2008, 82 patients presents gastroenteric anastomosis dilatation with diameter between 15 and 30 mm. In 59 cases, part of the major weight was recover or weight reduction stopped. It was inject 4 to 10 ml PMMA 3% solution in each anastomosis quadrant with the objective of a 10 mm anastomosis diameter.

Result Initial and final weight have significant difference ($p < 0,001$). Initial and final satiety seems responsive ($p < 0,001$). The patients that realized only one section of casting have had before a less weight gain than those who needs 3 or 4 sections. The satiety and the body weight were better after injection of PMMA, and the lost weight was until of 15 Kg.

Conclusion Doing the gastroenteric anastomosis PMMA casting we had satiety increase and stopped the weight regain to ($p < 0,001$). As large as the anastomosis dilatation the satiety rate was less and the weight regain before was bigger, that's why it was need more number of casting sections to have a satisfactory satiety and stop the weight regain or return the weight reduction.

P-198 Intra-gastric Balloons are Effective for the Weight Control in Non Obese Patients

Presenter: G. L. Carvalho (Universidade De Pernambuco (Upe), Faculdade De Ciências Médicas (Fcm), Clínica Cirúrgica Videolaparoscópica Gustavo Carvalho, Recife Pe And Gastrocor, Rio De Janeiro, Brazil)

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Background Many clinical treatments have been attempted for weight reduction in overweight patients, body mass index (BMI) below 30, most commonly medically treated with Orlistat, Sibutramine and more recently with Rimonabant, all presenting gastrointestinal, circulatory, metabolic or psycho-

logical side effects which are sometimes severe. Recent Silicone intragastric balloons (SIB) clinical trials have used overweight patients as part of their population, proving the safe usage of SIBs in non obese patients. So far, a study reporting the treatment with SIB only in overweight non obese patients is not yet published.

Methods To present the SIB treatment results in overweight patients.

Result From June 2006 to April 2009, 254 patients were submitted to the treatment with the Silimed Gastric Balloon, in two different centers. Of those, 45 were selected for this study for presenting BMI < 30. Results: All balloons were placed and retrieved by office endoscopy, safely and effectively in all the cases. General anesthesia was not needed. All patients left the outpatient clinic in less than 1 hour. The patients mean age was 41.6 (16-67) years-old, initial weights and BMI were 76.4 ± 9.9 (58.0-100.2) kg and 27.8 ± 1.6 (22.8-29.9) kg/m. For the 21 patients who had completed the 6-month treatment, the results in weight loss and final BMI were 9.6 ± 4.2 (19.7-0.4) kg and 24.9 ± 1.7 (21.9-27.8) kg/m. Five patients (12.8%) had episodes of severe vomiting and opted to stop the treatment. One patient (2.6%) had insufficient weight loss. 58.9% of the patients complained of nausea in the first days of treatment. One balloon spontaneously deflated during the treatment and was removed uneventfully by office endoscopy.

Conclusion Preliminary data suggest that the SIB procedure is a safe and effective alternative to the medical treatment of weight control in non obese patients with appropriate indication of use.

P-199 Superobeses, Comorbilities and Metabolic Surgery

Presenter: V. Silvestre (Hospital University of Móstoles., Móstoles. Madrid, Spain)

Background Diabetes, arterial hypertension, coronary disease, apnoea, dyslipidemia and other comorbidities associated with morbid obesity are found more pronounced the higher the BMI values. The purpose of this study is: 1) to evaluate the effects of metabolic surgery for the therapy of superobeses and 2) to analyse their long-term evolution.

Methods Retrospectively evaluation of 88 patients superobeses, 62 women and 26 men who were operated in our Hospital (gastric bypass following Casella's technique). The mean age was 43.4 years (range: 22 - 63). Sixty-two with BMI 50, twelve with BMI 55, twelve with BMI 60 and two with BMI 70 kg/m². Before surgery and 6, 12, 24, 60 and 108 months after it we have collected weigh, waist circumference (WC), levels of: glucose, triglycerides, HDL cholesterol and the pre-existence of diabetes, blood pressure, apnoea. etc.

Results Before surgery the mean value of the weigh was 142.5 (range: 108 – 192 and of mean (SD) the WC 135.3 (16.0). The blood levels of was high and the comorbilidades rest existed, being more accentated as much as bigger it was the value of the weight, with bigger index of morbidity and mortality. After surgery, the altered levels and the associate comorbilidades begin to descend but more slowly than those corresponding to other obese ones morbid, with smaller measures antropometrics and therefore they require more time for their stabilization.

Conclusions Reductions of the weigh, WC and levels altered confirm surgery as an efficient therapy for MO and comorbidities associated.

P-200 Laparoscopic Gastric Bypass (LGBP) Following Intra-Gastric Balloon in Super-Super Obese Patients: A Case-Control Study

Presenter: C. Zerrweck (Lille University Hospital, Lille, France)

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Background Super obesity (BMI 50 kg/m) and super-super obesity (BMI 60 kg/m) are independent factors that could increase early and late mortality linked to bariatric surgery mainly due to operative technical difficulties and surgical experience. This case control study analyzed whether pre-operative intra-gastric balloon (BIB) has any influence on the outcome of LGBP.

Methods In the Case Group (G1, n=16), a pre-operative Bioenterics Intra-gastric Balloon (BIB) was placed; whereas the Control Group had no balloon (G2, n=20). The primary objective was to compare early surgical complica-

tions in both groups. Secondary objective was to analyze weight reduction at 3, 6 and 12 months.

Results Pre-inclusion patients' characteristics were similar in both groups. After a mean time of 5.9 months (range 2-28) of treatment with the BIB, G1 reached a 10.6 %EBL (BMI of 61.3 ± 4.9 kg/m, $p < 0.05$ vs. initial). Postoperative complication rate was higher in G2 (40% vs. 18.7%, $p = 0.26$). Two complications (10 %) required re-intervention. Weight loss at one year was higher in G2 (G1: 32%, G2: 39%, $p < 0.05$) allowing BMI standardization between groups (56.6 ± 4.3 kg/m vs 57.7 ± 4.2 kg/m).

Conclusion The use of BIB for preoperative weight loss in super-obese patients is an efficient and safe method that does not affect the long-term weight loss, but might reduce post-operative complications. This has to be re-analyzed in a randomized trial with more patients to decide the ultimate role of BIB for this specific population.

P-201 What is the Impact of the Use of Intra-gastric Balloon in Pre-Op Time for Patients with BMI 60?

Presenter: J. A. Sallet (Sallet Institute of Medicine, Sao Paulo, Brazil)

Co-authors: C. Pisani¹, A. Leal¹, P. Sallet¹, J. Marchesini¹, P. Miguel¹, D. Paiva¹

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Background Super obese patients show high surgical risk (major complications in 38% and mortality rate of 6.5%). The present study evaluates the use of BIB as preoperative procedure aiming an initial weight loss and reduction of surgical risk.

Methods From November/00 to March/09, 178 super obese patients (mean BMI = 60.3 ± 10.1 kg/m) were treated with the BIB for at least four months before surgical treatment: 121 male (BMI = 58.4 ± 8.0) and 57 female (BMI = 62.3 ± 10.7). They showed associated diseases, including hypertension (131 cases), DM2 (79 cases), sleep apnea (97 cases), hypercholesterolemia (121 cases) and osteoarthritis (75 cases).

Results Patients showed mean %EWL of $23.4 \pm 11.0\%$, mean %TWL of $13.6 \pm 6.5\%$, and mean BMI reduction of 8.4 ± 4.9 Kg/m. Eighty-seven percent ($n = 155$) of patients showed good results with 27% EWL with improvement in hypertension, DM2 and sleep apnea. Surgical risk was reduced from ASA III-IV to ASA II. All the patients presenting good results ($n = 155$) were submitted to bariatric surgery (LAGB 33%, Distal LGB 41% or LBGD 26%). There was no mortality and only four minor complications (wound infection- 2.5 %).

Conclusions The intra-gastric balloon is an effective technique in order to prepare super obese patients in preoperative time (87%), reducing their major complications and mortality. Change surgical risk ASA III-IV to ASA II (87%). No mortality and minimal risk of major complications. Reduce 87% the indications of two stage surgery. Low risk and lower cost than two stages surgery.

P-202 Post-Operative Complications of Linear Gastrectomy with Laparoscopic Sleeve Gastrectomy

Presenter: D. Del Castillo Déjardin (University Hospital of Sant Joan. Faculty of Medicine. Rovira i Virgili University, Reus, Spain)

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Background Sleeve gastrectomy (SG) is a restrictive operation used in our department for patients with BMI > 50 to 65 Kg/m², significant hepatomegaly, and morbid obesity during adolescence.

Methods A SG was performed over a 5-year period on 115 patients, 76% males and 24% females, with an average age of 51 and average BMI of 61 Kg/m². 92% of patients presented serious comorbidities. After 24 hours of surgery, gastroduodenal esophageal transit was performed with Gastrografin to ensure the absence of leaks and to allow a liquid diet to be administered.

Result There were major complications in 10 patients (8.6%), 2 cases of bleeding (20%) along the line of staples, 1 case of atelectasis/pneumonia

(10%) and 7 cases of leakage of contrast (70%). Of these latter patients, 4 presented intra-abdominal pockets of fluid whose resolution required several needle aspirations and drainage. No patient required repeat surgery. One patient died (0.86%). This patient had a BMI of 70 Kg/m² and post-operative respiratory failure. Patients without complications had a mean hospital stay of 3.8 days, whereas patients with complications had a mean hospital stay of 32 days.

Conclusion In our setting, the most frequent complication of SG was leakage along the line of staples and although this did not require any repeat surgery, it significantly prolonged hospital stay. The 1 case of death in this study is not related to surgical technique. We conclude that SG is a safe, reproducible technique with low morbimortality.

P-203 Upper Gastrointestinal Gastrografin® Swallow After Laparoscopic Roux-En-Y Gastric Bypass: Routine or Selective?

Presenter: N. Corigliano (Hôtel Dieu, Paris, France)

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Background Upper gastrointestinal (UGI) swallow radiographs following laparoscopic Roux-en-Y gastric bypass (LRYGB) may detect an obstruction or an extraluminal leak. The use of routine UGI studies after LRYGB is a matter of great debate. The aim of this study was to determine the utility of routine imaging following LRYGB in detecting postoperative complications.

Methods Up to date, we performed UGI swallow radiographs routinely on 2nd postoperative day in patients undergoing LRYGB. UGI swallow used Gastrografin, static films, fluoroscopic video, and a delayed image at 20 minutes. Medical records and radiographs were reviewed for 187 consecutive LRYGB operations between May 2003 and March 2007. The results were analyzed for sensitivity, specificity, and positive and negative predictive value of the procedure. The Youden's index was calculated. Efficacy in detecting postoperative complications in asymptomatic patients was also evaluated. Results were reported as mean \pm standard deviation.

Result Mean age was 42 ± 10.5 years (range: 18-68). There were 146 females (78%) and 41 males (22%). Mean weight and BMI were 137 ± 26.8 Kg (range: 88-218) and 49.2 ± 8.8 Kg/m (range 33-92), respectively. Mortality rate was 0.5% (1/187). Overall morbidity was 8.6% (16/187). Seven patients (3.7%) developed a leak from the gastrojejunostomy (6 patients) or from the gastric pouch (1 patient). Four patients (2.1%) developed a small-bowel obstruction, localized to the common limb in 3 cases and to the biliopancreatic limb in 1 case. A stricture of the digestive limb at the mesocolic windows occurred in 4 patients (2.1%). One case (0.5%) of port-site strangulated hernia was observed. Sensitivity and specificity of routine UGI Gastrografin swallow were 100% and 26.7%, respectively. Positive and negative predictive values were 100% and 94%, respectively. The Youden's index was 0.27. The four patients, in whom the swallow radiographs detected a complication, had symptoms or clinical signs associated (fever, tachycardia, pain, vomiting). Routine UGI Gastrografin swallow has never detected a complication in asymptomatic patients.

Conclusion We do not recommend routine UGI Gastrografin swallow after LRYGB. Nevertheless, in selected patients it can be useful for detecting the site of obstruction or stricture. Given the high rate of false negative, if a leak is suspected we recommend a laparoscopic exploration.

P-204 The Relationship Between Esophageal Peristalsis and In Vivo Band Manometry in Gastric Banding Patients

Presenter: M. Fried (OB Klinika & 1st Faculty of Medicine, Charles University, Prague, Prague, Czech Republic)

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Background Intraband pressure (IBP) measurement provides a less invasive method to assess the restrictive integrity of the adjustable gastric band. However, the relationship between IBP and esophageal motor function is not yet understood. Our aim was to characterize the *in-vivo* relationship between IBP and esophageal peristalsis in post-SAGB patients.

Methods Ten patients in their second postoperative year were prospectively recruited. IBP was measured via the port with a Huber needle connected to a pressure transducer and monitor. Concurrent esophageal manometry was performed using an 8-channel catheter (Medtronic Inc.) positioned in the esophagus, lower esophageal sphincter (LES), and pouch. Esophageal peristalsis was elicited with 20 mL water swallows and contraction length and amplitude were measured. The IBP-peristalsis relationship for each patient was assessed at band volumes ranging from 4 to 9 ml. Correlation was computed using the Pearson's coefficient (R). Statistics are presented as average \pm standard error.

Result A total of 110 swallows were studied. Excellent correlation was observed between both methods in 6 of the 10 patients (267 contractions) (contraction length $R=0.8537$ and amplitude $R = 0.7365$). Mean contraction length was 17 ± 7 (4-42) sec for peristalsis and 18 ± 7 (5-43) for IBP. Mean amplitude was 55 ± 55 (9-209) mmHg for peristalsis and 67 ± 47 (7-190) for IBP. A weak IBP-peristalsis correlation was observed in the remaining four patients; two had impaired LES relaxation, one had band slippage, and on one the needle connection with the port was disrupted.

Conclusion *In vivo* IBP measurement appears to be an accurate and reliable method for assessing esophageal motor function in patients with intact peristalsis and normal LES relaxation. However, caution is suggested in using IBP as a surrogate for peristaltic integrity.

P-205 A 6-Year Experience with the Cousin Bioring- Adjustable Gastric Band

Presenter: E. Niville (Ziekenhuis Oost-Limburg, Genk, Belgium, Genk, Belgium)

Background The Cousin Bioring is an adjustable gastric band designed for laparoscopic implantation. It is a low-pressure, high-volume band. It is circularly preshaped, has a streamlined profile and is made of supple silicone. These characteristics enhance ease of handling and simplify its implantation. The Bioring can be reopened and reclosed with surprising ease, both at the time of the initial procedure and during revisional surgery.

Methods Between March 18, 2003 and March 18, 2009, 295 patients (pts) underwent implantation of a Bioring. BMI: 33-73 (mean 42.6). 283 were primary procedures, two after failed Mason, one after Nissen and nine after gastric band removal (six for band erosions and three for central leaks). All operations were carried out via the pars flaccida route. Follow-up is complete for 282 pts.

Result One conversion to laparotomy. No intraoperative complications. No mortality. Postoperative complications: four pts experienced a transient early dysphagia. Hospital discharge on the first postoperative day: 286 pts. Late complications requiring surgery: four upper gastric pouch dilatations and one slipping for which a laparoscopic repositioning of the band or a reduction of the slipped stomach was done and nine pts with port related problems. One band removal for psychological intolerance. The mean %EWL was 46 at 1 year (266 pts), 54 at 2 years (236 pts), 57 at 3 years (197 pts), 56 at 4 years (141 pts) and 55 at 5 years (71 pts).

Conclusion Laparoscopic implantation of the Bioring is a rather easy and very safe operation. All complications could be solved without loss of the device. So far there were no erosions or central leaks. The weight loss in this series is comparable to that reported in the best other series with other bands.

P-206 Does Suturing Prevents Gastric Band Slippage?: A National (British) Survey

Presenter: I. Shashidhar (Ashford&St.Peter's Hospital NHS Trust, Chertsey, United Kingdom)

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Background Changing from the peri-gastric to the parsflaccida technique of band insertion has reduced slippage rate from 20% to 2-4%. There is no clear

evidence in the literature to support the hypothesis, that suturing prevents band slippage. Some evidence suggests that suturing may even promote band erosions. Our objective was to determine whether the incidence of slippage is affected by suturing vs. non-suturing.

Methods An on line questionnaire was sent to all members of the British Obesity and Metabolic Surgical Society (BOSSM) practicing gastric band surgery, to assess the technique used in inserting gastric bands. The number of bands inserted, number of slippages & erosions and modes of dealing with their slippages were also evaluated.

Result A total of 29 surgeons responded to our questionnaire. All used the parsflaccida technique. The Lapband was used by 10(34.5%), Swedish band 9 (31%), Midband; ²The remainder 8(30%), used a variety of other bands. 25 (86.2%) surgeons used single or multiple interrupted sutures, and the remainder 4(14%), did not suture. A total of 6990 gastric bands were sutured, and 1370 bands were not sutured. Slippage rates in sutured bands ranged between 0.5%-12%, and in non-sutured bands between 1-2.5%. 90% of slippages occurred after bands were inflated. 80% of responders managed slippages by removal or repositioning.

Conclusion Suturing of bands does not offer any advantage over non-suturing with regards to slippage. In addition, suturing is time consuming and can potentially lead to band damage. Suturing the gastric band can therefore quite reasonably be omitted.

P-207 Different Etiology for Early and Late Intra-gastric Band Migration - Erosion. The Italian Experience with 127/6230 Operated Patients

Presenter: N. Di Lorenzo (University of Tor Vergata, Rome, Italy)

Co-authors: N. Di Lorenzo¹, F. Furbetta¹, F. Favretti¹, G. Micheletto¹, M. Zappa¹, M. Paganelli¹, M. Lucchese¹, N. Basso¹, F. Capizzi¹, L. Di Cosmo¹, V. Mancuso¹, C. Giardiello¹, A. Veneziani¹, I. Camperchioli¹, M. Lorenzo¹

¹Italian Group For Lap Band Città della Scienza, Naples

Background Intra-gastric migration (erosion) of adjustable gastric banding is a rare complication of unclear etiology.

Methods Data were collected from the data base of the Italian Group for LapBand (GILB). Patients operated from January 1997 to December 2004 were selected to achieve a minimum follow up of 4 years. Intra-gastric migration, its incidence and treatment, and related weight loss parameters were considered. Data were expressed as mean \pm standard deviation.

Result A total of 127/6230 (2.03%) intra-gastric erosions were observed. Mortality was absent. Diagnosis was made in 69/127 (54.3%), 15/127 (11.8%) 19/127 (14.9%), 11/127 (8.6%), 9/127 (7.1%), and 4/127 (3.1%) banded patients at 6-12, 24, 36, 48, 60, and 72 months of FU respectively. During the first 6-12 months all kind of band were involved, prevalently (49/69; 71.0%) positioned via perigastric. In the later erosions (55/58; 94.8%) the perigastric placed 9,75 band was involved. At 6-12 months FU erosions were diagnosed in 32/69 (46.4%) by port-system infection, in 15/69 (21.7%) by intractable digestive symptoms, 22/29 (75.8%) were asymptomatic. Almost all late erosions were asymptomatic (50/58; 86.2%) and diagnosed by routine FU exams. Laparoscopic or endoscopic band removal was performed in almost all cases. Pars flaccida positioning in patients with perigastric erosion was also performed (11 cases) without intra-operative or post-operative (12 months-FU) complications.

Conclusion Intra-gastric migration (erosion) is a rare and not life threatening complication of gastric band. Early intra-gastric migration is linked to technical failure or undetected complication during the retrogastric passage. Late erosion continue to have an unclear etiology.

P-208 Gastric Banding Versus Roux-En-Y Gastric Bypass in Non-Superobese Patients. A Matched-Case Control Study of 442 Patients

Presenter: S. Romy (CHUV, Lausanne, Switzerland)

Background Roux-en-Y gastric bypass (RYGBP) and gastric banding (GB) are the two most popular bariatric procedures. Only few studies have compared their results and follow-up duration is usually limited to < 3 years.

Methods Prospective bariatric database since 1995. Non-superobese GB patients were matched for sex, age and BMI to RYGBP patients. Follow-up considered up to five years.

Result 442 patients could be matched in 221 pairs. Mean age (38,6) and mean BMI (43) were identical between groups. Overall operative morbidity was significantly higher in the RYGBP group (17,2 versus 5,4 %, $p < 0,001$), but major morbidity was similar (3,6 versus 2,2 %, $p = 0,39$). Significantly more patients developed long-term complications after GB (33 % versus 20,3 %, $p = 0,002$), and more required reoperations (24,4 % versus 13,6 %, $p = 0,003$). Reoperations were mainly due to internal hernias after RYGBP (87 %), with no reversal, whereas 18,5 % of the GB patients required band removal. Even including only patients who retained their band, weight loss after RYGBP was significantly better throughout the study period, and the 5-year EBML was 77,6 % and 63,6 % ($p = 0,001$) after RYGBP and GB respectively.

Conclusion GB is associated with a smaller overall operative morbidity and similar major morbidity, but with more long-term complications, more reoperations, a significant number of reversal or conversion procedures, and reduced weight loss when compared with RYGBP. Five-year results of RYGBP are superior to GB and patients should be informed accordingly.

P-209 The Laparoscopic Duodenal Switch Procedure for Morbid Obesity – Results from a Single UK Centre

Presenter: J. Barry (Gravitas, Wirral, United Kingdom)

Co-authors: C. Magee¹, J. Brocklehurst¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

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Background The laparoscopic bilio-pancreatic diversion with duodenal switch (LDS) is the most technically demanding primary bariatric procedure. It is associated with significant post-operative weight loss but perceived to have increased mortality and morbidity compared to other bariatric procedures. European experience with the LDS is limited.

Methods A prospective database of all patients undergoing bariatric surgery was analysed. All patients who underwent LDS were identified. Endpoints were percentage excess weight lost (% EWL), mortality, resolution of obesity related comorbidities and nutritional consequences following surgery.

Result One hundred and nineteen LDS were performed with up to 4 years follow-up. Median preoperative BMI was 55.9 (37-78). In-patient, 30 and 90-day mortality was zero. DVT/PE incidence was zero. Anastomotic leak rate was 3%. Median percentage EWL was 79% at one year increasing to 93% (49-131%) in years 2,3 and 4; 100% of diabetics (32 cases) had improvement of their condition with 97% complete resolution (78% before discharge from hospital). Resolution or improvement of hypertension and obstructive sleep apnoea were seen in 97% and 91% respectively. Protein malnutrition was seen in 6.7% of cases, but responded to oral supplementation. Severe protein malnutrition requiring inpatient nutritional support was seen in only 3 cases (2.5%).

Conclusion LDS is an effective bariatric procedure and can be performed with low morbidity and mortality. It results in significant weight loss and improvement in obesity related comorbidity.

P-210 Bariatric 100% Robotic-Assisted Surgery in Brazil – Sirio Libanes Hospital Initial Experience

Presenter: R. Z. Abdalla (Sirio Libanes Hospital, Sao Paulo, Brazil)

Co-authors: C. De Luca¹, M. Torres¹

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Background Robotic-assisted surgery is an evolving minimally invasive treatment for many benign and malignant diseases. This is our initial experience, in Latin America, of the first 12 consecutive cases, in 3 different bariatric procedures, adjustable gastric band, Roux-en-Y gastric bypass and sleeve gastrectomy. We analyze the process in coordinating da Vinci System installation, on-site training, staff in-servicing and surgeon training. We created The Robotic Training Center to work with surgeons to help enhance their surgical skills.

Methods Twelve patients underwent 03 procedures from March 2008 to March 2009. All patients were informed of lack of experience in robotically-assisted procedures and all surgical staff were certified-trained.

Result Surgical time was from 2 h and 30 min until 9 h. The 9 h procedure was in a slipped gastric band. The console time was around 1 h less than total surgical time. One patient had a stapler leak in the biliopancreatic limb at day one PO. There were no others peri-operative complications.

Conclusion All robot procedures were feasible and safe. This new technology enhanced endo surgery dexterity. The learning curve for the console surgeon is intuitive, shorter in time than video surgery and could be done in our provided laboratory. The anastomosis sewed by robotic hand is easier and despite of the machine, could be less expensive than video surgery. The importance of the patient-side assistance became evident, and therefore is focused on during training. Bariatric robotic surgery indicated that many procedures could be initiated robotically in a safe environment.

P-211 Cost-Effectiveness Analysis of Laparoscopic Gastric Bypass in a French Public Hospital

Presenter: B. Quelenec (Pôle de Pharmacie-Stérilisation Centrale, Colmar, France)

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Background Laparoscopic gastric bypass (LGBP) is a difficult and demanding surgical technology, which requires a learning curve. In 2006, the French national scale of hospital costs showed that LGBP estimate average cost was superior to the amount charged by hospitals. The aim of this study is to evaluate the cost-effectiveness of LGBP practised by a surgeon who developed LGBP in the hospital since April 2007.

Methods All direct costs, medical or no, of patients who underwent LGBP were analysed prospectively from December 2008 to February 2009 and compared to the amount charged.

Results Seventeen LGBP were consecutively analysed. There were 14 (82.3%) first intention LGBP and 3 (17.7%) second intention (revision surgery after laparoscopic gastric adjustable banding). There were 15 (88.2%) women and 2 (11.8%) men. Mean age was 40,9±9,6 years (range 23-60,7). Medium body mass index was 48.1±6,7 kg/m. Mean hospital stay was 4,6±1,5 days. Two operations were converted to open surgery. One patient presented a bowel obstruction and needed a re-operation. Mean LGBP hospitalisation's cost was 5206.50±918.90 euros (€). LGBP's amount charged by the hospital was 5330. Mean profit per hospitalisation was 123,50. Mean cost of a first intention LGBP was 5095.70 against 5723.10 for a second intention LGBP. The short-term hospitalisations (3 days) with the shortest operating times (<100 minutes) were the most profitable (>1000 earned).

Conclusion This study showed that LGBP is lucrative for the hospital. However, when the surgeon will have finished his learning curve, intervention and hospitalisation's durations should diminish and will therefore increase the profitability of LGBP for the hospital.

P-212 The Strict Choice of Indications Increase Significantly the Effectiveness of Gastric Banding

Presenter: O. Boudouris (Neo Athineon hospital-IMop, Athens, Greece)

Background The purpose of this study is the evaluation of results of gastric banding, according to the alimentary habits

Methods June 1994 to March 2008, 483 were performed: 352 women and 131 men with average BMI 43.5. On March 2009, 282 cases were following with a minimal following time 12 months and average 3 years and 3 months. Cases divided in three groups (O1, O2, O3), due to the nutritional habits. Classification was due to pecking (T1, T2, T3) and the sweets and soft drinks consumption (C1, C2, C3). O1 group (114 cases) include T1-C1 cases, O3 group (48 cases) include T3 or/and C3 and O2 group (120 cases) the other cases. Results were evaluated by excess weight loss percentage (EWL) and the percentage of patients with EWL up to 50%. This results were registered for the total of the patients and also separately for the three groups O1, O2, O3.

Result

| |
|-------------|
| group 1 |
| group 2 |
| group 3 |
| total |
| Average EWL |
| 67,3% |
| 54,6% |
| 45,1% |
| 57,7% |
| EWL > 50% |
| 87,5% |
| 62,3% |
| 51,9% |
| 70,7% |

Results of gastric band, appears to have a strong differentiation due to the nutritional habits. Results in group 1 (67,3%) are almost equal to the results of international bibliography for gastric bypass (EWL 68,1%, meta-analysis of American Medical Association 2004).

Conclusion The differentiation, due to nutricional habits is extremely useful because reveals that for elective cases this method approaches in effectiveness other bariatric operations which have wore morbidity. The development of the gastric bypass and sleeve gastrectomy, appears to reduce the frequency of gastric band but in the same time to increase his effectiveness.

P-213 Marginal Ulcer After Laparoscopic Banded Gastric Bypass

Presenter: F. D. L. Cruz Vigo (12 de Octubre University Hospital, Madrid, Spain)

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Background Marginal, anastomotic or stomal ulcer is a mucosal injury that appears nearby a gastroenteric anastomosis, generally on the enteric side. The incidence and characteristics of this complication in our series of laparoscopic gastric bypass (LGBP) is analyzed.

Methods Since June 1999 until January 2009, 1156 morbidly obese patients have been operated on by a banded LGBP (6.5 cm polypropylene mesh band). During the preoperative work-up most of them have had a barium swallow. It has not been made gastroscopy nor H. pylori test preoperatively in a systematic way; only they have been performed to postoperatively symptomatic patients. After operation, two months of prophylactic proton pump inhibitors (PPI) were given.

Result Seventeen patients (1,5%) have been diagnosed of marginal ulcer during follow-up. Two of them were operated by laparotomy in other Hospitals because of ulcer perforation. Diagnosis was made a mean of 9.3 months after the operation. Fifty per cent of patients had taken antiinflammatory drugs. Five patients suffered digestive bleeding. No gastrogastric fistula was detected. All patients, except perforated ones, were diagnosed by gastroscopy. The whole were treated with PPI.

Conclusion Marginal ulcer is a complication of LGBP with a not negligible incidence. Diagnosis is made by patient symptoms and endoscopy. Elective treatment are PPI. Surgery is rarely indicated.

P-214 Conservative Treatment of Gastric Leakage After Laparoscopic Sleeve Gastrectomy

Presenter: F. Pacheco Bastidas (Hospital del Trabajador, Concepción, Chile)

Co-authors: F. Pacheco Bastidas¹, H. Molina Zapata¹, R. Alvarez Uslar¹

¹Hospital del Trabajador Concepción Chile

Background Staple line leaks (SLL) after laparoscopic sleeve gastrectomy (LSG) is an extremely severe complication that is often presented and often leads to surgical procedure. The aim of this study is to describe our results after having used non surgical treatment of the SLL.

Methods Our prospective database from 2006 to 2009 was reviewed. We describe the clinical findings and procedures that were used to made diagnosis and treatment for these patients.

Result Three hundred patients underwent a LSG. Eighteen patients had SLL (6%). Average age was 37 years (20-54) and 67% of the patients were females. Median BMI was 40,41 kg/m² (35-50). Clinical symptoms were: fever (94%), atelectasia (76%) and abdominal pain (70%). The most efficient diagnostic procedure was gastric barium examination. The diagnosis of leakage was made between 3 to 38 postoperative days, only in ten patients diagnosis of leakage was made before 10th postoperative day. Median hospital stay was 16,5 days (7-35). One of these patients required primary reoperation for peritonitis and underwent postoperative stay of 58 days. The remaining seventeen patients were treated with non surgical procedures (95%). Nasojejunal feeding tube was used in 9 patients (53%) and 6 patients required parenteral nutrition (35,3%). Covered stents were used in three patients, of which one required early removal. No drains in these group were used. Leakage cured at 17.6 days (range 6-55). Leakage cured faster if diagnostic is made before 10th post operative day, and was 13.8 versus 23.1 days when diagnostic is made later. There were no postoperative deaths.

Conclusion Non surgical treatment for gastric leakage after LSG, represent a safe and efficient option at a selected group of patients. Early diagnostic and treatment seems to give better results in these patients.

P-215 Gastric Carcinoids Tumors and Bariatric Surgery

Presenter: F. Pacheco Bastidas (Hospital del Trabajador, Concepción, Chile)

Co-authors: F. Pacheco Bastidas¹, H. Molina Zapata¹, R. Alvarez Uslar¹, R. Farías Marambio¹

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Background Gastrointestinal neuroendocrine tumors (GNT) of stomach are 2 to 4% of GNT of gastrointestinal tract, and 0,3% of gastric cancer. Diagnosis is generally endoscopic incidentally. Carcinoids of the stomach are generally divided into three distinct groups based on their clinical and histological characteristics: carcinoid tumors associated with chronic atrophic gastritis type A (CAG-A), carcinoid tumors associated with Zollinger-Ellison syndrome (ZES) or MEN-1, and carcinoid tumors that occur sporadically.

Methods We present two cases of patients who received bariatric surgery for obesity and treatment for gastric carcinoid, in 2008.

Result First patient was a 54 years old woman with: hypertension, metabolic syndrome and hypothyroidism. Preoperative endoscopy informed a fundus polyp, biopsy was negative for gastric carcinoid. Resective gastric bypass was done without problems. **Definitive** biopsy was positive for chronic atrophic gastritis and gastric carcinoid type I.

The other patient was a 52 years old woman. She gets treatment for hypothyroidism and COPD, and her BMI was 45. Endoscopy showed chronic atrophic gastritis, and biopsy resulted positive for gastric carcinoid. Abdomen CT Scan was negative for metastasis. A resective gastric bypass was done without complications. The definitive biopsy informed gastritis and gastric carcinoid type I.

Conclusion None patient had a surgery complication. Oncological and obesity surgery was successful for both patients.

P-216 Endoscopic Implantation of a Duodeno-Jejunal Liner with a Proximal Restrictor Delays Gastric Emptying and Induces Substantial Weight Loss in Patients with Severe Obesity

Presenter: M. Galvao Neto (Gastro Obeso Center, Sao Paulo, Brazil)

Co-authors: R. Yáñez², F. Pimentel², L. Ibáñez², D. Turiel², C. Boza², D. Awruch², A. Escalona²

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Background The EndoBarrier™ Gastrointestinal Liner creates endoscopic duodeno-jejunal bypass leading improvements in T2DM and weight loss in morbid obese patients. This study evaluated safety, efficacy and gastric emptying (GE) of the EndoBarrier modified with the addition of a 4 mm proximal restrictor

Methods Devices were endoscopically implanted in 10 patients (BMI 40.5±4.2 kg/m²) and removed after 12 weeks. Dilation of the restrictor orifice was performed as clinically indicated with a 6, 8 or 10 mm diameter through-the-scope (TTS) balloon. Measured outcomes included % excess weight loss (%EWL), total weight loss (TWL), adverse events and GE at baseline, weeks 4, 12 and 3-5 months after device removal. GE was measured by scintigraphy (with radio-labeled egg mixture) at 1, 2 and 4 hours after ingestion

Result The mean %EWL and TWL at the time of explantation were 39.6±10.8% (range 21.7-65.3%) and 16.7±4.4 kg (range 12.2-26.0), respectively. Four-hour GE was 98±3% at baseline, 72±19.3% at 4 weeks (p<0.001) and 84±14.1% at 12 weeks (p=0.02). Four-hour GE returned to 97±5.4% within 5 months after device removal (n=8). Episodes of nausea and vomiting required endoscopic dilation of the restrictor orifice with a 6 mm TTS balloon in six patients and a 10 mm balloon in one patient. There were no other significant adverse events

Conclusion Endoscopic implantation of a combination restrictor and duodeno-jejunal liner device induces substantial weight loss. Implanted patients exhibit delayed gastric emptying that is reversed after device removal

P-217 Laparoscopic Instruments Marking Improve Length Measurement Precision

Presenter: S. Isreb (City hospital Sunderland NHS Foundation Trust, Newcastle upon tyne, United Kingdom)

Co-authors: A. Hildreth¹, K. Mahawar¹, S. Balupuri¹, P. Small¹

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Background Bariatric surgery increased the demand for accurate laparoscopic bowel length measurement. Measures to achieve such precision are limited in medical literature. Our study investigates a solution to increase measurement precision

Methods Eight consultants and fourteen senior trainees with laparoscopic experience were recruited. Candidates were asked to estimate 150 cm on a piece of string fixed within a standard laparoscopic training stack. Each candidate carried out three pairs of measurement using normal laparoscopic instruments without marking, with 10 cm and with 5 cm mark. Each measurement was timed separately. Candidates were result blinded to prevent any self-correction. Data analyzed using Bland-Altman plots along with ANOVA tests.

Results Mean measurement without marking was 115.4 compared to 139.0 and 137.5 with 5 and 10 cm marks respectively. A statistically significant difference was found between the marked and unmarked measurements (P<0.01). The improvement was significant regardless of candidates' level or initial length judgment. Time was almost doubled between 2.5 minutes for the unmarked and 4.1 to 3.9 minutes for the marked measurement. No statistical significance was found between the 5 cm or 10 cm instrument marking length measurement or time regardless of the initial judgment.

Conclusions Laparoscopic length measurement using marked instrument is a simple and effective way of enhancing precision irrespective of surgeon's experience level. Bowel length estimation is multifactorial and magnification may impede surgeon's length judgment. To avoid such bias, a better length evaluation can be achieved if laparoscopic graspers are marked at 5 and/or 10 cm levels.

P-218 Adjustable Gastric Banding with Jejunio-Ileal Diversion Novel Technical Procedure Preliminary Results

Presenter: B. Zilberstein (Gastromed Zilberstein Institute Sao Paulo, Sao Paulo, Brazil)

Co-authors: A. Garcia De Brito¹, F. Ramos², A. Aita³

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Background The gastric banding is probably the technical procedure with lower morbimortality among the different bariatric operations. Although presenting good results the reduction of EBW and BMI is lower than in gastric by-pass procedures or mixed procedures The aim of this study was to present the preliminary results of the application of the AGB associated to an intestinal jejuno-ileal diversion

Methods After the initial application of the AGB a jejunoileal diversion was created by a laterolateral anastomosis 80 cm distally to the Treitz angle and 120 cm from the ileocecal valve. The procedure totally managed by laparoscopy was performed in 17 patients with mean BMI of 40, six of witch were diabetics.

Result The EBW reduction in 6 months was of 51% and after a year of 70%. No immediate or late complications were noted nor operative mortality. All the diabetics patients normalized their glicemia.

Conclusion Therefore, the addition of a laparoscopic jejunoileal laterolateral by-pass to the AGB may enhance the efficacy of weight-loss and insulin control in the treatment of morbid obesity and its resulting co-morbidities.

P-219 Expression of Weight Loss Distribution as Percentage Curve: A New Tool of Patient Follow-Up

Presenter: F. Pattou (University Lille Hospital, Lille, France)

Co-authors: A. Craco¹, R. Caiazzo¹, L. Amalsteen¹, M. Pigeyre², M. Romon², F. Pattou¹

Background

Methods

Result

Conclusion

P-220 Perforated Duodenal Ulcer at 13 Months After Laparoscopic RYGBP

Presenter: C. Copsescu (St John Hospital, Bucharest, Romania)

Co-authors: C. Dumitrache¹, V. Dimbezel¹, D. Andrei¹, R. Parasca¹

¹St John Hospital Bucharest Romania

Background The patho-physiological study of the remnant stomach in gastric bypass procedure is difficult to realize. Although, evolution of a gastric or duodenal ulcer are considered extremely rare in these situations.

Methods A case analyze of a RYGBP patient who developed a duodenal ulcer, complicated with perforation and acute peritonitis.

Result A RYGBP was laparoscopically performed in an obese patient: 42 year old, 142 kg, 1,72 m, BMI = 47,9 kg/m², smoker (40 cigarettes per day), businessman.

Preoperative HP test was negative. Preoperative gastroscopy evidenced normal gastro-duodenal aspects. No intraoperative technical incidents or difficulties were mentioned. Gastric Secretion inhibition (IPP) was recommended 1 month postoperatively as a routine attitude in our service.

In the postoperative follow-up was recorded a good evolution of the excess weight and co morbidities. EWL at 12mo=91%. High lever of postoperative satisfaction and great improvement of the QL was mentioned in his records. On the other hend, hunger sensation was almost absent and professional activity involved important stress. Smoking was also recorded after surgery (30/day). At 13 po mo the patient presented intense abdominal epigastric and central abdominal pain. Endoscopy and Upper GI barium study did not evidence any modification.

After 3 days the patient came back in emergency for acute peritonitis. Laparoscopic exploration evidenced acute general peritonitis due to a duodenal perforated ulcer. Laparoscopic suture of the duodenal defect and peritoneal lavage was performed. Postoperative evolution was favorable. IPP was administrated within 2 postoperative months.

Conclusion A very rare complication was described on the remnant stomach in RYGBP. Smoking, stressing activities and irregular meals may be favorable to this occurrence.

P-221 Preliminary Results with the New-Haga (Heliogast System) LAGB: Study with Four Different Surgical Techniques**Presenter: P. Pizzi (Policlinico Di Monza, Monza, Italy)**Co-authors: G. De Lorenzis¹, A. Alberti¹, M. Pizzi¹, G. Mari¹¹Policlinico Di Monza, Monza, Italy

Background LAGB is a safe and effective procedure for the management of morbid obesity. A different surgical technique could help the surgeons to not increase the complications.

Methods Between September 2008 and Mars 2009, we studied case series of 154 consecutive patients operated with the new-HAGA(Heliogast System) LAGB. We performed four surgical techniques: 1-"pars flacida technique" with anterior fixation; 2-"pars flacida technique" without fixation; 3-"two-step perigastric technique" with anterior fixation; 4-"two-step perigastric technique" without fixation. We consider the intraoperative, early and medium-term complications, BMI and EWL trend.

Result We operated 154 patients (27 M and 127 F) with mean age of 38.7 M and 40.3 F (International HAGA results: 39.3 M and 41.2 F). The age range is 18-53 M and 16-66 F (International results: 16-68 M and 16-71 F). Mean BMI is 44.6 M and 42.1 F (international results: 43.8 M and 41.6 F). Mean BMI evaluation at 3 months (107 pts) is 39.1 M and 36.7 F (International results: 40.2 M and 38.3 F). Mean BMI evaluation at 6 months (39 pts) is 39.1 M and 36.6 F (International results: 37.9 M and 36.8 F). Mean EWL evaluation at 3 months (107 pts) is 17.3 M and 18.1 F (International results: 17.1 M and 17.8 F). Mean EWL evaluation at 6 months (39 pts) is 27.7 M and 31.3 F (International results: 27 M and 29 F). No intraoperative, early and medium-term complications.

Conclusion This preliminary study affirms that also the new-HAGA (Heliogast System) LAGB is safe and effective for the treatment of morbid obesity: in particular the BMI and EWL trend at 3 and 6 months is better than old-HAGA LAGB. Subsequent studies are necessary for the results and long-term complications confirmation.

P-222 Laparoscopic Sleeve Gastrectomy After Gastric Banding Removal**Presenter: F. Pacheco Bastidas (Hospital del Trabajador, Concepción, Chile)**Co-authors: F. Pacheco Bastidas¹, H. Molina Zapata¹, R. Alvarez Uslar¹, R. Farías Marambio¹¹Hospital del Trabajador Concepción Chile

Background The potential complications that may occur after Gastric Adjustable Band (GAB) are dilation of the esophagus, erosion of the band, band intolerance and band displacement. This procedure is not the most effective surgical procedure for morbid obesity treatment, because does not get a great weight reduction and it is poorly tolerated for some patients, however it's a minimally invasive procedure for morbid obesity treatment. When an Adjustable Gastric Band is removed, and no other procedure is performed, most patients regain any lost weight and continue to be Morbidly Obese. In the other hand, Laparoscopy Sleeve Gastrectomy (LSG) has demonstrated success in the short and medium term.

Methods We present eight patients who received a BGA and was converted to LSG in one laparoscopic surgery, during 2008, in the "Hospital del Trabajador", Concepción, Chile.

Result All patients were females, the average age was 45.3 years, since 20 to 66 years old. The BMI was 38.7 kg/m, range 36 to 41. All patients had insulin resistance, two dyslipidemia, two hypertension and four had gastroesophageal reflux disease.

Surgical indication was: BGA displacement in 4 patients and incapability to get weight loss target in 6 patients. Surgery time was 194 minutes, range 180 to 220 minutes. It was no conversion to open surgery. We did not have surgical complications in this group.

Conclusion The results suggest that one step gastric band conversion to LSG is a good choice for patients who fail LAGB. This surgical procedure did not represent increased of morbidity or operative time.

P-223 Tubular Sleeve Gastrectomy (TSG) as a New Approach to Bariatric Treatment**Presenter: A. Ramos (Gastro Obeso Center, Sao Paulo, Brazil)**Co-authors: M. Galvao Neto¹, E. Behrens³, F. Montufar³, N. Zundel²¹Gastro Obeso Center Sao Paulo Brazil; ²FSFB Bogota Colombia; ³Clinica Vida Nueva Guatemala Guatemala

Background Sleeve gastrectomy was initially proposed as a first step surgery to high risk patients. However could be considered a simple technical procedure this surgery has been associated with severe complications especially on the stapler line. In this sense a new kind of gastroplasty procedures without this risk could be an option.

Methods From January-07 to February-08, 30 patients, BMI from 40-45 kg/m² (m=42) were submitted to tubular sleeve gastroplasty (TSG), 22women (m=73,4%), age from 23 to 46y(M=32y). Procedure uses starts with dissection of greater curvature using Ultracision[®]. Gastroplasty is built under a 11 mm calibration boogie and gastric reduction begins with a line of individual's stitches of ethibond 2-0[®] starting from the gastroesophageal junction. Sutures involves and invaginates greater curvature in two lines of individual stitches with a last running suture of prolene[®] 3-0. The stomach will have at the end of the procedure a tubular shape like a sleeve gastrectomy without resection of the stomach.

Result Operating time 40 to 100 min (m=50 min). Hospital stay 24 to 96 h (m=36 h). Total weight loss was 10% in the 1st m (30p), 15% in the 3rdm (27p), 22% in the 6th m (18p) and 28% with 1y (10p). Complications happened as e nausea, vomit and salivation in 26%, 20% and 40% respectively. No conversion or mortality were noted

Conclusion TSG appears to be a safe procedure with few complications and good results in weight loss on initial follow-up. Longer follow up and new studies are necessary

P-224 Staple Line Reinforcement with Tissue Glue Sealant (Tissucol[®]) During the Learning Curve of Laparoscopic Bariatric Surgery**Presenter: S. S. Raquel (Complejo Hospitalario Pontevedra, Pontevedra, Spain)**Co-authors: S. González¹, R. Nicolas¹, R. Crego¹, C. Tome¹, S. Estevez¹, M. Piñon¹¹Complejo Hospitalario Pontevedra Pontevedra Spain

Background The beginning of bariatric surgery in a new institution may associate a higher number of postoperative complications due to the learning curve. Staple line reinforcement with tissue glue sealant (TISSUCOL[®]) may be a good strategy to reduce staple line complications, and performing bariatric surgery with an acceptable degree of safety and efficiency.

Methods A descriptive prospective study was conducted when bariatric surgery began in a new center. In all cases staple line reinforcement with tissue glue sealant was made. Early complications were analyzed: staple line leak, abdominal bleeding, upper digestive bleeding, wound infection, atelectasia, catheter infection, urinary infection.

Results 100 consecutive patients who underwent laparoscopic bariatric surgery between 24/05/06 and 25/03/2006 were included. In 84 cases Laparoscopic Roux en Y Gastric Bypass (LRYGB) was performed, in 16 cases Laparoscopic Sleeve Gastrectomy (LSG). Global morbidity appears to be within IFSO recommendations: 9%. Mortality 0%, Reoperation: 2%. 2% staple line leaks (one in LRYGB treated with laparoscopy and drainage; other in LSG treated with self expanded coated stent, both with good outcome), 2% upper digestive bleeding (treated with endoscopic sclerosis), 1% abdominal bleeding (in relation to hepatic wound, no staple line hemorrhage), 2% atelectasia, 1% catheter infection, 1% wound infection, no urinary infection. Mean hospital stay: 4.7±5.2.

Conclusions Staple line reinforcement with tissue glue sealant (Tissucol[®]) may reduce staple line complications and can be a good strategy among others, to perform bariatric surgery with an acceptable degree of safety and efficiency in a Primary Bariatric Institution.

P-225 Single Step Gastric Band Removal and RY Gastric Bypass. Technical Considerations

Presenter: R. Steffen (private praxis, Bern, Switzerland)

Co-authors: F. Horber¹

¹lindberg clinic winterthur Switzerland

Background Simultaneous adjustable gastric band removal and RY gastric bypass is reported to carry a higher perioperative risk than primary RY gastric bypass.

Methods Leakage from the linear staple line at the pouch prompted us to routinely oversew this staple line.

Complications from 38 surgeries before oversewing were compared with 70 after adaptation of the technique. Data were drawn from our prospective database and retrospectively analyzed covering the first 2 weeks after surgery.

Results Mortality was zero. In the first 38 patients three leaks occurring between day 3 and 5 had to be treated (1 oversewd and 2 with endostents). The location was always at the angle of His in the area of the dense scar from the gastric band. Two further patients had to be readmitted for subphrenic abscess drainage.

In the 70 patients with oversewed staple line neither a leak nor an abscess occurred. 1 Fobi ring had to be removed for being too tight.

Conclusion RY gastric bypass can safely be performed simultaneously with gastric band removal. Oversewing of the pouch side staple line eliminated leaks.

P-226 Equal Effectiveness of Laparoscopic Sleeve-Gastrectomy (LSG) and Laparoscopic Roux-Y-Gastric Bypass (LRYGB): Mid-Term Results of a Prospective Randomized Trial

Presenter: R. Peterli (Claraspital, Basel, Switzerland)

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Background LSG as an isolated intervention is a promising novel bariatric operation but long-term results are lacking. In this randomized, prospective, parallel group study, we compared mid-term results of LSG with today's gold standard operation, the LRYGB.

Methods Since 10/06 more than 50 patients have been included in the study. After a minimal follow-up of 1 year data were obtained from all eligible patients: 17 LSG- and 15 LRYGB-patients. Average follow-up time was 19 (12-26) months. Endpoints were: weight loss, reduction in co-morbidity and improvement of quality of life (BAROS- and GIQLI-score), and eating quality (Suter score).

Result The two groups were similar in terms of initial BMI (LSG = 43.8 vs LRYGB = 48 kg/m², p=0.06), age (40 vs 43 y.) and female gender (88% vs 67%, p=0.15). Excessive BMI loss 6 months postoperatively was 53% for LSG vs 52% for LRYGB, at one year 71% for both groups, at 18 months 74% for LSG (n=10) vs 76% for LRYGB (n=9), and at 24 months 89% for LSG (n=4) vs 68% for LRYGB (n=4, p=0.10). Co-morbidities were cured or improved in the majority of patients. Average BAROS-QoL-score improved from -0.17 to 1.81 in the LSG group and from -0.04 to 1.96 in the LRYGB group, the GIQLI-score from 94 to 123 and 93 to 119 respectively, reaching values of healthy individuals. Total BAROS-Score 19 months after either operation was 6.31 and 6.61 reflecting a very good over all result for both groups. The Suter score (1 = very poor eating quality, maximum = 27 points) was 24 in the LSG group and 23 in the LRYGB group.

Conclusion LSG and LRYGB seem to be equally effective at one and two years postoperatively in terms of weight loss, reduction in co-morbidity and increase of quality of life.

P-227 Experience of Laparoscopic Sleeve Gastrectomy in Asia-Pacific: Staple-Line Reinforcement is Important for Preventing Leakage

Presenter: K. Ser (MinSheng General Hospital, TaoYuan, Taiwan)

Co-authors: L. Weijei¹, S. Yen hao¹, C. Jungchien¹

¹MinSheng General Hospital Taoyuan

Background Laparoscopic sleeve gastrectomy(LSG) was considered as first stage treatment in high risk patient initially. Nowadays, it had been proved to be an effective, safer and time-saving independent procedure for treatment of morbid obesity with acceptable estimate weight loss percentage(EWL%). Leakage is most dreaded complication in laparoscopic sleeve gastrectomy, it may led to further morbidity and mortality. This study evaluated the importance of staple line protection to prevent leakage after the laparoscopic procedure.

Methods 122 consecutive patients with BMI > 30 underwent LSG were included into our study, the first 40 patients(Group 1) underwent the operation without any reinforcement procedure and reinforcement of staple-line were performed in others 82 patients(Group 2). Data including the demographic and leakage rate were collected for evaluation.

Results The basic data of both groups were similar. The overall leakage rate was 5.74%(7/122), all leakage patients occurred in group 1 (17.5%)(7/40). Additional staple-line protective procedures seems to have benefit of preventing leakage (17.5% vs. 0%), shorter hospital stays (7.8 days vs. 4.7 days), less blood loss (83.75 ml vs. 47.3) with similar operative times (115.00mins vs.119.8mins). The EWL% of both groups were similar in 12 months follow up.

Conclusion There was a significant reduction of leakage rate while the staple-line reinforcement procedure performed in laparoscopic sleeve gastrectomy. Significantly shorted hospital stay and probably less blood loss observed in our study. Staple-line reinforcement is strongly recommended for performing laparoscopic sleeve gastrectomy to prevent leakage.

P-228 Impact of Laparoscopic Roux-En-Y Gastric Bypass (LRYGBP) on Metabolic Syndrome During the First 6 Post Operative Months

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Background Surgically induced weight loss produces significant improvement of MS in patients with Severe Obesity (SO). Hormonal changes associated to LRYGBP may lead to a quicker metabolic control. The aim of the study is to analyze the outcome of patients with SO and MS 6 months after LRYGBP.

Patients and Methods From the total of patients who underwent LRYGBP at our Institution, patients who fulfilled the following inclusion criteria were included: MS diagnosed according to AHA criteria and a minimum follow-up of 6 months. Weight loss and metabolic changes were analyzed.

Results There were 79 males and 67 females. MS resolved in 79% of the patients 6 months after LRYGBP. Changes in weight and the MS components are shown in the table

| | Before Surgery | | 6 months f-u | |
|--------------------------------|----------------|-----------|--------------|-----------|
| | n=146 | | n =146 | |
| | % | Mean ± SD | % | Mean ± SD |
| BMI, Kg/m ² | - | 43±7 | - | 31±6 |
| EBWL, % | - | - | - | 66 ±17 |
| Waist circumference | | | | |
| ♀ ³ 88 cm | 100 | 121 ±15 | 70 | 95±10 |
| ♂ ³ 102 cm | 100 | 136 ±15 | 52 | 106 ±13 |
| Glucose ³ 100 mg/dl | 55 | 105±25 | 9 | 88 ±12 |
| TG ³ 150 mg/dl | 63 | 190±95 | 12 | 101±41 |
| HDL, | | | | |
| ♀ <50 mg/dl | 77 | 46 ±8 | 59 | 48±11 |
| ♂ <40 mg/dl | 54 | 42±10 | 35 | 46±11 |
| SBP ³ 130 mmHg | 57 | 128 ±12 | 15 | 1179±12 |
| DBP ³ 85 mmHg | 50 | 84 ±16 | 11 | 76±10 |

Conclusions LRYGBP induces rapid control of MS in patients with SO.

P-229 Does Robotic-Assisted Gastrojejunal Anastomosis Improve Results of Laparoscopic Roux-En-Y Gastric Bypass?**Presenter: M. Toppino (University of Turin, Turin, Italy)**Co-authors: G. Scozzari¹, R. Allietta², F. Rebecchi¹, P. Millo², E. Farinella¹, M. Morino¹¹University of Turin, Turin, Italy; ²Aosta Valley Regional Hospital Aosta Italy

Background To describe surgical results in morbidly obese patients submitted to laparoscopic Roux-en-Y gastric bypass (RYGBP) with robotic gastrojejunal anastomosis using the daVinci Surgical System.

Methods Between September 2003 and September 2008, 86 patients (24 m., 62 f.) have undergone robotic-assisted laparoscopic gastric bypass. Mean age was 43.4 years (24-62), mean preoperative weight 130.3 kg (83-232) and mean BMI 47.9 kg/m² (33.7-78.2). 56 patients (65.1%) had previous abdominal surgery; 9 patients had previous bariatric procedures (7 gastric bandings, 1 vertical gastropasty, 1 gastric pacing).

Results All procedures were completed laparoscopically. Additional procedures included adhesiolysis (13.9%), cholecystectomy (5.8%), gastric band removal (8.1%) and gastric pacemaker removal (1.2%). Mean operative time was 254.9 minutes (90-470); the robotic operative time and the system setup time were 54.5 (30-125) and 10.1 minutes (7-17), respectively. Postoperative stay was 8.6 days (4-65). No mortality was reported. 5 patients (5.8%) presented major early complications: 2 leaks, 1 ulcer, 1 small-bowel perforation and 1 small-bowel obstruction. 11 patients (12.8%) presented major late complications: 5 ulcers, 1 anastomotic stenosis (endoscopic dilation), 4 internal hernias and 1 intestinal perforation. Re-operations (all of them with laparoscopic approach) were performed in 7 patients (8.1%). EWL was 49.7%, 61.4%, 64.5% and 60.5% at 6, 12, 24 and 36 months respectively.

Conclusions RYGBP can be effectively performed using the daVinci System. Robotic techniques facilitate the hand-sewn gastrojejunal anastomosis, but they are burdened by greater operative time and equipment costs, and don't seem to provide a real advantage over standard laparoscopic techniques.

P-230 Evaluation of a Previously Undescribed Technique of Anastomosis for Laparoscopic Gastric Bypass**Presenter: C. O'boyle (Bon Secours Hospital and University College Cork, Cork, Ireland)**Co-authors: P. Sedman¹, P. Jain¹¹Castle Hill Hospital Hull United Kingdom

Background We have evaluated a gastric bypass technique involving transabdominal introduction of the DST-EEA 21 mm circular stapler (Covidien) in conjunction with transoral introduction of the 21 mm anvil (OrVil, Covidien). The gastrojejunal anastomosis is created after forming the jejunojejunal anastomosis and by passage of the circular stapler via this anastomosis.

Methods Between May and November 2007, 10 patients underwent gastric bypass utilizing this technique (Group A). The intermediate and long-term results were compared with 10 case-matched controls who underwent gastric bypass during the same time period, utilizing a linear stapler and suturing technique for both anastomoses (Group B).

Results There were 7 females in group A and 8 females in group B. The median age was 43 (39-55) years vs 45 (33-61) years, respectively. The median preoperative weight was 119(105-155) kg vs 128 (97-191)kg. The median BMI was 45(37-54) kg/m² vs 46 (38-57) kg/m². Three patients in each group suffered from maturity onset diabetes. At a median of 16(12-20) months the median percentage excess weightloss was 83(51-76)%vs 81(59 to 109)%. One patient in group A developed an early incisional hernia. One patient in group B had a negative postoperative diagnostic laparoscopy for abdominal pain. All diabetics are cured. There were no anastomotic strictures or leaks in either group.

Conclusions Formation of the gastrojejunal anastomosis utilizing the DST EEA 21 mm gun in conjunction with the OrVil device is a safe reliable and effective technique for the gastric bypass procedure. It is associated with equivalent long-term weightloss to linear stapling.

P-231 Sleeve Gastrectomy: Alternative Procedure to Gastric Bypass if Survey of Excluded Stomach is Warranted**Presenter: A. C. Dandrifosse (chr citadelle, Liège, Belgium)**Co-authors: A. Dandrifosse¹, E. Pappalardo¹, A. Denoël¹¹chr citadelle Liège Belgium

Background There is a strong recommendation issued by the EAES to perform endoscopy before Gastric Bypass.

In case of pathological discoveries, excluded stomach explorations are difficult.

We decided to review recommendations for gastroscopy findings.

In case of surveillance warranted, we decided to switch our BPD planing surgery to a sleeve gastrectomy.

Methods We retrospectively reviewed 116 patients with systematically preoperative gastroscopy from January 2008 to March 2009

Results Out of 116 patients, 2 patients had lesions who warranted post operative survey (one chronic duodenal ulcer without recovery after well done treatment and one with metaplasia).

We decided , with success, to perform sleeve gastrectomy.

Conclusions In case of endoscopic preoperative findings demanding long term survey, sleeve gastrectomy is an alternative to gastric Bypass.

Sleeve gastrectomy is now an established bariatric operation, metabolic and restrictive as Gastric Bypass that permit to take away pathologic tissues and/or permit survey of all remnant of stomach and duodenum.

P-232 Bleeding Occurrence After Bariatric Surgery**Presenter: C. Copaescu (St John Hospital, Bucharest, Romania)**Co-authors: V. Dimbezel¹, C. Dumitrache¹, D. Andrei¹, R. Parasca¹¹St John Hospital Bucharest Romania

Background Postoperative bleeding is considered one of the most feared complications in Bariatric Surgery. Preventing its occurrence is a permanent task of the bariatric surgery activity and studies.

Methods To evaluate the incidence, causes and solutions of acute postoperative bleedings after bariatric surgery in our experience

Result There were included in the study 586 obese patients, with a mean age of 42 years (range 11 to 74). Mean preoperative weight was 138 kg (range 88 kg to 299 kg), with a mean preoperative body mass index of 48,1 kg/m². Laparoscopic gastric sleeve or laparoscopic gastric bypass was performed to these patients.

The stapled line was over sewn with continues running suture in 76% of the patients and for the rest buttress material (PeristrpsDry) was used. There were recorded 26 postoperative bleedings (4,4%) and 19 postoperative laparoscopic explorations (3,2%). The endolumenal gastro-intestinal bleedings were conservatively treated. The reexploration was performed laparoscopically in 15, 5 hours (8-36 h). The bleeding source was identified from the stapled line (16pts) or from the access site (3pts). Time of surgery at re-exploration was 95 min (60-160). No patient required conversion to open surgery. There were no postoperative deaths. In 4 pts buttress material has been used. Type of the stapler and the gastric bleeding sites were evaluated. A correlation with arterial hypertension therapy (pre and postoperative) was verified. No correlation was found.

Conclusion Acute postoperative bleeding is a severe unpredictable complication that require careful monitor and correct interpretation of the patients signs.

P-233 Is There a Future for Laparoscopic Gastric Banding? Disappointing Long-Term Results**Presenter: P. Keller (Département de chirurgie Hôpital Pasteur, COLMAR, France)**

Co-authors: P. Keller¹, B. Queleynec², P. Perrin³

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Background Even if laparoscopic gastric bypass is considered worldwide to be the golden standard, in France most interventions are restrictive procedures and laparoscopic adjustable gastric banding (LAGB) is still the treatment of choice of morbid obesity. LAGB appeared promising during the first years. Few long-term data coming from multicentric studies or university hospitals has been published and has proven to be pessimistic indicating a high level of complications and failure. The study using this data evaluated the long-term results (complications, band removals and failure rates) from one surgeon working in a French public non-university hospital.

Methods Since 1997, prospective data of patients who had LAGB have been collected systematically. All patients have been operated on and followed (clinical data and band adjustment) by the same surgeon. Late major complications were defined as those requiring operation. Success was defined as an excess weight loss (EWL) of > 50% and BMI < 35.

Results Between March 1997 and April 2007, LAGB was performed on 249 patients, 35 men and 214 women. Average age was 40.2 (range 21–64), average weight was 122.5 kg (range 84–201) and average BMI was 44.8 kg/m (range 34.4–65.7). In 2008, 200 patients (80%) were available for follow up (average follow up 60.5 months). Overall, 70 (28.1%) patients developed late complications that required 65 (26.6%) re-operations including pouch dilatation /slippage in 9.6%, band erosion in 0.8% and catheter-or port related problem in 12.3%. At two years and five years the average EWL was respectively 41.7% and 37.1 % in patients with the band in place. The success rate decreased from 29.3% at two years to 18.5% at five years. In selected patients (age < 40 and BMI < 50) the rates were 35.6% at two years and 27.6 % at five years.

Conclusions This study confirms a high level of long-term complications and failure rate. LAGB should not be considered as a procedure of choice and only used in selected patients.

P-234 Compulsive Behavior After Bariatric Surgery

Presenter: B. Zilberstein (Gastromed Zilberstein Institute Sao Paulo, Sao Paulo, Brazil)

Co-authors: C. Evangelista Machado¹, M. Monteiro Silva², I. Ceconello³

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Background Patients with morbid obesity who present compulsiveness differ in several aspects of non-compulsive patients, so the operation, may have a different outcome. Obesity and binge eating may be associated, compromising the outcome of surgery and contributing to postoperative complications. The aim of this study was to analyze the influence of bariatric surgery using Fobi-Capella's technique on compulsive behavior.

Methods Fifty patients were psychologically evaluated before and two to five years after surgery using the Colorful Pyramids of Max Pfister test and semi-structured clinical interviews.

Results Evidence of compulsiveness was observed in patients with emotional disorders, anxiety, depression, controlling attitudes, difficulties in dealing with emotions and demand for food in situations of emotional difficulty. Therefore, a decrease in food intake could have contributed to emotional alterations. Changes in food preferences were also observed. The patients began to eat more sweets, toast, biscuits and other snacks in short intervals, indicating that they were not finding resources to encourage appropriate action.

Conclusions Data analysis suggested that patients with morbid obesity who submitted to bariatric surgery show evidence of binge eating before and after the operation. Binge eating is related to psychological issues such as difficulty organizing emotions, anxiety, depression and a damaged emotional structure. Habits and food preferences changed after the operation. The patients began consuming foods that were easier to ingest in response to situations that would have stimulated compulsive episodes preoperatively. Transfers or

exchanges in compulsive attitudes, such as using drugs, drinking or shopping in excess, were not demonstrated.

P-235 Is Laparoscopic Gastric Bypass Dangerous During the Learning Curve? The Experience of the First 50 Procedures Made by a French Surgeon in a Non-University Hospital

Presenter: P. Keller (Département de Chirurgie Hôpital Pasteur, Colmar, France)

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Background Among the bariatric procedures, laparoscopic Roux-en-Y gastric bypass (LRYGBP) is considered worldwide to be the golden standard. However, in France, most interventions are restrictive procedures, mainly laparoscopic adjustable gastric banding (LAGB). Less than 5% of the patients undergo a LRYGBP as this procedure is technically demanding and requires a learning curve.

This study evaluated the outcomes and the learning curve of the first 50 LRYGBP of a one french surgeon working in a French non-university hospital, experienced in advanced laparoscopic surgery and LAGB.

Methods Between April of 2007 and February of 2009, we performed our first 50 LRYGBP. Outcomes and learning curve measured prospectively included length of stay, length of operation, complications, reduction in obesity-related co-morbidities, and percentage excess weight loss. Learning effects were evaluated by comparing the first 20 and the following 20 LRYGBP. Ten patients who had a previous LAGB were put in a third group and analyzed separately.

Results The mean patient age was 41,8±9,8 years, mean body mass index (BMI) was 47,7±7,1 kg/m. The mean operating time (OT) was 146±51 min and decreased from 153±50 min in group 1 to 117±28 min in group; ²OT was 190±52 min in group; ³The mean hospital stay was 5,3±1,4 days, 6,1±1,1 days in group 1, 4,8±1,5 days in group 2 and 4,8±0,7 days in group; ³There were 3 conversions (6%). Early and late complication rates were 4% and 6%, respectively. No death, leakage, bleeding, wound infection or abscess occurred. One anastomotic stricture (2%) needed a reoperation (group 2). Two patients (4%) underwent a negative laparoscopy (at 6 and 8 weeks) for abdominal pain. Average follow up was 6,3±1,3 months. Overall excess weight loss for the entire series was 39,5±9,0%, 50,3±10,9%, 61,9±9,7% and 63,0±10,5% at 3, 6, 9 and 12 months.

Conclusion LRYGB can be performed with acceptable morbidity and short-term results during the learning curve and should be performed by bariatric surgeons experienced in LAGB.

P-236 Roux-En-Y Gastric Bypass-On-Vertical Banded Gastroplasty: 6 Years of Experience of a Modified Gastric Bypass Which Allows Endoscopic and Radiological Investigation of the Excluded Stomach

Presenter: S. Cariani (University of Bologna, Bologna, Italy)

Co-authors: L. Agostinelli¹, E. Giorgini¹, L. Leuratti¹, P. Biondi¹, E. Amenta¹

¹University of Bologna Bologna Italy

Background The problem of definitive gastric exclusion after a conventional Gastric Bypass was overcome in 2002 with developing the technique of Roux-en-Y on Vertical Banded Gastroplasty (RYGB-on-VBG). In the short-term the procedure showed effectiveness, while leaving a gastro-gastric thin passage, which allows the traditional radiography and endoscopy of the bypassed stomach. In this study the outcomes were evaluated after 6 years.

Methods From June 2002 to February 2009, 268 patients, with mean age 41.8±11.5 years and mean BMI 48.0±8.3 kg/m², underwent RYGB-on-VBG via an open approach. The preoperative comorbidities were hypertension (p. 112), hyperlipidemia (p. 98), OSAS (p. 56) and type II DM (p. 41). The follow-up was scheduled at 6 and 12 months and annually thereafter and consisted of clinical control, x-ray study with barium, and upper endoscopy if needed.

Results The mean preoperative BMI decreased from 48.4±8.4 kg/m² to 35.2±6.6, 32.4±5.8, 31.5±5.8, 31.5±7.4, 33.4±6.5 and 34.8±7.2 kg/m² after 6 months and 1, 2, 3, 4 and 5 years, respectively. The percentages resolution of comorbidities were: OSAS 89%; type II DM 83%; hypertension 45%; hyperlipidemia 30%. Early surgical complications were 4 (1.4%) and late were 5 (1.8%). In the follow-up, for every patient the study of the remnant with a barium swallow and/or an upper gastroscopy was possible.

Conclusion The RYGB-on-VBG enables traditional diagnostic evaluation of the stomach, which is only functionally excluded. Weight loss, resolution of comorbidities and surgical complications of this procedure, at medium-term were comparable to those after standard RYGB.

P-237 Treatment of Severe Obesity with Adjustable Gastric Band. Analysis of 1350 Cases – 5 Year Results

Presenter: N. Sikas (Interbalkan Medical Center, Thessaloniki, Greece)

Co-authors: I. Goulimaris¹, G. Kavvadias¹

¹Interbalkan Medical Center, Thessaloniki, Greece

Background The aim of this study was to determine the long-term results of LAGB in a series of 1350 obese patients.

Methods Between April 2004 and March 2009, 1350 patients have undergone LAGB, all operated by one surgeon in a single center using the Helioscope band (HelioGast® HAGE). The pars-flaccida technique was used and close follow-up was achieved in 98.5% of patients. Complication rate and weight loss have been prospectively recorded.

Result The mean age of patients was 37 years (range 15-70), mean weight 129 kgs (range 87-265) and mean BMI 45 (range 31-75). A family-relationship among patients was observed in 16% of them. The mean hospital stay was 24 hrs, 3% of patients were discharged home the same day. In 6 patients (0.4%) a small stromal tumor was found incidentally. There was 1 mortality (0.07%) from massive pulmonary embolism 22 days postoperatively. Early complications were found in 4 patients (2 cases of bleeding, 2 cases of stoma obstruction). All 4 cases required reoperation. Late complications comprised slippage in 42 patients (3%), erosion 13 (1%) and band infection in 3 patients (0.2%). Mean excess weight loss was 49%, 60%, 65% and 67% at 1, 2, 3 and 4 years respectively. Better results were found in patients who visited the clinic regularly and in the group of patients with BMI 31-39. Resolution of comorbidities was seen in the majority of patients. In patients with a complete 2-year follow-up, failure (<25% EWL, lost to follow-up, band explanted) rate was 7%. Sixty-four patients underwent plastic surgery (mostly abdominoplasty) and 57 pregnancies were identified.

Conclusion LAGB is a safe and reversible procedure, offering excellent long-term results for the treatment of severe obesity.

P-238 Plasmajet® Coagulation for Abdominal Lipectomy Following Heavy Weight Loss: A Randomized Controlled Trial

Presenter: A. Iannelli (Service de Chirurgie Digestive et Transplantation Hépatique, Nice, France)

Co-authors: A. Schneck¹, J. Gugenheim¹

¹Service de Chirurgie Digestive et de Transplantation Hépatique Nice France

Background Abdominal lipectomy is becoming an increasingly common surgical procedure in patients with esthetic deformities resulting from massive weight loss induced by bariatric surgery. A randomized, controlled monocentric trial was done to evaluate the effectiveness of the PlasmaJet® to reduce the rate of postoperative complications and hospital stay in patients undergoing abdominal lipectomy following heavy weight loss.

Methods 60 consecutive patients were prospectively randomized to receive either PlasmaJet® coagulation or conventional electrocoagulation of the dissected planes of the abdominal flap.

Results There was no difference between the 2 groups regarding age, sex, BMI, comorbidities and smoking habits. Before hospital discharge, there were 2 complications in the PJ group (1 seroma, 1 hematoma needing blood transfusion) and 6 in the control group (1 seroma, 1 hematoma, 4 wound complications). The difference between the 2 groups regarding wound complications is significant (p<0.05). There was no difference in duration of

surgery (115 min PJ group vs 111 min control group, p>0.05), the duration of fluid output from drains and fluid volume was 3.5 days and 321 ml in PJ group vs 4.4 days and 340 ml in control group respectively (p > 0.05). The quality of the scar at the time of hospital discharge was found good or excellent in 30 out of 31 patients in the PJ group (96.77%) vs. 20 out of 29 patients in the control group (68.97%) (p<0.001).

Conclusion PlasmaJet® resulted in significantly lower immediate postoperative wound complications, significantly better scarring and a one day shorter hospital stay.

P-239 Single Incision Laparoscopic Adjustable Gastric Band Placement. Our Experience at Hospital San Jose – Tec De Monterrey

Presenter: R. Rumbaut (Hospital San Jose TEC de Monterrey, Monterrey, Nuevo León, Mexico)

Co-authors: R. Merino¹, L. Gonzalez²

¹Hospital San Jose TEC de Monterrey Monterrey Mexico; ²Obesity Surgery Center Monterrey Mexico

Background Single incision laparoscopic surgery (SILS) is an active research field in general and bariatric surgery. The number and type of procedures performed with this technique (bariatric surgery, cholecystectomy, appendectomy, adrenalectomy, and urologic surgery) grows constantly. We present the initial experience with our technique for the laparoscopic adjustable gastric band (AGB) placement using this innovating method.

Methods From October 2008 to January 2009, we performed 7 AGB placements with modified SILS technique. The information was collected and analyzed in a prospective manner. The same technique was used in all cases (VIDEO DESCRIPTION). We used the same incision for the subcutaneous adjustment port placement.

Result In all of the patients, the procedure was done successfully without converting it to conventional laparoscopic technique. The operating mean time was 31.4 minutes (24-49). Average amount of bleeding was 26 ml. No intraoperative complications were detected. The postoperative evolution was satisfactory in all cases and all patients were discharged at the next day of surgery, on oral liquid diet. No complications have been registered during follow-up (1-5 months).

Conclusion The main advantages of the SILS technique are cosmesis (minimal scar), less incisional pain and the viability of converting to the standard laparoscopic technique. Besides, the same incision can be used to place the adjustment port, consequently reducing the total number of incisions compared to the regular technique. Disadvantages to the technique are intraoperative movement restriction, number of trocar sites that can be used, and short distance between the working instruments, all of which make of this a more complex and challenging procedure. Adjustable gastric band placement with the SILS technique is a safe and effective procedure in selected patients. It does not add surgical morbidity and provides the benefits of a single incision. Further prospective and randomized trials are required to prove these advantages.

P-240 Sleeve Gastrectomy with Enteral Bypass (SGEBP): Comparison Between Resection vs. Non Resection of Residuary Stomach. Results at Three Years Follow-Up

Presenter: M. Alamo (Hospital Dipreca, Santiago, Chile)

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Background To report results obtained with Sleeve Gastrectomy with enteral bypass (SGEBP), a restrictive and malabsorptive surgical technique for morbid obesity treatment, comparing resection vs. non-resection of residuary stomach in terms of weight loss, BMI reduction, morbidity and improvement of comorbidities.

Methods Prospective cohort study. SGEBP without gastrectomy (Group 1) vs. SGEBP with gastrectomy (Group 2). Patients with body mass index (BMI) > 40 kg/m² or a BMI > 35 kg/m² with co morbidity underwent a SGEBP between

February 2004 and March 2008 via a laparoscopy and laparotomy at DIPRECA Hospital, Santiago, Chile were included and analyzed. Weight loss, BMI, morbidity and improvement of co morbidities were assessed. Descriptive statistics were applied, bivaried analyses using Chi² and Fisher's exact test for categorical variables; t-test, ANOVA, and Kruskal Wallis for continuous variables were applied.

Results The cohorts were composed by 41 patients (31,1%) in Group 1 and 91 (68,9%) in Group; ²The results are resumed in the table, overall mortality was 1,5%.

| Variable | Group 1 (n=41) | Group 2 (n=91) | p |
|-------------------------------------|-------------------|-------------------|--------|
| Preoperative BMI | 41.5±6.3 | 39.5±3.8 | 0.1976 |
| Preoperative weight | 109.9±19.9 | 106.9±15.1 | 0.3498 |
| 36 months postoperative surgery BMI | 28.6±4.4 | 28.3±5.7 | 0.8926 |
| 36 months postoperative weight | 74.6±13.8 | 76.8±18.2 | 0.7521 |
| Comorbidities improvement (%) | 92.7 | 87.2 | 0.3270 |
| Surgical morbidity (%) | 39.0 | 6.6 | 0.0001 |

Conclusion SGEBP is an effective technique in terms of weight loss, BMI reduction and improvement of comorbidities in both groups. Resection of residuary stomach has less morbidity. This makes as to recommend the resection of the residuary stomach.

P-241 Laparoscopic Adjustable Gastric Banding: With or Without Gastro-Gastric Sutures?

Presenter: L. Lantsberg (Soroka University Hospital, Beer Sheva, Israel)

Co-authors: Y. Cohen¹, B. Kirshtein¹, E. Avinoach¹, S. Mizrahi¹

¹Soroka University Hospital, Beer Sheva, Israel

Background Since 1996 our department has offered LAGB as the preferred treatment of morbid obesity. The operative technique originally included band fixation with two or three sutures as we were taught at various teaching centers throughout Europe. Since May 2002 we revised our original technique, and now completely omit band fixation. We reviewed our data retrospectively, and compared the outcomes of the two techniques.

Methods We evaluated 2471 patient charts that underwent LAGB in our department at Soroka University Medical Center between 1996 and 2006. Data collected included age, sex, surgical technique, BMI at primary surgery, excessive body weight, type of band, BMI at revision operation, surgery duration, early postoperative complications and length of hospital stay during the overall follow-up period. Patients operated upon prior to May 2002 were compared with patients operated upon with our new technique.

Results Among 784 patients who underwent primary LGB operations (2000-2002) with sutured band fixation, slippage occurred in 193(24%) of them and erosion in 14(1.8%). Of the 1494 patients (May 2002 - 2005) who underwent LAGB without band fixation, 77(5.5%) developed a band slippage and 3 (0.2%) developed band erosions. Mean surgery duration was 20 min. Mean BMI was 29 at follow-up from 24 to 84 months.

Conclusion Non-suturing technique for LGB is a simpler and faster procedure, reduces erosion and slippage rates, and is effective in respect of cost and weight maintenance

P-242 Short-Term Results of Laparoscopic Sleeve Gastrectomy in Indian Population: A Prospective Study of 44 Patients with Morbid Obesity

Presenter: S. Aggarwal (All India Institute of Medical Sciences (AIIMS), New Delhi, New Delhi, India)

Co-authors: M. Misra¹, R. Jayaswal¹, S. Mehmood¹, V. Gulati¹, R. Khadgawat¹, G. Makharia¹, S. Guleria¹, N. Kumar¹

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Background Prospective study of safety and short-term outcome of Laparoscopic Sleeve Gastrectomy (LSG) in Indian Patients with Morbid Obesity

Methods A retrospective review of the prospectively collected data of 44 patients undergoing LSG over last 14 months was performed. Data including patient demographics, operative time, length of hospital stay, preoperative body mass index (BMI), major complications, weight loss at 3, 6 and 12 months and impact on co-morbidities.

Result This series comprised 28 females and 16 males with a mean age of 40.7 years (range, 24-65). Mean preoperative weight was 121.6 kg (range, 85-235), and mean preoperative BMI was 46.6 (range, 34-76). 82% of patients had one or more co-morbidities. The mean operating time was 130 minutes (range, 90-280). No patients required conversion to laparotomy. Mean duration of post-operative hospital stay was 3.5 days. The mean excess body weight loss was 30.6%, 47 % and 65% at 3 months, 6 months and 12 months respectively. There was no mortality. There was no case of postoperative gastric fistula. Major complications included gastric stricture, deep venous thrombosis and Thiamin deficiency leading to ataxia in one patient each. 12 of the 14 patients with Type II Diabetes Mellitus are off insulin or oral medication. The remaining two patients are on reduced dosages of medications. Hypertension has resolved in 80% of the patients and has improved in the remaining patients. All the six patients with severe obstructive sleep apnea, who were using a CPAP machine preoperatively, are off it after the surgery.

Conclusion Laparoscopic Sleeve Gastrectomy (LSG) is a safe and highly effective surgical option for morbidly obese Indian patients. It leads to excellent weight loss with resolution/ improvement of co-morbidities including Type II Diabetes in majority of the patients. The short-term results are promising. However, long-term results need further evaluation.

P-243 Staple-Line Leaks Management After Laparoscopic Sleeve Gastrectomy

Presenter: N. Basso (University of Rome, Rome, Italy)

Background Laparoscopic Sleeve Gastrectomy (LSG) is gaining popularity as a "per-se" bariatric procedure due to its effectiveness on weight loss and comorbidities resolution. The most feared and life-threatening complication after LSG is the staple-line leak and its management is still a debated issue. The aim of this work is to analyze the incidence of leaks, and the treatment solutions adopted in a consecutive series of 220 LSG.

Methods From October 2002 to March 2009, 220 patients underwent LSG. 19 patients (8.6%) had a BMI > 60 kg/m². A 48 Fr bougie is used to obtain an 80-120 ml gastric pouch. An oversewing running suture to reinforce the staple-line was performed in the last 120 cases.

Results Staple-line leaks occurred in 6 patients (2.7% - Mean BMI 52.5; mean age 41.6 years). 4 leaks occurred in the first 100 cases and 2 in the last 120 pts (1.6%). Leak presentation was early in 3 cases (1st, 2nd and 3rd P.O. day), late in the remaining 3 cases (11th, 22nd and 30th P.O. day). The most common leak location was at the esophagogastric junction (5 cases). Mortality was nihil. Non-operative management (TPN, PPI and antibiotics) was adopted in all cases. Percutaneous abdominal drainage was placed in 5 patients. In one case a small fistula was successfully treated by endoscopic injection of fibrin glue only. Self expandable covered stent was used in 3 cases. Complete healing of leaks was obtained in all patients (mean healing time 71 days).

Conclusion Non-operative treatment (percutaneous drainage, endoscopy, stent) is feasible, safe and effective for staple-line leaks in patients undergoing LSG and can avoid more complex and/or mutilating (total gastrectomy) therapies

P-244 Robot Assisted Gastric Bypass: Our Technique

Presenter: M. Senni Buratti (CHU de Nice, Nice, France)

Co-authors: J. Gugenheim¹

¹CHU de Nice Nice France

Background Laparoscopic Gastric Bypass is a technically demanding procedure. Hand sewn gastro-jejunal anastomosis is a particularly challenging step that requires a long learning curve. In literature 2% of anastomotic leaks and 4% of anastomotic stenosis have been reported. Increased dexterity, security and a shortened learning curve could be achieved by performing hand sewn anastomosis with the Da Vinci S surgical robot.

Methods We realised 44 consecutive robot assisted laparoscopic gastric bypass from December 2006 to December 2008. We compared them to 248 conventional laparoscopic gastric bypass. There were 40 women and 4 men, mean age was 46 years (range from 19 to 57) and mean BMI was 43.9 (range from 38 to 47).

Result Mean operative time was 142 minutes (range from 80 to 195), mean robot docking time was 13 minutes (range from 4 to 60), and the mean time to perform the anastomosis was 24 minutes (range from 10 to 60).

There were 3 re-operations, one for postoperative occlusion, one for postoperative peritonitis and one explorative laparoscopy. There was 1 anastomotic leak and no postoperative death.

Da Vinci S surgical robot allows to perform the gastrojejunal anastomosis with greater dexterity even in difficult conditions like in case of a large left hepatic lobe, abundant peritoneal fat and thick abdominal wall.

Conclusion Robot assisted gastric bypass allows to perform laparoscopic hand sewn anastomosis with more dexterity and with similar complications than traditional without significant increase in operative time.

P-245 Roux-En-Y Gastric Bypass: A Comparative Technical Analysis of Different Gastrojejunal Anastomoses in 119 Cases

Presenter: R. Bellini (Azienda Ospedaliero Universitaria Pisana, Pisa, Italy)

Co-authors: R. Bellini¹, S. Tramontano¹, M. Lamacchia¹, S. Franceschi¹, M. Rossi¹, M. Anselmino¹

¹Obesity Surgery Unit- Department of Gastroenterology AOUP- S.Chiera Hospital PISA

Background Roux-en-Y gastric bypass (GBP) is one of the most effective procedure for treatment of morbid obesity. Yet GBP is not a single procedure. Since initially introduced, surgeons create very different limb lengths and anastomotic techniques. Although surgeons' attitude is basilar in select type of anastomosis, an adequate balance of different type of gastroenteroanastomosis (GEA) seems to be necessary.

Methods This study assessed benefits and outcome between hand-sewn, circular-stapled, and linear-stapled GEA techniques during GBP. A total of 119 patients, between 2004 and 2006, has been enrolled for study. Patients were divided in 3 groups: group 1 (totally handsewn technique) included 49 cases; group 2 (circular anastomosis with transoral technique) included 42 cases; group 3 (in which an endo-cutter linear stapler was used) included 28 patients. Numeric difference was not statistically significant. Other parts of procedure were standardized for all.

Result Age, gender, and preoperative BMI were not significantly different between the 3 groups. Longer mean operative time was observed in group 1, significant only in comparison group 1 vs; ³%EWL was not statistically different between the three groups. Overall complications consisted of 3 cases of leakage (2.5%), 4 stricture (3.4%), and 5 perianastomotic ulcerations (4.2%). Distribution of complications does not determine significant difference, except for stenosis rate, only observed in group 2 ($p < 0.05$). No mortality was observed.

Conclusion A compared evaluation determined better results with manual anastomosis, demonstrating safe and reproducible, although lengthening operating time. Circular stapler anastomosis was related with highest rate of stenosis

P-246 Initial Clinical Observations of Sleeve Gastrectomy in Combination with Duodeno-Jejunal Bypass

Presenter: E. Semenov (State Hospital, Ufa, Russian Federation)

Co-authors: T. Vil¹

¹Bashkir State Medical University Ufa Russian Federation

Background One of the primary goals in bariatric surgery is a development of new technologies combining both satisfactory weight loss and metabolic effects with minimal side effects. We have developed and introduced in 2007 into the clinical practice a new surgical procedure - Sleeve gastrectomy with Roux-en-Y Duodeno-Jejunal bypass (SG-DJBP) (patent 2341209 dated 2007.09.27). The expected potential advantage of this procedure might be combination of beneficial effects of SG with Duodenal exclusion resulting in normalization of postprandial Insulin secretion.

Methods We present results of four SG-DJBP procedures performed since July 2007 to March 2008. The mean age of patients was 35.2 ± 6.7 (29-42) years, mean BMI 49.1 ± 8.9 kg/m² (38.9-60.6), initial weight - 132.8 ± 22.6 kg (111-159). A "Roux-en-Y" procedure was performed with a biliopancreatic loop 60 cm and alimentary loop-100 or 150m depending on initial BMI (less or more 50 kg/m² respectively)

Result All the patients tolerated the procedure well. The operation resulted in satisfactory weight loss and metabolic improvements. Up to 1 year all patients could lose more than 50% EWL (54.3 – 74.8 %) with tendency to further weight loss.

Conclusion SG-DJBP is expected to have advantages of Sleeve Gastrectomy or Duodenal exclusion alone. Combining the advantages of exploring the stomach while maintaining metabolic effects of SG-DJBP may lead to safer and more effective bariatric procedure. Further follow-up control is necessary to confirm its long-term effectiveness over SG alone or safety compared to malabsorptive procedures (BPD).

P-247 Changes in Quality of Life (QOL) After Adjustable Gastric Banding: A Prospective Assessment with a 2 Years Follow Up

Presenter: C. Gouillat (Universite de Lyon, Lyon, France)

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Background The aim of this prospective study was to evaluate the impact of gastric banding on QOL 2 years after surgery.

Methods 226 patients included between May 2005 and September 2006 in a French multicenter study designed to evaluate the MIDBAND[®]* gastric band, were prospectively followed during 2 years. QOL was assessed preoperatively and each 6 months using the SF36 questionnaire.

Scores were calculated in each of the 8 QOL dimensions, just like the Physical and Mental component summary scores. Scores were analyzed in groups based on time after surgery. Scores before and after surgery were compared using Wilcoxon signed-rank test.

Result

- At 2 years, the mean value of BMI had decreased from 42 ± 4 to 31 ± 5 kg/m (m \pm SD), the median values of excess weight loss and excess BMI loss were 56% and 63%, respectively; the prevalence of obesity-related comorbid conditions had decreased from 67% to 14%; 98% of patients stated to be satisfied with the operation and would undergo it again.
- When compared to the preoperative one, assessment at one year demonstrated a significant improvement in the mean scores regarding the 8 dimensions of the SF 36 questionnaire, without any significant change at 2 years.
- When compared to the ones observed in the standard European population, the mean scores of QOL were significantly impaired preoperatively and reached normal values at 1 and 2 years.

Conclusion Gastric banding results in a significant improvement of QOL.

Patients are able to achieve a normal QOL one year after surgery.

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P-248 Endoscopic Retrieval of the Adjustable Gastric Band Migrated into Gastric Lumen Using a New Device

Presenter: C. I. Añez De Gomez (CECOBEM, Maracaibo, Venezuela)

Co-authors: J. Acosta Mata², J. Acosta Hernandez², H. Colina³, G. Bravo¹, A. Roberty¹, J. Roberti Gonzalez¹

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Background Gastric banding is a procedure very commonly used as a treatment for morbid obesity worldwide. One of the worst complication is migration into the gastric lumen and requires band removal.

Methods This is a minimally invasive method that consists of band and tube removal by gastroscopy using a modified technique with a new band cutter combined with local retrieval of the port.

Result 9 patients underwent this procedure, all of them had more than 50% of band migration. 8 were performed under general anesthesia and 1 had only conscient sedation assisted by an anesthesiologist. The mean operating time was 46 min (20-75 min). After the procedure, 8 patients stayed 24 hours at the hospital and 1 was released one hour after the procedure. All patients had liquid diet for 48 hrs. There were no perioperative complications.

Conclusion Laparotomy can be avoided with an endoscopic retrieval of a migrated gastric band. It can be safely performed with a novel minimally invasive technique.

P-249 Laparoscopic Magenstrasse & Mill Procedure for Morbid Obesity: Our Initial Experience

Presenter: P. Millo (regional Hospital , Aosta, Italy)

Co-authors: R. Allieta¹, R. Brachet Contul¹, M. Fabozzi¹

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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/m (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/m (range 32-62) and 41.2% (range 18.7-66.7), respectively.

Conclusion 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.

P-250 Band Slippage and Erosion Post Laparoscopic Gastric Banding – A Systematic Review

Presenter: P. Super (Heart of England NHS Foundation Trust, Birmingham, United Kingdom)

Co-authors: R. Singhal¹, C. Bryant¹, M. Kitchen¹, S. Bridgwater¹, P. Super¹

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Background Laparoscopic adjustable gastric banding has the lowest morbidity and mortality amongst the common bariatric procedures. However, band slippage and erosion remain complications that result in significant morbidity and frequently require revisionary surgery. Rates of slippage have reduced and this appears to be due changes in surgical technique. In our experience, units with a low slippage rate have low erosion rates and vice versa. We thus conducted a systematic review to investigate this relationship between band erosion and slippage.

Methods Electronic databases were searched up to 31st December 2008. Publications focusing solely on LABG with at least 500 patients and a minimum of one year follow up were included. Publications in languages other than English, and those that failed to mention erosion and slippage rates were excluded. Study sizes, technique of band insertion and complication rates

were recorded. Analyses were conducted separately for pars flaccida group, perigastric group and combined group (publications that did not break down complications by the surgical technique).

Results 18 studies satisfied the inclusion criteria. There was no correlation between slippage and erosion rates for perigastric ($r=0.194$) and combined groups ($r=0.091$). The correlation improved when studies employing pars flaccida technique were selected (0.281).

Conclusions Overall, correlation between erosion and slippage rates are is but when studies employing only pars flaccida insertion are examined there appears to be a positive correlation between slippage and erosion in that high rates of slippage are linked to high rates of erosion and vice versa. It is only recently with follow-up of a superior surgical technique that the relationship between erosion and slippage has become more obvious. Reduced rates of slippage may be linked to reduced rates of erosion.

P-251 Comparative Study: Distal Laparoscopic Roux–En–Y Gastric Bypass and Standard Laparoscopic Roux–En–Y Gastric Bypass with Ring: Technique and Results

Presenter: J. A. Sallet (Sallet Institute of Medicine, Sao Paulo, Brazil)

Background During November/98 to February/09 we have performed 4300 bariatric procedures: 13% Lap-Band or Sleeve Gastrectomy, 71% Gastric ByPass, 14% BIB and 2% BPD. The choice of the method was defined by protocols developed by a multidisciplinary team considering BMI, social and eating behavior, surgery risks, associated diseases, agreement to physical activity and patient's expectation.

Methods In the first two years, we performed Gastric ByPass with Ring in 180 cases, presenting 76% of excess weight loss after two years. These patients had too much difficulty 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 six years we started 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 ($n=2599$), presenting 75% of excess weight loss. The surgery is all performed in a supra-mesocolic abdominal area. The gastroenteroanastomosis is always pre-gastric and pre-colic performed with linear stapler. Then, we perform the enteroenteroanastomosis and test both anastomosis using methylene blue. After that, we divide the jejunum with a stapler.

Results and Conclusion We had performed 2599 cases using this method, with 75% of excess weight loss two years after the surgery. With this technique, we are able to reduce surgery time, avoid ring complications and nutritional complications, presenting better eating quality.

P-252 Drinking Water Can Cure Post Operative Gastric or Gastro Jejunal Anastomotic Leaks After Bariatric Surgery

Presenter: P. Campan (assistance publique - hôpitaux de marseille, marseille, France)

Co-authors: A. Bécaud¹, L. Nobili¹, J. Hardwigen¹

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Background Upper digestive tract leaks after bariatric surgery lead to high morbidity and mortality. Early re operation and conservative treatment are currently debated. In all methods placement of abdominal drainage is required, frequently associated with naso gastric suction. Then, interruption of oral intake is very seldom mentioned and argued.

Assuming that saliva and gastric secretions obviate healing of the gastric wall by their chemical effect, we advocate the treatment of leaks by water wash out of the fistula using large oral intake of water through abdominal drainage.

Methods We report four cases of gastric and gastro jejunal leakage, after three laparoscopic gastric sleeve and one open revision of gastric bypass, in which healing of leak was achieved by conservative treatment and wash out of gastric secretions by water oral intake, and close abdominal drainage. This treatment started at diagnosis in three cases, and two weeks later in a patient referred from another center.

Diagnosis of leak was achieved and efficacy of treatment assessed by contrast studies. Treatment involved percutaneous drainage of intra abdominal collections in one case. Endoscopic stenting was not used.

Results Leakage healing was obtained at day 5, 15, 18 and 35 after beginning of wash out. No patient needed revision surgery. Until now all patients involved in this procedure had satisfactory outcome.

Conclusion Water wash out of post operative leaks in hemodynamically stable patients can achieve healing of gastric wall, and is of considerable help in management of this challenging complication of bariatric surgery.

P-253 Is There a Use for Buttress Materials to Reinforce the Staple Lines in Roux-En-Y Gastric Bypass Surgery?

Presenter: A. Ghanbari (Homerton University Hospital, London, United Kingdom)

Co-authors: A. Ghanbari¹, K. Mannur¹

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Background There is a fear amongst the bariatric surgical community that there is a big risk of bleeding from the staple line after laparoscopic Roux-en-Y gastric bypass. It has been advocated that buttress materials should be used to reinforce staple lines to prevent bleeding.

Methods We performed a retrospective analysis of all the patients on our bariatric database over a 3 years period. There were 450 gastric bypasses performed by a single surgeon. All the gastric pouches and jejunum-ileal anastomoses were performed using standard cartridges.

Result We used Ligaclips in 10 patients intra operatively to stop the staple line bleeding. There were no staple line bleeders postoperatively. 3 patients had postoperative haemorrhages. One was managed conservatively with transfusion and without the need to restore to surgical intervention. This bleeding may have from the port site as the site was distended and bruised. The second patient had to be operated urgently. The bleeding vessel was found in the mesenteric side of the small bowel and this was most likely from the hook diathermy injury. The third bleeding was from the stomach bed and this was managed by laparoscopy and blood transfusion. None of these three bleeding complications would have benefited from the buttress material.

Conclusion We feel that there is no hard evidence for the use of buttressing materials in Roux-en-Y gastric bypass. We still do not know the long term effect of these materials. We know the Peristrip material cause complications. More studies need to be performed before using these materials more widely.

P-254 Long-Term Results of Laparoscopic Roux-En-Y Gastric Bypass in Two Patients with Prader-Willi Syndrome

Presenter: A. Rivas (Instituto Nacional de Ciencias Médicas y Nutrición, México D. F., Mexico)

Co-authors: M. Herrera¹, J. Pantoja¹, M. Sierra¹, D. Arcila-Martínez¹, E. García¹

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Background Prader-Willi Syndrome (PWS) is a neurodevelopmental disorder that arises from lack of expression of paternally inherited genes in the q11-q13 region of chromosome 15. PWS is characterized by hypothalamic hypogonadism, mental retardation and compulsive hyperphagia associated with early and severe obesity.

Patients and Methods We report our experience in two patients with PWS who underwent laparoscopic Roux-en-Y Gastric Bypass (LRYGBP) and have been followed for more than 5 years.

Results The first patient is a 24-year-old male with a BMI of 48 kg/m², who had severe pulmonary hypertension, hypopituitarism, partial seizures and impaired glucose tolerance. Six years after LRYGBP his BMI is 28 kg/m² and the excess weight loss (EWL) is 42%. The pulmonary arterial pressure decreased from 73 to 45 mmHg and the fasting glucose normalized.

The second patient is a 22-year-old male with a BMI of 42 kg/m², obstructive sleep apnea and moderate pulmonary hypertension. Maximum weight loss 3 years after LRYGBP was 30 kg with slow regain in the following years. His BMI 6 years after surgery is 36 kg/m², with an EWL of 11.8%. The pulmonary arterial pressure decreased from 63 to 48 mmHg. Lipid values normalized for a period of time and became again abnormal as patient regained some weight. His eating habits have not stabilized, persisting with compulsive eating.

Conclusion Gastric bypass can be a good method for weight control and improvement of comorbidities in patients with PWS. Psychosocial compulsiveness strongly impacts the results.

P-255 Removal of an Intra-Gastric Removable Stent Used to Treat a Leak Using Argon Plasma Coagulation

Presenter: D. Heath (Whittington Hospital, London, United Kingdom)

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Background Removable covered stents can be used to treat leaks from staple lines or anastomoses. Where they become incorporated in the wall of the stomach or oesophagus they can be difficult to remove. We describe the use of Argon Plasma Coagulation (APC) to cut the wires of an incorporated stent in order to remove it after failed attempts using traction.

Case Report A 54 yr old female (weight 148.2 kg, BMI 57, ideal body weight 66 kg) underwent sleeve gastrectomy as part of a two stage Roux-en-Y gastric bypass. Postoperatively she developed a staple line leak and underwent endoscopic insertion of two covered stents. She developed a gastro-cutaneous fistula which eventually closed. Several attempts were made to remove them endoscopically. These failed due to the fact that the stent had become incorporated in the oesophageal wall at 35 cm from the teeth and could not be dislodged using traction. She continued to experience severe dysphagia because the stents had blocked and therefore further attempts were made to remove it. It was decided to try to cut the wires embedded in the oesophageal wall using APC. When the power setting on the machine was set to 85 Watts, the APC cut through the wires and the stent could be removed. Copious amounts of ice cooled water needed to be flushed down the endoscope to cool the stent.

Conclusion Where covered stents have become incorporated in the oesophageal wall and cannot be removed by traction consider employing APC to cut the wires.

P-256 Laparoscopic Sleeve Gastrectomy vs Laparoscopic Magenstrasse and Mill Procedure in Morbid Obesity: Preliminary Results

Presenter: P. Millo (regional Hospital, Aosta, Italy)

Co-authors: R. Allieta¹, R. Brachet Contul¹, M. Fabozzi¹, M. Nardi¹, M. Grivon¹

¹regional Hospital 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 December 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 weight was 121.1 Kg in the LSG group and 109.4 Kg 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.

P-257 Laparoscopic Sleeve Gastrectomy: 8 Years Experience

Presenter: A. Menon (Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom)

Co-authors: A. Menon¹, M. Adamo², A. Sarella³, S. Dexter³, M. McMahon⁴

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Background There has been considerable debate as to whether weight loss following Laparoscopic Sleeve Gastrectomy (LSG) is maintained in the long term without a subsequent 2nd stage procedure, such as Roux-en-Y Gastric Bypass (RYGB), or Duodenal Switch (DS). This series is believed to be the oldest in current literature, and the authors seek to provide long term data to help answer this question.

Methods A retrospective analysis was carried out on 70 (51 females) patients who underwent LSG between January 2000 and March 2008. The median age was 42 (23-65) years, and the median preoperative BMI was 52.5 (35.8-78.7) kg/m. 32 patients had a BMI of greater than 50 kg/m. LSG was performed in all cases using multiple firings of a linear stapler over a 32F Bougie. Patients were and were reviewed at 1, 3, 6, and 12 months, and annually thereafter.

Results 7 of the 70 (10 %) patients underwent revisional surgery (5 LRYGB, 2 DS) at a median time of 29 months (20-40) after the original LSG. Postoperative complications included 4 leaks from the proximal staple line, 3 of which were managed conservatively, 1 staple line bleed requiring relaparoscopy, 2 gastric tube stenoses treated by a single endoscopic dilatation, and 1 internal fistula which was managed conservatively.

| | Median Percentage Excess Weight Loss (% EWL) | | Median Body Mass Index (BMI) (kg/m) | |
|--------------|--|--------------------------------------|-------------------------------------|--------------------------------------|
| | Total Patients (n=70) | Super-obese patients (BMI>50) (N=32) | Total Patients (n=70) | Super-obese patients (BMI>50) (N=32) |
| Preoperative | | | 52.6 (35.8-78.7) | 59.9 (50.1-78.7) |
| 6 months | 41.8 (-68.5-92.3) | 37.0 (0.0-72.1) | 40.2 (26.0-77.1) | 48.1 (39.9-77.1) |
| 1 years | 54.2 (-55.1-120.9) | 48.5 (13.3-96.3) | 38.9 (20.6-61.1) | 41.5 (28.0-61.1) |
| 2 years | 69.7 (28.2-114.3) | 61.8 (28.9-91.9) | 32.3 (23.6-57.3) | 37.8 (26.1-53.8) |
| 3 years | 70.5 (32.8-90.2) | 69.8 (43.2-90.2) | 32.0 (28.3-44.9) | 38.3 (28.5-52.6) |
| 4 years | 75.7 (35.5-116.7) | 78.4 (60.0-88.0) | 30.5 (24.8-37.5) | 32.2 (29.1-37.5) |
| 5 years | 74.3 (49.2-88.3) | 74.3 (53.0-88.0) | 32.1 (27.4-39.7) | 33.9 (28.2-39.7) |
| 6 years | 67.5 (42.0-78.9) | 75.6 (71.9-78.9) | 33.0 (30.8-35.4) | 33.3 (30.8-34.7) |
| 7 years | 65.0 (27.6-94.0) | 65.7 (27.6-81.4) | 32.2 (27.0-47.6) | 34.0 (30.1-47.6) |
| 8 years | 79.1 (65.0-91.0) | 86.2 (81.4-91.0) | 28.5 (19.4-33.0) | 30.6 (28.2-33.0) |

Conclusion LSG results in long term successful weight loss (% EWL > 50) without the requirement for further bariatric surgery in the majority of patients. However weight loss appears to reach a plateau after 4-5 years, before partially reversing after 6 years.

P-258 Medium-Term Clinical and Metabolic Results After Modified Duodenal Switch, Larrad Biliopancreatic Diversion and Gastric Bypass in the Treatment of Morbid Obesity

Presenter: O. Cano-Valderrama (Hospital Clínico San Carlos, Madrid, Spain)

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¹Hospital Clínico San Carlos Madrid

Background Our aim is to compare the medium-term clinical and metabolic results after Modified Duodenal Switch (MDS), Larrad Biliopancreatic Diversion (LBDP) and Gastric Bypass (GBP). We analyzed the complications of each technique, as well as weight loss, analytic parameters and comorbidities evolution.

Methods 127 patients operated between 2000 and 2009 were included. A MDS was made in 41 patients, LBDP in 42 and GBP in 43. 77.8% of the patients were female and the mean age was 44.1. The mean preoperative weight was 128.1 Kg, with a mean BMI of 48.7 Kg/m².

Result Early complications were similar in all groups (26.8%, 26.2% and 39.5% respectively) but late complications were higher after LBDP (5%, 19.5% and 2.3%; p<0.05). One patient died in each group. Excess weight loss percentage was lower for LBDP in the first two years of follow up (p<0.05), whilst afterwards it was similar for the three techniques (66.62%, 69.33% and 69.4% at 4 years respectively). Total cholesterol, HDL, LDL and iron levels were higher in the GBP group; there were no statistical differences in the rest of analytic parameters. Diabetes resolved in 75%, 66.7% and 50% of the patients respectively, hypertension in 64.7%, 47.4% and 30% and dislipemy in 85.7%, 100% and 55%.

Conclusion MDS, LBDP and GBP have a similar medium-term weight loss with no differences in early complications and mortality rate. There are few metabolic differences between these techniques. Nevertheless, biliopancreatic diversions are better to resolve the comorbidities associated to morbid obesity.

P-259 Air Filled Balloon - Brazilian Multicentric Study

Presenter: M. Falcao (Obesity Treatment and Surgery Nucleus - NTCO, Sao Paulo, Brazil)

Co-authors: M. Galvao Neto², E. Alves¹, A. Ramos², C. Martins³, J. Campos⁴, E. Ferraz⁴

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Background The intragastric balloon stills the main option as endoscopic treatment of obesity, besides its temporary manner. The air filled balloon (Helioscopie®, France) is a recent technical improvement that had been proven its efficacy but more data still necessary to address it. A Brazilian multicentric study was conducted among 4 bariatric surgery centers in order to prospectively access data on safety and efficacy

Methods 236 patients (173 female), with weight from 72-156Kg (m=109,2Kg), BMI 34-52 (m=34,8) from January of 2005 to December of 2008 were implanted. Balloon implant and explants runs under with anesthetic assistance and lasts 6 m in a specific multidisciplinary program.

Result There was significant weight loss (> 30%EWL) in all but 2 patients, meaning 15-72%EWL (42%EWL). Implant time varies from 15-60 min (min=26 min), explants time from 18-123 min (m=42 min). The explants times reduced significantly to a mean of 28 min (p<0,005) after the 10 first cases of each center. Adverse Events (AE) occurred on 35,1% of vomiting, 25% abdominal pain and 4,6% of Dehydration. Complications happened on 0,85% of balloon deflation, 0,42% of early removals, 0,42% of gastric ulcers, 3,81% of re-admitted patients and 2,97% of fungus balloon contamination. No implant or explants complication, no severe AE and no deaths were observed. **Conclusion** Air filled intragastric balloon shows to be is a safe and effective method of endoscopic bariatric treatment on a prospective multicentric trial

P-260 Endoscopic Treatment for Obesity: A Balloon with New Features

Presenter: K. Hashiba (Hospital Sirio Libanés, São Paulo, Brazil)

Background Intragastric balloons remain a less invasive treatment for obesity since they achieve a sustained 10% to 15% weight loss to prevent or to

reduce the risk of cardiovascular and other obesity related diseases. The presented balloon has some new features such as the insertion over a wire guide, the possibility to reinflate during the treatment and a new valve design to connect to a tube with a distal end like a screw for its safe retrieval.

Material and methods The device wall has two covering sheets, one made with silicon and another with polyurethane. A thin plastic bag compresses the balloon and breaks during the inflation. Its distal end has a flexible plastic tube that allows sliding over a wire guide. Therefore, the balloon can be pushed without manual maneuver. The device has a valve initially connected to a plastic tube for inflation. The rotation of this tube after the placement and inflation makes the balloon free because the tube distal end has a screw-like form for connection. A similar tube with a needle inside, is used for reinflation, deflation and the retrieval. For this initial test the balloons were inflated with 600 ml of air. Three prototypes are tested in pigs weighting 30-35 kilos for a feasibility test. The weight was not considered.

Results Upper GI endoscopy was performed one month later. Two balloons were not completely full and one was almost totally empty. One balloon was reinflated with more 300 ml of air. This animal initially received liquids but after one week the animal refused liquids as well and the balloon was then removed.

Conclusion The presented balloon can be a new generation of balloons for endoscopic obesity treatment, better to insert and to remove, and besides advances the interesting idea of reinflation to maintain the losing weight curve.

P-261 Initial Experience with Transvaginal Sleeve Gastrectomy for Morbid Obesity by N.O.T.E.S. - First Experience in Europe

Presenter: M. Buesing (Klinikum Vest-Knappschaftskrankenhaus Recklinghausen, Recklinghausen, Germany)

Co-authors: M. Buesing¹, G. Saada¹, M. Laukoetter¹, B. Halter¹, R. Riege¹, A. Knapp¹

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Background Natural orifice transluminal endoscopic surgery (NOTES) has been widely discussed during the last years. Beside experimental work clinical experience is still limited and most of the working groups only performed cholecystectomies. Up to now our clinical experience with transvaginal NOTES-operations includes 50 cases. Here we present our initial experience with transvaginal assisted gastric-sleeve resection in obesity patients which are the first cases in Europe.

Methods In January 2009 4 females were offered for a gastric-sleeve resection because of morbid obesity (BMI 36-49, age 25-49y). After informed consent of the patients we decided to perform a combined transvaginal-transumbilical approach for gastric-sleeve resection of the great curvature. First a 5 mm optic trocar was inserted through the umbilicus. A 10 mm trocar and a 5 mm dissector were placed through the vagina. In addition 2 trocars (1x5mm, 1x14mm) were placed in the upper abdomen. After dissection of the great curvature the sleeve resection was performed by 6-8 endo-gias (60 mm). The staple-line was oversewn by a running suture line (3x0, absorbable, monofil). The specimen was removed through the vaginal approach which was closed by some single stitches.

Result Operation time was 75-145 min. and the patients started fluid intake on the day of operation, they could be discharged on day 4-6 after operation without need of any specific treatment. During the next weeks no complications occurred.

Conclusion Gastric-sleeve resection by notes using a combined transvaginal-transumbilical approach seem to be feasible in selected patients for obesity surgery.

P-262 Prevention of Pouch Dilatation with Modified Laparoscopic Adjustable Gastric Banding Technique

Presenter: G. Brimas (Vilnius university Medical faculty, Vilnius, Lithuania)

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Background Major long-term complications of laparoscopic adjustable gastric banding (LAGB) are band slippage and dilatation of the gastric pouch,

reported with a frequency 1 – 24 %. These complications can be extremely serious and reoperations with band removal are often required.

Methods From January 2006 to December 2008, 414 consecutive patients underwent LAGB with gastropexy to left and right crura of the diaphragm in addition to 3 - 4 gastro-gastro tunnel sutures. Mean age was 44.3 years, preoperative body weight – 127.6 kg and BMI – 43.7 kg/m². Patients were evaluated postoperatively at 6 to 12 months intervals. Data of clinical status, complications, fluoroscopy of upper GI tract with barium enema, %IEWL and BAROS were used for evaluation.

Results Postoperative average %IEWL of 21.2%, 32.4%, 61.1%, and 65.9% was at the periods of 6, 12, 24 and 36 months. The average BAROS score was 5.7, 5.4, 7.8 and 8.2 respectively. 16 (3.9%) complications were registered: 2 (0.5%) gastric perforations, 4 (1%) band penetrations, 2 (0.5%) band site infections, 3 (0.73%) injection port dislocations, 2 (0.5%) injection port site infections. There were conversions in 2 (0.5%) patients with wound infection and postoperative hernia in one of them. One (0.24%) partial dilatation of the gastric pouch was noticed at 3 years and was treated conservatively by band deflation. There were no postoperative deaths.

Conclusions Modified LAGB was effective for treatment of morbid obesity and improved quality of life according to BAROS with low slippage and pouch dilatation rate. These results need to be verified in long-term follow-up.

P-263 Short Term Outcomes After Laparoscopic Roux-En-Y Gastric Bypass, with or Without Silastic Ring, for Morbid Obesity in a Private Hospital

Presenter: M. Sodji (NO, Limoges, France)

Background The laparoscopic Roux-en-Y gastric bypass (RYGB) is becoming rapidly the standard bariatric procedure. Some authors continue to defend the laparoscopic Roux-en-Y banded gastric bypass (RYGB-B). This study evaluates our initial and short term outcomes results comparing these two procedures in a private hospital.

Methods From August 2003 to November 2005, 100 consecutive patients had gastric bypass. 69 underwent RYGB-B, 22 underwent RYGB and 9 underwent RYGB after removal of gastric banding. The procedure of RYGB-B included an isolated gastric pouch of 7 cm on the lesser curvature, a calibration of the gastric silastic ring, a 40 cm biliopancreatic limb, a 100-150 cm Roux limb in antecolic position, a side to side jejuno-jejunostomy, a side to side gastro-jejunostomy.

Result 91 F and 9 M were operated on, mean age 40 (18-65), mean BMI 44 (29-57), mean weight 110 kg (79-161). Mean operative time was 207 min (90-465), mean hospital stay 8 days (5-15). There were 4 cholecystectomies, 1 subtotal gastrectomy of the remnant gastric for Biermer's anemia and 3 repair of abdominal incisional hernia.

Early complications were: 5 negative laparoscopic explorations, 2 intra-abdominal staple-line haemorrhages, 2 incisional hernias, 1 jejuno-jejunostomy stenosis. One internal hernia occurred 3 months post-operatively. There were no conversions, no post-operative leaks, no band erosion or stenosis, no mortality. The two groups were followed up to 5 years with a focus on short term complications and weight loss.

Conclusion RYGB-B and RYGB can be done safely and with good early results in morbid obese patients in a private hospital.

P-264 Laparoscopic Gastric Banding – Simplifying a Simple Operation

Presenter: S. Norton (Southmead Hospital, Bristol, United Kingdom)

Co-authors: S. Norton¹, A. Johnson¹, S. Bates¹, J. Morgan¹

¹Department of Surgery, Southmead Hospital Bristol United Kingdom

Background Gastric banding remains a safe and popular operation for morbid obesity. A standard technique has evolved based on the pars flaccida approach. Gastro-gastric suturing and access port fixation are common despite little evidence to support these practices which may, in themselves, cause complications. Balloon calibration of the gastric pouch may also be used but can occasionally cause perforation.

Our study aimed to demonstrate that a simplified technique of gastric banding produces comparable or better results than many reported series over a 5 year follow up period.

Methods Between March 2004 and March 2009, 500 patients have undergone LAGB in a single centre using the MIDBAND™ (Médical Innovation Développement, Limonest, France). No calibration balloon was employed, no gastro-gastric sutures used and no fixation of the access port performed. The vast majority of band fills were performed without x-ray guidance. Follow-up has been achieved in 98% of patients. Complication rate and weight loss has been prospectively recorded.

Result Band removal rate for slippage was 2%. 5 patients (1%) required access port revision. 6 (1.2%) required band removal for oesophageal dilation. Mean excess weight loss was 28%, 50%, 72% and 77% at 6, 12, 24 and 36 months respectively. There were no erosions and no mortality.

Conclusion A simplified technique of gastric banding did not result in a high complication rate relating to the access port, to poor band placement or to slippage. Furthermore, an absence of erosions, band infections and perforations may be due to this simplified technique.

P-265 3 Years Experience with Simplified Gastric Bypass in a Portuguese Hospital – Review of 250 Cases

Presenter: E. Rosa (Hospital São Francisco Xavier - Lisboa, Lisboa, Portugal)

Co-authors: E. Rosa¹, C. Branco¹, H. Contente¹, H. Gameiro¹

¹Hospital São Francisco Xavier Lisbon Portugal

Background To describe the results of laparoscopic Simplified Gastric Bypass as a main treatment offered to 250 obese patients.

Methods We conducted a review of our prospective electronic database for all patients who underwent a simplified gastric bypass pass from March of 2005 and December of 2008.

Result A total of 250 patients underwent a simplified gastric bypass as described by Dr Almino Ramos in Brasil. During this period the main average age was (45 ys); Male: Female ratio 45:205. The main operative BMI was (45.6). Preoperative comorbidities were arterial hypertension: 92%; type 2 diabetes 35,2% and dyslipidemia 44,8 %. The median operative time was (160 min). In general the Hospital Stay was 05 days and the conversion rate was 1.6 %. 3.6 % of the patients had early complication (< 30 days) and the mortality rate was 0.4 % due to: severe sepsis due to cellulites of the abdominal wall in a diabetic patient with an incisional hernia in the 12 mm work-trocarte. Percent excess weight loss at 6, 12 and 24 and 36 months was 62 % in 92% of the patients. The resolution of the co morbidities after 1 year was 61 % for arterial Hypertension, 87 % for DM type 2 and 72 % for dyslipidemia. We also realize that most part of the patients had been also improved co morbidities as well as sleep apnea, osteoarthritis, sexual activity and social relationship.

Conclusion Laparoscopic simplified gastric bypass is a good surgical option to the morbid obese patients. A considerable decrease in the operative time was an achievement and the co morbidities were well in a great majority of the patients who actually had been sustained the weight loss after 1 up to 2 years. The number of patients with weight regain was dispersible. The postoperative complications and the mortality rate are acceptable compared to those series already published in the literature.

P-266 Excellent Results with Laparoscopic Mini-Gastric Bypass: Two-Year Indian Subcontinent Study

Presenter: K. S. Kular (Kular Hospital and College of Nursing, Ludhiana, India)

Co-authors: N. Manchanda¹

¹Kular Hospital and College of Nursing, Bija Ludhiana India

Background Laparoscopic mini-gastric bypass (LMGB) has been originally described by Robert Rutledge as a safe, simple and effective technique for treating morbid obesity. The purpose of this first study of LMGB from the

Indian subcontinent was to evaluate the results of LMGB in morbidly obese patients.

Methods A prospective database of 137 patients (59 males and 78 females), who underwent LMGB from 1st February 2007 to 31st January 2009, was used to assess the results. Mean age of the patients was 37.5 years, mean body weight was 136.2 kg and mean BMI was 48.4 kg/m².

Results All procedures were completed laparoscopically. Average operative time was 72.4 minutes. Mean hospital stay was 2.5 days. Mean BMI decreased to 32.7 kg/m² and 28.8 kg/m² at 1 and 2 years respectively. Mean excess weight loss was 60.9 % and 76.2 % at 1 and 2 years respectively. There was no mortality. 2 patients (1.4 %) had major intraoperative complications; short gastric artery bleed in one and perforation of jejunum in other. There was no leak. 4 patients (2.9 %) had early postoperative complications; diabetic ketoacidosis in one, pulmonary embolism in one and bile reflux in two patients, all managed medically. 3 patients (2.2%) had major late complications; port site hernia, cholelithiasis and gall stone induced pancreatitis in one patient each.

Conclusion At 2 years follow up, LMGB is a safe and simple technique. Weight loss is similar to Laparoscopic Roux-en-Y gastric bypass.

P-267 Laparoscopic Sleeve Gastrectomy as a Good Objective and Subjective Bariatric Procedure

Presenter: F. Vanrykel (Heilig hart Ziekenhuis Roeselare Belgium, Keerbergen, Belgium)

Co-authors: P. Pattyn¹, P. Vuylsteke¹, B. Smet¹

¹Heilig Hartziekenhuis Roeselare Roeselare

Background Sleeve gastrectomy has good early objective results, but the debate on the long-term outcome is ongoing. This study provides data not only on its effectiveness, but also on its subjective outcome.

Methods In this single-centre study, sleeve gastrectomy was performed in 90 patients between 2005 and 2008; in 71 cases as a single stage procedure and in 19 cases as a first step to gastric bypass. Retrospectively analysed data included patient demographics, operative time, hospital stay, complications and pre- and postoperative co-morbidities, medication use. SF-36 and BAROS score were used to evaluate operative success. 82,22% of cases were available for an average follow-up of 28,88 months (12 - 45).

Result Average starting BMI's were 38,03 kg/m (30,32 - 53,83) for sleeve gastrectomy and 48,58 kg/m (39,03 - 68,31) for combined procedure. Average %EBL were 86,76% and 67,29%, resulting in an %EWL of 87,29% and 53,69%. BAROS-scores were 4,40 and 4,03. Significant improvement in SF-36 and its partial scores was seen in both groups (p<0,0001 and p=0,05). There was no significant change in total medication use. Co-morbidities improved in 91,67%. Overall complication rate after sleeve gastrectomy was 15,28% of which 45,45% needed re-intervention, without conversion. All but one (pancreatic leak) were minor complications. No surgery related mortality was seen. Average hospital stay was 3,76 days (2 - 17) with a median of 3 days.

Conclusion The Gastric Sleeve as single stage or part of a two stage procedure is effective, not only with good objective but also excellent subjective mid-term results and acceptable morbidity.

P-268 Rate of Success and Complications After Silastic Ring Vertical Gastroplasty in Morbidly Obese Patients- 12 Years of Experience

Presenter: R. F. Galea (Iuliu Hatieganu University of Medicine and Pharmacy, Cluj Napoca, Romania)

Co-authors: A. Catoi Galea¹, A. Ciule¹, D. Mircioiu¹, D. Pinte¹, B. Stancu¹

¹Iuliu Hatieganu University Of Medicine And Pharmacy Cluj Napoca Romania

Background Among the many surgical techniques used to treat morbid obesity we have chosen a non mutilator treatment using gastric restriction-

Silastic ring vertical gastroplasty (SRVG). It has been accepted in Romania by many patients because of the high efficiency and low costs.

Methods 700 morbidly obese patients with various comorbidities have been operated between March 1997–2009 using SRVG. Their weight ranged between 95 and 270 kg and BMI between 36 and 80 kg/m. The open technique was used on the xifosupraumbilical line with a silastic ring of 5.3–5.4 cm.

Results Complete follow up was obtained in 580 patients at 3,6,9,12 months and then yearly (82,86%). The rest of 120 patients had incomplete or no follow-up (17,14%). A successful weight reduction between 40–100 kg was found in 82% cases. A satisfactory reduction of 20–25 kg was obtained in 15%, and an insignificant reduction with relapse was present in 3% of cases. We discuss the complications associated with this surgical technique and their methods of correction. Enlargement of the stoma can be corrected with non-adjustable Gore-Tex Molina band. Stenosis can be corrected with an other ring or using Heinecke-Mikulicz gastroplasty. SRVG results and costs were compared with those of other surgical techniques- gastric by-pass, adjustable Lap-band, sleeve gastrectomy.

Conclusions SRVG is a low cost technique, efficient in weight reduction and comorbidities remission. However, we noticed a significant incidence of long term complications such as stenosis and dilatations of the gastric stoma. In these cases surgical reintervention is needed. Correction does not imply risks.

P-269 The Use of 21-mm Circular Stapling Technique in Open Gastrojejunostomy Roux-En-Y Gastric Bypass

Presenter: E. Bastos (Faculdade de Medicina de Marília, Marília, Brazil)

Co-authors: P. César Grippa¹, F. Venditto Soares¹

¹Faculdade de Medicina de Marília Marília Brazil

Background The construction of gastrojejunostomy is an important step in gastric bypass for surgical treatment in morbidly obese patient. The use of circular stapler can offer an operation time reduction, easing this technical step and providing an adequate anastomosis hole. We describe our experience in using 21-mm circular stapling gastrojejunostomy in open gastric bypass.

Methods From August 2007 to February 2009, we used the 21-mm circular stapling technique (CDH 21, Ethicon Endosurgery, Inc., Cincinnati, USA) for making gastrojejunostomy in 20 morbidly obese patients (16 female) undergone open Roux-en-Y gastric bypass. The mean age was 39-yo (range 29 - 56) and the mean Body Mass Index (BMI) was 53.2 (range 42.7 - 74.1). The technique for placement of the anvil was through a minimally open in the anterior gastric pouch wall and all cases the circularly stapled gastrojejunostomy was over sewn by interrupted Vycril suture.

Results There were no post-operative fistulas. Currently mean BMI is 38.2 (range 23 – 69.2) and no clinical signs of stenosis up to date. There was just one death, with no relationship with surgical technique.

Conclusion The use of 21-mm circular stapler is technically feasible and safe and this stapling tool has facilitated the construction of gastrojejunostomy in open Roux-en-Y gastric bypass.

P-270 Greek Experience: First Results of a Continuing Serie of 123 Sleeve

Presenter: N. Koutsogloulas (Neo Athineon hospital-IMop, Athens, Greece)

Background Evaluation of sleeve gastrectomy, regarding operative difficulty, morbidity, mortality and results as criteria for the continuing of this new method.

Methods During 2006–2009 were undertaken 123 sleeves (99 women 24 men), average 39,9 years old, with average BMI 46,4. Twenty-one patients reported history of GERD. All the cases -except one- were performed using the same type of stapler (6 lines, length 60 mm, clips 1,8 mm and Peristrips[®]).
Result

1. No conversion. Average surgical time: 107'. Average time for the first 50 operations: 128'. Next 50: 95' and for the last 22: 86'2.

2. Average hospitalization time 3,22 days. In one case there was a leak at the upper point of stomach. It was the only case in which the usual stapling material were not used. The leak was managed conservatively during a 9 days hospitalisation. In 4 cases, took place blood transfusion.
3. In one case a mesogastric pseudo-stenosis due to an adhesion between stomach and the place of introduction of a trocar, was diagnosed and cut during a cholecystectomy 10 months later.
4. Twelve from the 21 GERD patients got better after sleeve. In the same time, 11 other patients developed esophagitis, which fade with medication treatment.
5. Evaluation of excess weight loss (EWL) took place for the first 68 cases with minimal follow-up of 12 months. Average EWL was 71% and 89,7% had EWL up to 50%.

Conclusion Sleeve gastrectomy appears as a steady technique by laparoscopy approach (0% conversion) even for high BMI, after a learning curve of 50 to 100 cases. Leaks problems (appearing to 7% in some studies) are minimal. The ratio of new GERD appears lower or equal than improved by the sleeve GERD and respond to the medication treatment. First results are encouraging, so justify continuing this technique in the frame of well established protocols.

P-271 Gastric Banding Combined with Jejunal Bypass (6 Years Experience. 2002–2008)

Presenter: E. Glebov (City Hospital, Zheleznovodsk, Russian Federation)

Co-authors: S. Sheiranov¹, Y. Vorotnikov¹, V. Guseinov¹

¹City hospital Essentuki Russian Federation

Background To minimize metabolic shortcomings of gastric bypass (RYGB) and duodenal switch (DS) modifications we have developed a combined procedure including gastric banding and jejunal bypass (patent #2266058) which is performed in our clinic since 2002.

Methods The proposed technique includes formation of gastric pouch up to 20 ml. We use 3 cm wide fluorolavsan strip which is placed suprabursally through pars flaccida around cardia to the angle of His with creation of stoma 12–14 mm in diameter. For enteric bypass we always use 30 cm ileal segment, the length of jejunal segment depends on the BMI. We perform antiperistaltic entero-enterostomy using valve technique of Glebov-Sedlezky to prevent bypass enteritis. 56 patients aged 22 – 59 y.o. were operated with the described technique. Average initial weight was 167 kg (120–215 kg), BMI - 58,1 kg/m² (44–72,2 kg/m²).

Result 42 patients were available for 4–6 years follow-up control. Maximal weight loss after operation came to 102 kg, weight stabilization was observed after 1–1.5 years, mean EWL was 72% (62–82,5%). We observed resolution of arterial hypertension, sleep apnea syndrome, and diabetes mellitus 3–6 months after operation. Vitamin supplements were used only during the first year after operation. No metabolic disturbances were revealed. 12 patients had complications including 4 incisional hernias and 1 band erosion.
Conclusion The effectiveness of the described technique proved to be similar to that of RYGB or BPD/DS, while the procedure is easier to perform, cheaper and is better tolerated by patients. The benefits of proposed operation include free diet with no need in vitamin

P-272 Comparison of Weight Loss Results in 100 Patients After Laparoscopic Adjustable Gastric Banding and 100 Patients After Laparoscopic Sleeve Gastrectomy

Presenter: M. Cierny (BMI Chirurgie, Brno, Czech Republic)

Co-authors: J. Toldy¹, D. Zeman², R. Urbánek³, D. Darling⁴, M. Cierny⁵

¹BMI Chirurgie Brno Czech Republic; ²Obesitologic centre Brno Czech Republic; ³Obesitologic centre Zlín Czech Republic; ⁴Cosmetic Bliss Ltd London United Kingdom; ⁵Medical faculty of Masaryk University Brno Czech Republic

Background Laparoscopic Adjustable Gastric Band (LAGB) and Laparoscopic Sleeve Gastrectomy (LSG) have currently been the most

commonly used bariatric procedures in the country. Different bariatric surgery lead to different results in weight loss (WL), in quality of life (QoL), in number and severity of obesity associated comorbidities and may also be connected with different complications.

Methods The electronic database (www.WLSR.eu) with secured sensitive information (SSI) is in use for long-term storage, evaluation and management of multiple bariatric outcome data that have to be monitored by multidisciplinary approach. It keeps the initial preoperative information in each patient and enables authorised specialists to log in and to input post-operative changes in WL, in comorbidities (according to B.A.R.O.S) and in QoL issues (according to Moorehead-Ardelt questionnaires). Data on 100 patients with LAGB (SAGB, A.M.I.) and 100 patients with LGS (posterior approach) were analysed and compared. All the surgeries were performed in consecutive patients by the main author. WL, QoL, comorbidities status, complications and other issues were compared.

Result The WL in short term is much more steep after LSG than after LAGB: in the study the ratio in one year postoperatively was 43.2 kg : 20.7 kg. The EWL in 12 months and in 18 months after LAGB were 34.4 % and 39.5 %, after LSG 61% and 58%. EBML in 12 and 18 months were in the LAGB group 38.2 % and 45 %, in the LSG group 62 % and 59 %. The QoL seems to be more poor in LAGB group. Both the prevalence and the severity of obesity related comorbidities has decreased more in the LSG group of patients. Reoperation rate was 5 % in LSG, all for early complications (bleeding, staple line leak, early postoperative stricture and concurrent acute ppendicitis), compared to 4% in LAGB, all of them for late complications. The mortality rate has been zero so far in approx. 250 bariatric operations performed by a single surgeon.

Conclusion

- Both bariatric procedures LAGB and LSG have been successful in treatment of morbid obesity with a low rate of complications.
- In the short term follow-up there are significant differences between studied groups in WL, in QoL and in comorbidities status, favouring the LSG in the contest.
- A long term follow up is to reveal whether the influence of a plateau in WL and perhaps later obesity recurrence after LSG or the benefits of LAGB will prevail in overall review.
- A standardised electronic tool is useful for the bariatric surgeon and his multidisciplinary team striving for creation of a Bariatric Center of Excellence as well as for official authorities and the prospective patient.

P-273 Evaluation of the Intra-gastric Prosthesis (Endogast®) as a Weight Reduction Procedure

Presenter: Y. Yavuz (Marmara University, School of Medicine, Istanbul, Turkey)

Co-authors: A. Akova¹, A. Cingi²

¹Seyhan State Hospital, Department of General Surgery Adana Turkey;
²Marmara University, School of Medicine Istanbul Turkey

Background Having been implanted endoscopically, newer generation intra-gastric balloon prostheses are an attractive alternative to more invasive bariatric procedures. The aim of this study was to delineate outcomes of Endogast application and evaluate the current position of this method in the arena of bariatric surgery.

Methods All patients were implanted with a same-size prostheses under general anesthesia with a predefined standard method. Antibiotics were given routinely. The prostheses were inflated 48 hours after implantation.

Results

| Age | Sex | Preop BMI (kg/m ²) | Follow-up (months) | Current BMI (kg/m ²) | BMI Change (%) | Excess weight loss (%) |
|-----|-----|--------------------------------|--------------------|----------------------------------|----------------|------------------------|
| 44 | M | 50.3 | 16 | 44.1 | -12% | 24% |
| 30 | F | 70.3 | 15 | 56.6 | -19% | 30% |
| 13 | F | 39.1 | 13 | 33.2 | -15% | 42% |
| 14 | F | 41.0 | 13 | 35.2 | -14% | 37% |

| | | | | | | | |
|------|---|------|------|------|------|--------|-------|
| 16 | F | 38.6 | 13 | 31.2 | -19% | 54% | |
| 23 | M | 44.3 | 12 | 44.3 | 0% | 0% | |
| 48 | F | 47.4 | 12 | 43.8 | -8% | 16% | |
| 39 | F | 42.1 | 11 | 42.1 | 0% | 0% | |
| 35 | F | 42.5 | 10 | 31.8 | -25% | 60% | |
| 20 | F | 40.1 | 9 | 36.0 | -10% | 26% | |
| 35 | M | 40.8 | 8 | 32.6 | -20% | 51% | |
| 40 | F | 46.8 | 7 | 37.1 | -21% | 44% | |
| 26 | F | 74.3 | 1 | 69.2 | -7% | 10% | |
| 45 | M | 39.9 | 0 | - | - | - | |
| MEAN | | 30.6 | 46.9 | 10.7 | 41.3 | -13.1% | 30.3% |

Conclusion Although there was a substantial variation between patients, Endogast is an effective adjunct to the weight-loss surgeries. We believe that, Endogast may be beneficial in patients with extreme BMI's before definitive surgery, patients with comorbidities and those who prefer not have invasive procedures.

P-274 Influence of Experience and Technical Changes on Outcomes of Sleeve Gastrectomy

Presenter: P. Holeczy (Vitkovicka nemocnice, Ostrava-Vitkovice, Czech Republic)

Co-authors: M. Bolek¹, J. Kristof¹, J. Sevcikova¹

¹Vitkovicka nemocnice Ostrava-Vitkovice Czech Republic

Background To refer about authors experience with 71 sleeve gastrectomies from the point of view technical development and experience.

Methods Prospective single center study in time period from 1.10.2006 to 28.2.2009. Demographic data, weight loss, excess weight loss, comorbidity and complications were recorded. In first 46 patients GOLD cartridges of Echelon stapler were used, without oversewing the staple line. In the latter group BLUE cartridges. Bleeding from the staple line was stopped by monopolar cautery, in the second part of study in the spray modus.

Result There were 71 patients in the whole group, 21 male and 50 female. Mean age was 46 years. Preoperative BMI was 43,7 kg/m², mean excess weight was 63,7 kg. Follow up was completed in 90 % of patients. Mean excess weight loss after 18 month was 49,2%. Mean BMI dropped to 33,2 kg/m². Comorbidity was seen in the majority of patients. In the follow up improvement in more than 90% patients was observed. In the first part of the group 4 complications were recorded. The most serious was leak in the staple line. In the second part no complication was observed. Mortality in all the group was zero.

Conclusion The authors conclude, that changes in some technical details and experience play very important role in prevention of complications. Weight loss in authors group is sufficient, but not as good as it is presented in the literature.

P-275 Vertical Banded Gastroplasty Calibrated at 6.5 cm and Food Tolerance

Presenter: P. Chiotasso (CHU Purpan, Toulouse, France)

Background Bariatric surgery often compromises the food tolerance, which influences the quality of life.

Method The aim of this study was to evaluate the late food tolerance of patients having had a vertical banded gastroplasty (VBG) calibrated at 6.5 cm which is more wide than usually done. We used the questionnaire of Suter giving a score of 1 to 27 (control obese subjects : 24.2). 118 patients with a VBG were prospectively reviewed during their follow-up between january and june 2008. Patients were administered the questionnaire.

Results There were 103 females and 15 males, mean age being 41.5 years. The mean duration of follow-up was 22.8 months (12 #8211; 54). The mean lost of weight at one year was 33.3 kg (6 - 65) and 31.7 kg at the last control. The mean score of food tolerance was 21.8 (9 - 27). 34,7% of the patients had a score equal or greater than 24.

Conclusions Food tolerance is reduced after VBG calibrated at 6.5 cm, but seems acceptable, while the lost of weight at one year and later seems maintained.

P-276 Access-Port Fixation on the Left Pectoral Fascia in Laparoscopic Adjustable Gastric Banding

Presenter: E. Aarts (Rijnstate Hospital, Arnhem, The Netherlands)

Co-authors: B. Van Wageningen¹, E. Aarts², I. Janssen², F. Berends²

¹Radboud University Nijmegen The Netherlands; ²Rijnstate Hospital Arnhem The Netherlands

Background Acces-pot complications after Laparoscopic Adjustable Gastric Banding (LAGB) are often seen but seldom reported in scientific literature. AP related complications requiring additional surgery is reported in 13.5% to 24% of LAGB patients. We evaluated the effect of fixing the AP on the left pectoral fascia using the Velocity™ Injection Port on complication and re-operation rate. **Methods** From January 2005 till October 2007, 619 LAGB procedures were performed using the SAGB QuickClose™. AP's were placed on the fascia of the left pectoral muscle using an infra-mammary incision. Fixation of the AP device was obtained using the Velocity™ Injection Port and Applier. Data was obtained retrospectively and records of 619 consecutive patients were reviewed for access-port related complications.

Result Access-port related complications were seen in 68 different patients. Complications were divided in four categories. Thoracic pain complaints were reported in 30 patients of which seven needed additional surgery. Infection contributed 11 patients in which surgical removal of the device was needed, an additional 14 patients with superficial infection were treated conservatively. Nine patients had inaccessible AP's. Ultrasound guided access was obtained in three patients. The remaining six patients needed surgical relocation of the AP. Leakage of the tube was seen in four patients all of which underwent revision surgery.

Conclusion Our experience shows that fixation of the AP on the left pectoral fascia using Velocity™ leads to a readily accessible AP with good anaesthetic and esthetic results. In our patients we had 11% complications, with less than 5% needing additional surgery.

P-277 Results of Laparoscopic Gastric Banding for Morbid Obesity at 10 Years and More About a Personnel of 435 Patients by Cady (Paris)

Presenter: J. Cady (clinique, Paris, France)

Co-authors: F. Godfroy¹, J. Godfroy¹

¹cmcd Paris France

Background Gastric banding for morbid obese seem to be a secure an efficient procedure in early experience we study our first cases to appreciate effects of time on results

Methods We have realized 4044 laparoscopic adjustable gatsric banding (lagb) for morbid obesity between 1995 and 2009 435 patients before year 2000 148 patients are lost of vue between 1 to 5 year 2000 reman for study 287 operation technique lapband (228 cases) was exclively used before 1998 first in peri gastric approach then in pars flaccida likesagb (206 cases)

Result

MAJOR COMPLICATIOIOS (removing the band)

slipping 44 cases 15 % (lapband 44 cases)

stenosis 7 cases

Intra gastric migration 15 cases 5%

band's defect 7 cases

Functional complications

gerd 36 cases (12 %)

Osophagus dilatation 13 (6 %)

MINOR COMPLICATIONS prt complications 45 caes (15 %)

EXCES WEIGHT LOST (EWL) at 10 years

GOOD results (ewl > 50%) 48 % but only 20 % with normal BMI often with gerd

POOR RESULTS 52 % with band removing 32 cases 12 %

factors influencing results are the time > 5 years the sex male failure X2 the bmi 50 and more 60 % of failures

Conclusion Gatsric banding give immediately good results but no definitively 1/3 patient don't keep his band in time it let place for others procedures

P-278 Peroperative Endoscopic Assessment of the Pouch, and the Anastomosis During Laparoscopic Roux-En-Y Gastric Bypass

Presenter: A. Cingi (Marmara University, Istanbul, Turkey)

Co-authors: Y. Yavuz¹

¹Marmara University Hospital Istanbul Turkey

Background Although there is substantial data concerning pre and postoperative endoscopic assessment and management of complications following gastric bypass surgery, the role of peroperative flexible endoscopic examination and air-leak test remains unknown. The aim of this study was to evaluate the role of endoscopy during surgery in assessing gastric pouch and anastomosis for bleeding, functional structure and leak.

Methods Between May 2008 and March 2009, ten patients underwent laparoscopic Roux-en-Y gastric bypass (RYGB) for morbid obesity. After the completion of anastomoses, endoscopic examination was carried out by occluding the Roux-limb in order to distend the gastric remnant and anastomotic site and to prevent bowel distention. Transection line and anastomosis were examined for bleeding and patency. Endoscope was then drawn back and the gastric pouch was insufflated with air, whereas the anastomotic site was filled with saline solution and inspected for air leak under laparoscopic vision.

Result Ten morbid obese patients (mean BMI: 51.3 kg/m²) were evaluated by endoscopic examination during laparoscopic RYGB operation. None of the cases had bleeding at the transection line or anastomosis. In one patient anastomosis could be hardly entubated and some of the reinforcement sutures were removed for a better passage. This patient was treated with endoscopic balon dilatation one month after the operation due to anastomotic stricture and without further dysphagia after 8 months follow up. In one patient air-leak test was positive and the anastomosis was reinforced with additional sutures. All of the patients including the patient positive the air-leak test for were discharged from the hospital without complication. Mean hospital stay was 3.7 days. After a median follow-up of 10 months, except one patients that need balon dilatation, no patient had anastomotic stricture.

Conclusion Endoscopy might be a valuable tool for assesment of bleeding, anastomotic patency and air leak during laparoscopic RYGB. Demonstrated problems can be solved during the operation so that postoperative complications might be prevented.

P-279 Scarless and Modified Single Incision Lapaoscopic Incision Surgery(SILS) of Roux-En-Y Gastric Bypass

Presenter: Y. H. Su (Min-Sheng General Hospital, TAOYuan, Taiwan)

Co-authors: W. Lee¹, K. Ser¹, J. Chen¹

¹Min-Sheng General Hospital Taoyuan Taiwan

Background Laparoscopic Roux-en-Y gastric bypass (LRYGB) had been proved to be an effective surgical procedure for treatment of morbid obesity, the conventional laparoscopic surgery routinely required five to seven port for the procedure. Less invasive surgical technique than conventional laparoscopic surgery had recently became intense area of investigation. The single incision

laparoscopic surgery (SILS) is performed through a single supraumbilical incision rather than conventional five port laparoscopic surgery. However, the unwanted contact between instruments is a common problem of the single incision laparoscopic surgery. Therefore, we introduced the scarless and modified single incision laparoscopic incision surgery (SILS) of Roux-en-Y gastric bypass to offer safer and better bariatric surgery for morbidly obese patients.

Methods A 26-year-old female with BMI 37.7Kg/m² and comorbidity, who failed to lose weight by diet control and physical therapy and came to our hospital for surgical intervention after complete pre-op evaluation. The SILTs laparoscopic Roux-en-Y gastric bypass was suggested and successfully performed. We use one 1.5 cm vertical supraumbilical skin incision with one 12 mm and one 5 mm trocas insertion through the same skin incision. Additional one 5 mm port over subxyphoid process for liver retractor and another 5 mm working port over left upper quadrant of abdomen along midclavicular line were performed for better angle of His exposure and unwanted contact between instruments.

Result The operative times was around 150 minutes, no complication occurred post operatively. The patient discharged on POD4 with less pain complained by patients and better cosmetic result compared to conventional laparoscopic procedures. The surgical scars were nearly invisible after 1 month follow up.

Conclusion Scarless and modified single incision laparoscopic surgery is a safe and feasible operation, and also better cosmetic result, for laparoscopic Roux-en-Y gastric bypass (LRYGB) for morbidly obese patients.

P-280 Two-Step Laparoscopic Duodenal Switch for Superobesity: A Feasibility Study

Presenter: A. Iannelli (Service de Chirurgie Digestive et de Transplantation Hépatique, Nice, France)

Co-authors: A. Schneck¹, J. Gugenheim¹

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Background Laparoscopic duodenal switch (LDS) is a complex bariatric procedure that can be split into two steps in order to lower the rate of morbidity and mortality. This strategy also identifies patients who do not require the second malabsorptive step to achieve substantial weight loss.

Methods From October 2005 to October 2008, 131 super obese patients underwent laparoscopic sleeve gastrectomy (LSG). The 21 patients (16.2 %) who underwent the second step (LDS) up to January 2009 are the subjects of the current study. The indications for the second step were insufficient weight loss (< 50% of excess weight (EW)), progressive weight regain, and persistence of comorbidities.

Result Mean initial body mass index (BMI) was 54 (range, 50,7 - 59) kg/m, mean EW was 84,8 (range, 57-111) kg, and there were 25 comorbid conditions in 12 out of 21 patients. The two-step procedure resulted in a mean BMI of 39 kg/m, an excess weight loss (% EWL) of 47.6% and an excess BMI loss (% EBL) of 51,7% at one month. The respective values were 35,6 kg/m, 57,6 % and 63,4 at 3 months, 33,1 kg/m, 64,6 % and 72 % at 6 months respectively. There was no mortality, and one postoperative complication was recorded (strangulated incisional hernia), for a complication rate of 4.8 %. Of the 25 comorbid conditions recorded before surgery, namely, hypertension (n=7), sleep apnea syndrome (n=5), diabetes (n=5), joint disease (n=4), dyslipidemia (n=4), hypertension remained unchanged in one case and improved in 4 cases after the two steps of the LDS. One patient still needed insulin, but the dose decreased from 500 IU/day to 100 IU/day.

Conclusion The two steps LDS is feasible, safe and effective. It leads to substantial weight loss and improvement in comorbidities over the short term for superobese individuals.

P-281 Vacuum-Assisted Closure (V.A.C) in Post-Operative Fistula

Presenter: M. J. Guangirolì (C.I.T.O, Neuquen, Argentina)

Co-authors: M. Leiria¹, J. Molina¹, F. Villagra¹, A. Nazra¹, A. Oliva¹, C. Pagano¹, W. Leitner¹, L. Petrochelli¹

¹C.I.T.O, Neuquen, Argentina

Background and Objectives Vacuum-assisted closure is a non-invasive system that promotes wound healing applying negative pressure, protecting the wound and removing necrotic material and serous fluid that inhibits granulation. It consists of a Polyurethane foam sealed with an plastic adhesive membrane which is perforated and a drainage tube attached to a pump at 125 mmHg pressure is inserted.

Methods VAC system applied to a post-operative clinical case

Results 47 year-old male patient, body mass index (BMI) 51,5, with arterial hypertension and type 2 diabetes.

Laparoscopic gastric bypass was performed on 15 January 2008. The patient was re-operated 48 hours later as a consequence of diffuse peritonitis due to a small intestine perforation and a gastrostomy tube was inserted. He developed septic shock. Acute evisceration on 22 January, a transitory mesh was placed. Five days later, a fistula in previous closure is detected so VAC technique is applied with enteral feeding by gastrostomy. The fistula output is 500 cc/day. Primary closure is done on 15 February. The patient's general condition improved and fistula output decreased. He continued with VAC therapy, the borders closed gradually and on the third month it was nearly closed. VAC therapy was interrupted in May 2008 being the patient at home. At the present, the patient's weight is 102 kg, BMI 32 and he is not under medication for previous diseases.

Conclusion VAC system is effective in the management of complex wounds which are an acute complication of obese patient surgery.

P-282 Laparoscopic Simultaneous Adjustable Gastric Banding and the Lengthening of the Esophagus, Hiatal Ultrapro-Mesh-Plastic, Toupet Fundoplication 270. Clinical Case

Presenter: V. Egiev (Russian Peoples' Friendship University, Clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation)

Co-authors: E. Zorin¹, M. Kevin¹

¹Russian Peoples' Friendship University, Clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation

Background According to the literature up to 40% of patients with obesity suffer from hiatal hernia. We know that in the presence of large size hiatal hernia gastric banding is contraindicated.

Methods In July 2007, for examination and treatment was hospitalized patient C., 49 years old with complains of obesity, persistent heartburn after meals. The BMI was 33 kg/m². According to the survey patient had hiatal hernia, esophagitis. Patient was operated. Intraoperative findings was giant hiatal hernia (diaphragm crural diastasis was 7-8 cm), acquired shortening of the esophagus (cardial part of the stomach was in mediastinum).

We done: mobilization with Harmonic Scalpel (ETHICON, USA), lengthening of the esophagus by cutting the stomach from His angle on 34 Fr sonde with Endo-GIA Universal (roticulator) 60 mm (1 blue cassette), crurorraphia with hiatal Ultrapro-mesh-plastic, gastric banding with SAGB, Toupet 270 fundoplication.

Result Operation time was 75 min (laparoscopic part 65 min). No early complications. Hospital stay was 2 days. An control examination was after 1 year. No complications such as heartburn, belching, chemical bronchitis, no reflux on X-ray was performed. % EWL after 1,3,6,12 months, was 19.2%, 42.3%, 76.92%, 107.67%, respectively.

Conclusion This clinical case confirms the possibility of simultaneous operative treatment of patients with a combination of obesity and large size hiatal hernia.

P-283 Gastric Band: A Multicentre, International Experience with the Heliogast® System - the First 7,205 Patients

Presenter: F. Bellini (Ospedale Desenzano del Garda, Viadanica, Italy)

Co-authors: P. Pizzi¹, A. Brenna², S. Msika³, C. Karaiandros⁴, P. Nottle⁵, J. Coutinho⁶, H.⁷

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Background Laparoscopic Adjustable gastric banding (LAGB) is the bariatric restrictive operation most commonly performed in the world.

Our aim is to gather the experience of surgeons using the HELIOGAST® System from Australia, France, Greece, Ireland, Italy and Portugal and to evaluate the safety, the early and late morbidity of the gastric band and to assess the efficacy of this procedure by analyzing its results.

Methods A multi-center, international retrospective analysis was conducted using a unique database.

The outcomes of 7,205 procedures are evaluated in a mid-long term follow up.

The results were analyzed for mortality, co-morbidities, intra and postoperative complications, body mass index (BMI) and % excess weight loss (EWL).

Results From 2002 to 2009, 7,205 patients underwent LAGB (Heliogast® System) in the participating centres.

The average of initial BMI was 42.6 kg/m. 75.5% were female and 24.5% were male. The mean age at the time of operation was 42.2 years.

BMI decreased to 34.7, 32.2, 29.7 and 29, at 12, 24, 48 and 60 months respectively, with a final EWL at 58.6.

No intraoperative or postoperative deaths related to the operation.

Long term major complications: slippage: 198 (2,74%) intragastric migration 19 (0,26%), port-related complications 153 (2,1%).

All the complications treated laparoscopically.

Conclusions These results from large multinational series show that the gastric band is widely used and associated with a low complication rate and a high efficacy. In experienced hands the complication rate is low and significantly encouraging. Rigorous follow-up and regular port adjustments are fundamental for the maintenance of the results.

P-284 Adjustable Gastric Band with Anti-Erosive Mechanism. Long Term Follow Up

Presenter: B. Zilberstein (Gastromed Zilberstein Institute Sao Paulo, Sao Paulo, Brazil)

Co-authors: A. Garcia De Brito¹, A. Aita², F. Ramos³

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Background The most feared complications after gastric banding are erosion and slippage. To avoid this main complications a new device was developed with a polyurethane membrane as a protective mechanism adjusted to the gastric wall. The aim of this study was to analyze the long term complications after the gastric banding procedure with classic AGB and the one with polyurethane protective mechanism.

Methods 464 patients with mean follow-up of 47 months were analyzed. Mean initial body weight was of 118,39 Kg (73 - 175 Kg) and mean BMI of 40,76 Kg/m². In 132 patients the AGB with protective mechanism was utilized and in another 332 patients an usual AGB was applied.

Result In the patients that utilized the AGB with protective mechanism, the EWL was of 60%; two patients presented infection at the valve site and no slippage nor erosion were observed during this follow-up period. In the other 332 patients that usual AGB was utilized, the EWL was of 62%. There were 18 (5,4%) cases of erosion and two (0,6%) slippage.

Conclusion Therefore the AGB with polyurethane protective mechanism seems to be an interesting choice for gastric band procedures with very low complications rates at long term follow-up.

P-285 Positioning of Bariatric Surgery in Germany – Results of the Nationwide Survey on Bariatric Surgery 2005 - 2008

Presenter: C. Stroh (Municipal Hospital SRH Wald-Klinikum Gera gGmbH, Gera, Germany)

Co-authors: C. Stroh¹

¹Municipal Hospital SRH Wald-Klinikum Gera gGmbH Gera Germany

Background Most studies on bariatric surgery outcomes are performed as clinical trials or reflect the clinical experience in single centres. The status of bariatric surgery in Germany has been examined since January 1st, 2005 with the cooperation of clinics and hospitals at the Institute of Quality Assurance in Surgery at the Otto-von-Guericke University of Magdeburg (Germany).

Methods In this prospective multicenter observational study, the data obtained for all primary bariatric procedures, including all repeated operations, performed on consecutive patients with morbid obesity at participating hospitals from 2005 - 2008 were prospectively collected using an Internet online data registry. Perioperative characteristics such as the spectrum of diagnostic measurements, type of surgical procedures, and short- and long-term outcomes were investigated.

Result During the study period more than 6000 surgical procedures were performed. In 2005 and 2006, gastric banding (GB) was the most frequently performed operation, followed by the Roux-en-Y-Gastric Bypass (RYGBP). In 2007 and 2008 RYGBP was carried out in about 42 % of all bariatric procedures. Among all patients, 74.4 % were female. The mean BMI ranged from 48.5 kg/m in 2005 to 48.0 kg/m in 2008. Follow-up data after were reported for patients operated from 2005 to 2007.

Conclusion As indicated by the worldwide trend, there is an ongoing change from GB to Sleeve Gastrectomy (SG) and malabsorptive procedures. BMI of German bariatric surgical patients is substantially higher than patients from most other countries. There were no differences in overall outcomes during follow-up when compared with published studies.

P-286 A “Simplified Technique” to Perform Gastric by Pass (LRYGB). Early Results

Presenter: F. Bellini (Ospedale Desenzano del Garda, Viadanica, Italy)

Co-authors: P. Pizzi¹, M. Vignoni²

¹Policlinico di Monza MONZA Italy; ²Dietician Unit Desenzano (BS) Italy

Background Laparoscopic Gastric By Pass (LRYGBP) has become one of the major operations for the treatment of morbid Obesity.

The Roux configuration of the operation is well established, but many technical aspects vary between surgeons according to their experience.

The aim of this study is to give an account of our early results with a peculiar way to perform LRYGBP.

Methods From January 2005 to January 2009 we have performed 109 LRYGBP in a way we call “simplified technique”. The results are analyzed in a retrospective manner.

The surgeon is on the right of the patient. All the anastomosis are performed in the supra-mesocolic floor in an antecolic, antegastric way. The gastro-jejunal anastomosis is on the posterior wall of the gastric pouch with GIA + “running suture”. The jejuno-jejunostomy is LL with GIA + running suture. The jejunal partition is performed at the end of the procedure, getting therefore the possibility to test both the anastomosis.

No closure of the defects performed.

Results No mortality.

- No serious intraoperative complications,
- 2 minimal gastro-jejunostomy leaks treated conservatively,
- 1 early jejunal leak due to intraoperative manipulation treated laparoscopically,
- 1 trocar access abscess,
- 4 postoperative late anastomotic ulcers.

%EWL at 3 years:71.

Conclusions Laparoscopic RYGBP is not a simple operation, but is an advanced surgical procedure that requires skill and laparoscopic experience. Nevertheless the choice of a “simplified” way to reach our target is mandatory. We consider this technique reproducible and with low rate of complication.

P-287 Are the Complications of the Gastric Band Related to the Surgeon? The Italian Experience with the Heliogast System. Outcomes After 3492 Bands

Presenter: F. Bellini (Ospedale Desenzano del Garda, Viadanica (BG), Italy)

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Background Laparoscopic Adjustable gastric banding (LAGB) is the least invasive bariatric restrictive procedure with the highest development in the world.

The aim of the study is to identify if the cause of the complications of the gastric band are related to the surgeon skill or to the different technique.

Methods It's not a randomized study but a retrospective analysis of a group of bariatric centres using the same band. The outcomes of more than 3400 procedures are evaluated.

We analyse the results according to intra and postoperative complications, mortality, laparotomic conversions.

Results From January 2001 to December 2008, 3492 patients underwent LAGB (Heliogast® System).

Initial mean BMI was 42.9 kg/m.

At 12 months, mean BMI was 34.4 with 48.6% of EWL.

At 5 years, mean BMI was 30.8 with 56% of EWL.

No intraoperative or postoperative deaths related to the operation.

Long term major complications: slippage: 136(3,89), intragastric migration 16 (0,45%), trocar hernias 36 (1,3%), port disconnections 45 (1,28%), band removal 38 (0,60%), failure to lose weight 245 (7,01%).

Conclusions In our experience, the Heliogast® System is well adapted to the Italian population. A preliminary analysis shows a low rate of complications. Different Bariatric centres seem to have a similar experience, since the bariatric surgeon is usually a well trained laparoscopic surgeon but the best results are from the centres with a high number of patients. The long-term complications like band slippage, intragastric migration and the stabilization of weight loss, need longer follow-up study.

P-288 Laparoscopic Sleeve Gastrectomy for Morbid Obesity: Our Experience

Presenter: P. Millo (regional Hospital , Aosta, Italy)

Co-authors: R. Allietta¹, R. Brachet Contul¹, M. Fabozzi¹, M. Nardi¹, M. Grivon¹

¹regional Hospital Aosta Italy

Background The results and outcomes of laparoscopic Sleeve Gastrectomy were evaluated.

Methods A prospective study of patients who underwent Sleeve Gastrectomy was performed.

Results Between June 2005 and December 2008, we performed 16 laparoscopic Sleeve Gastrectomy in morbidly obese patients. There were 10 women and 6 men, with mean age 52.9 years (range 39-65). Mean preoperative weight was 150.8 kg (range 111-237), with mean preoperative BMI 57.8 kg/m (range 45-71). Mean operative time was 109 minutes (range 60-150). No patient required conversion. There were no mortality. There were 1 (6.25%) postoperative complication (a case of trocar site bleeding, with need to hemotransfusion). Mean hospital stay was 14.2 days (range 6-65). At 12 months follow-up, there were 9 patients (56.25%). Average weight, BMI and %EWL at 12 months were 107.1 Kg (range 90-133), 43.8 kg/m (range 35-55) and 42.7% (range 33.3-51.3), respectively.

Conclusion Laparoscopic Sleeve Gastrectomy is a safe and simple technique that can be safely performed in morbidly obese patients with an high surgical or anesthesiological risk, with good results in terms of weight loss and quality of life.

P-289 Leakage Treatment After Sleeve Gastrectomy

Presenter: M. D. A. Gabriel (Osakidetza-Hospital San Jose, Vitoria, Spain)

Co-authors: C. Martinez Blazquez¹, J. M. Vitores Lopez¹, V. Sierra Esteban¹, J. Valencia Cortejozo¹, F. J. Balsera Rodriguez¹

¹Osakidetza-Hospital San Jose, Vitoria, Spain

Sleeve gastrectomy is a good option for morbid obese patients surgical treatment. Is effective, secure and easy to reproduce. We perform the sleeve

gastrectomy by laparoscopy. Sleeve gastrectomy is not free from complications.

We present 2 cases of leakage in our hospital.

Case 1: A gastric leakage treated endoscopic by a gastric stent place for 6 weeks. After RX control with no signs of fistula was removed and leak resolved.

Case 2: No initial response to gastric stent. After 6 weeks was removed and we performed a gastric by-pass that resolve the fistula.

Gastric leaks is a major complication of sleeve gastrectomy. it is necessary to understand the mechanism of production to prevent and treat the complications.

P-290 Non-Fixed Laparoscopically Placed Gastric Band: My Experience with the New Heliogast Haga Band

Presenter: J. P. Voreux (Polyclinique du Val de Sambre, Maubeuge, France)

Background Laparoscopic Adjustable gastric banding (LAGB) is the first bariatric restrictive operation in France. The most frequent device related complication is the slippage of the band (estimated to 10%). While a long time, it was thought that fixing the gastric band with gastro-gastric suture was a way to reduce its occurrence.

Methods I report my experience on my 30 first Heliogast new HAGA gastric bands. Data are treated prospectively since June 2008. After calibration (20 ml), gastric bands were positioned by pars-flaccida technique, locked and filled with 3 ml of saline. No gastro-gastric suture was done. All operations have been done laparoscopically.

Result There was no per-operative complication, no conversion. All patients were discharged within 48 hours.

The average initial BMI was 44.26 kg/m ± 1.9, average initial excess weight : 51.5 kg ± 6.2.

25 were female (83.3%).

After a mean follow-up period of 6 months, mean excess weight-loss was 36.3% ± 9.2. There was no postoperative complication (no slippage) and tolerance was excellent in every cases.

Conclusion Non fixed gastric banding seems to be, at short term, as effective and as safe than fixed gastric banding, as far as the device is well adapted at this type of technique. Heliogast HAGA thanks to its shape and double balloon is thought to be placed without fixation.

Non fixation makes gastric banding, and its possible repositioning, easier and safer. Thus, since 6 months, reoperations for pouch dilatation are made without fixing the repositioned gastric band without any complications.

P-291 Simultaneous Laparoscopic Adjustable Gastric Banding and Fundoplication. Immediate and Long Term Results

Presenter: V. Egiev (Russian Peoples' Friendship University, Clinic «MedEkspress», Moscow, Russia, moscow, Russian Federation)

Co-authors: E. Zorin¹, M. Kevin¹

¹Russian Peoples' Friendship University, Clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation

Background Up to 40% of patients with obesity suffer from hiatal hernia. In the presence of large size hiatal hernia gastric banding is contraindicated. We have developed a method of simultaneous laparoscopic gastric banding and the elimination of hiatal hernia.

Methods From 2006 to 2009 we performed 391 gastric bandings, in 176 cases simultaneous fundoplication was performed: Toupet 270 - 160, Nissen - 4, Dor -; ¹²Patients were divided into 2 groups (group A - without simultaneous fundoplication, group B - with simultaneous fundoplication).

Result The average operation time in group A 33 (15-90) minutes, in group B 37 (30-110) minutes. No conversions to laparotomy in both groups. Early complications: 6 seromas (A - 3, B - 3), 2 hematoma (A - 1, B - 1) in the port site - punctated. Late complications: 4 port inversion (A - 2, B - 2) - correction with local anesthesia, 1 band failing (group A), 7 slippage (A - 7, B - 1): 4 patients operated. Band defects: 1 band undoing (group B), 4 disconnecting catheters from the port (A - 2, B - 2), 2 band hernias (group B), 1 detachment catheter from the band (group B) - all patients operated. % EWL after 1,3,6,12 months was for group A 14.9%, 36%, 58.2%, 81.2%, respectively, for group B 18.9%, 38%, 58.8%, 77.6%,

respectively. Results of SF-36 after 6, 12 months for group A 62, 34 points respectively, for group B 55, 25 points respectively.

Conclusion Our data demonstrate the possibility, effectiveness and safety of simultaneous treatment of obesity and hiatal hernia, the best quality of life after the simultaneous fundoplication. Determination of slippage risk in patients after simultaneous fundoplication was proven.

P-292 Vertical Banded Gastroplasty: What Happens 10 Years Later?

Presenter: M. D. A. Gabriel (Hospital Txagorritxu, Vitoria, Spain)

Co-authors: S. Valentin¹, M. Candido¹, V. Jose Maria¹, V. Juan¹, B. Francisco Javier¹

¹Hospital Txagorritxu Vitoria Spain

Vertical banded gastroplasty is a pure restrictive procedure practiced in our Hospital in 80 patients between 1996 and 1999.

We study this 80 patients ten years after surgery in order to check what happens with them.

We have lose 8 patients, 10% of all. 44 patients have been reconverted to gastric by-pass and 3 patients have been reconverted to distal gastric by-pass. The reason for reconversion was poor weight lose in 27 patients and cholelithiasis with biliary colics in 17 patients.

58.7% of patients with VBG have been reconverted to a more complex technique. Although VBG have initially good results, long term studies (10 years) confirm VBG is an insufficient procedure for morbid obese patients.

P-293 Comparison of Different Band Types Used for Laparoscopic Adjustable Gastric Banding

Presenter: V. Egiev (Russian Peoples' Friendship University, clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation)

Co-authors: E. Zorin¹, M. Kevin¹

¹ Russian Peoples' Friendship University, clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation

Background The aim of our work was to study the early and long term results of the patients with different types of adjustable gastric bands.

Methods From 2006 to 2009 we performed 391 gastric bandings, in 176 cases simultaneous fundoplication because of hiatal hernia was performed. We used: AMI (AMI, Austria) – 149 (38%) (70 – with fundoplication), SAGB (ETHICON, USA) – SAGB – 83 (21%) (50 – with fundoplication), SAGB Velocity + Velocity VC – 82 (21%), LapBand (ALLERGAN, USA) – 68 (17%), 9 (3%) – another types of gastric bands.

Result The average operation time was 33 (15-90) min (with fundoplication 47 (30-110) min) regardless of the type of band. Early complications was: 6 (1.5%) seromas at the port site (1 – LapBand, 2 – AMI, 3 – SAGB), 2 (0.5%) hematomas at the port site (2 – LapBand) – puncture. Late complication was: 4 (1%) port inversion (LapBand – 2, AMI – 2) – correction with local anesthesia, 8 (2%) slippages (3 – LapBand, 2 – AMI, 3 – SAGB), 5 of them operated (1 – LapBand, 2 – AMI, 2 – SAGB), 1 (0.25%) band failing (SAGB) – operated. Band defects: 1 band undoing (AMI), 4 disconnecting catheters from the port (3 – AMI, 1 – SAGB), 2 banding hernias (AMI), 1 detachment catheter from the band (AMI) – operated.

Total % EWL after 12 months was 79,4%: in patients with LapBand, AMI, SAGB, SAGB velocity + velocity VC-85, 79, 78, 74%, respectively.

Conclusion Our data demonstrate the effectiveness and safety of different types of gastric bands.

P-294 Sleeve Gastrectomy with Enteral Bypass (SGEBP): Results in A Prospective 3 Years Follow-Up Case Series

Presenter: M. Alamo (Hospital Dipreca, Santiago, Chile)

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Background To report results in terms of weight loss, BMI, morbidity and improvement of comorbidities with SGEBP, a restrictive and malabsorptive surgical technique for morbid obesity treatment.

Methods Prospective case series. Patients with body mass index (BMI) > 40 kg/m² or a BMI > 35 kg/m² with comorbidity underwent a SGEBP between February 2004 and March 2008 via a laparoscopy and laparotomy at DIPRECA Hospital, in Santiago, Chile were studied. SGEBP consists in create a gastric tube preserving pylorus and then performing a bypass of proximal small bowel, by cutting the jejunum between 20 to 40 cm from Treitz angle with a posterior reanastomosed 300 cm distal from where it is was cut, leaving the small intestinal loop dysfunctionalized. Weight loss, BMI, morbidity and improvement of comorbidities were assessed.

Results The series are composed by 132 patients, with a mean age of 42.4±12.3 years and 73.5% female (97 cases). Preoperative weight and BMI were 108±17 Kgs. and 40.1±4.6 respectively. Surgical time was 138±29 min. In 67.4% of cases, laparoscopic approach was utilized. Hospital stay was 4.2±5.8 days. The 3.8% and 18.3% of patients required earlier or latter reoperations respectively. 12-month, 24-month and 36-month weight and BMI were 73±12, 73±13, 74±14 Kg. and 27.2±4.2, 27.4±3.9 28.5±4.5 respectively. Improvement of comorbidities was observed in 89.5% of cases. General morbidity was 28.7% (6.8% of medical etiology, 16.6% of surgical etiology and 5.3 of both groups). Twenty-four percent of morbidity cases appeared as latter complications. Overall mortality was 1,5%.

Conclusion SGEBP is an effective technique in terms of weight loss and BMI reduction and improvement of comorbidities. Morbidity persists as a problem, especially in long term follow-up.

P-295 Laparoscopic Sleeve Gastrectomy (LSG) Results: Analysis of 185 Cases

Presenter: M. Berry (Clinica Las Condes, Santiago, Chile)

Co-authors: R. Villagran¹, P. Lamoza¹, L. Urrutia¹, H. Coñoman¹

¹Clinica Las Condes Santiago Chile

Background LSG is a new surgical technique for obesity treatment, developed over the last few years, as a one step surgery for the resolution for severe or morbid obesity. In this work we analyze safety and excess weight loss in the midterm follow up.

Methods Prospective study, including patients that underwent LSG between April 2006 and November 2008. Analysis of Gender, Age, Weight, Preoperative BMI, OR Time, Excess Weight Loss, Surgical complications, Perioperative Morbidity and Mortality.

Results n=185. Male: 56, Female: 88. Mean Age 39±10.8(16-70)yo. Mean Preoperative Weight: 99.4±15(71.5-170) kg. Mean Preoperative BMI: 36.3±4.1(28-52)Kg/m². Mean Excess Weight: 30.5±12.3(8.4-84.4)kg. Mean Operative Room Time 95,8±20.2(60-150)min. Other procedures asociated: Cholecistectomy, Banding Removal. Morbidity: 5 patients (2,7%). No conversions, No Mortality. EBMI%, at 6 and 12 months, 77,2±24.2(26.1-123.4) and 92.6±31.1(41.9-155.5)%, respectively.

Conclusions LSG as a unique procedure for treatment of obesity is a safe and reproducible technique, with low morbidity and mortality so far. In our series this results are very encouraging with excellent weight loss in the midterm. Longer follow up is needed.

P-296 Laparoscopic Sleeve Gastrectomy (LSG) in Patients with BMI Less Than 35

Presenter: M. Berry (Clinica Las Condes, Santiago, Chile)

Co-authors: R. Villagran¹; P. Lamoza¹, L. Urrutia¹, H. Coñoman¹

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Background LSG is increasingly indicated for the treatment of obesity and its comorbidities. Their results have expanded indications for groups with lower BMI and comorbidities associated with a single procedure. In this series we evaluate weight loss, resolution of comorbidities and safety of this procedure in patients with a BMI under 35.

Methods A prospective, nonrandomized, consecutive patients between January and October 2008. We recorded: age, weight, BMI, comorbidity, complications, loss of excess weight, Monitoring 6 months.

Results 42 patients. 31 Women, 11 Men. Age 41.4(16-62)years. Weight 89±9.6(71.5-115)kg. Frequently comorbidities: Fatty liver, disorders of carbohydrate metabolism, Hypertension. Mean number of comorbidities 3.5±1.1 (1-6) per patient. Mean Operating room time 93.9±20.7(60-150)min. Complications: 0%. Preop BMI 32.9±1.1(29-34)kg/m². Postop BMI: 25.9±0.3 p < 0.0001, EBMI% 88.9±22(32.2-123.3)%. Preop Glycemia: 96.6±2.14, Postop 86.7±3.3 p=0.03. Preop Insulinemia: 16.3±1.4 Post op: 8.03±1.5 p=0.02. Preop Tot Col: 200.6±5.8, post-op: 184±10.1 p=0.2 NS. Preop triglycerides: 160.4±12.1 Postop: 117.2±13.6 p=0.1 NS. Systolic Blood pressure: 122.8±1.4 post-op: 111.6±2.4 p=0.0005. Preop Diastolic Blood Pressure: 79.0±1.3 Postop: 70.7±2.3 p=0.003. Quantity of Preop medication: 1.15±0.2 Postop: 0.09±0.06 p < 0.0001

Conclusions LSG presents a significant loss of excess weight, getting normal BMI, reduction of comorbidities and drug requirements. The LSG is a safe procedure. It requires a longer follow-up.

P-297 A Five Year Canadian Laparoscopic Adjustable Gastric Band Experience

Presenter: T. Swanson (University of British Columbia, Vancouver BC, Canada)

Co-authors: D. Schaeffer¹, B. Tang², C. Rusnak², A. Brad²

¹University of British Columbia, Department of Pathology Vancouver; ²Royal Jubilee Hospital Victoria

Background Our center is a leading western Canadian Bariatric Center (Victoria, BC) which uses MidBand for laparoscopic adjustable gastric banding (LAGB). We expected to have lower complications rates, specifically slippages and erosions with MidBand's soft, pliable and wide nature.

Methods Since 2004, LAGB (via pars flaccida approach) have been performed at our center and all cases were reviewed. Multidisciplinary team assessment and support group attendance is expected of all patients. Regular follow up regarding diet and exercise modification and necessary band adjustments occurs. A survey of these patients was conducted in February of 2008 and March of 2009.

Results 90 patients had LAGB and all were followed, 86 were surveyed. Mean follow up was 17.5 months. Average pre-operative BMI was 46.7±7.50. Weight loss averaged 24.8±19.4 kgs. Overall weight loss was 2.68 kgs/month and dropped to 1.50 kgs/month over the last 10.7 (range 1-13, n=41) months of follow up (nonsignificant drop, p=0.16). Excess body weight loss was 27.5%±6.34%, 39.1%±18.0% and 67.2%±31.3% at 0-1, 1-2, 2+ years respectively. On average, patients had 4.14 adjustments of their band and vomited 2.13/week. The mortality rate was 0%. There were no band slippages, no band erosions and no mechanical failures. Two reservoir ports were repositioned under local anaesthetic and one patient underwent early laparoscopic reoperation for tube diaphragm irritation. Overall satisfaction was excellent or good in 87.5% patients. Resolution or improvement occurred in: 78.6% diabetes mellitus, 44.4% sleep apnea, 63.3% hypertension, 62.9% dyslipidemia, 71.5% arthritis/joint pain, 41.4% depression/anxiety, 40% polycystic ovarian disease and 56.3% gastroesophageal reflux disease (GERD). GERD worsened in 25% of patients.

Conclusions Our weight loss and comorbidity results replicate the world literature. Our low complication rate, (0% for both slippages and erosions), support the use of the MidBand for patients undergoing laparoscopic adjustable gastric band surgery.

P-298 Laparoscopic Roux-En-Y Gastric Bypass: Things That Can Go Wrong and How to Avoid Them

Presenter: D. Heath (Whittington Hospital, London, United Kingdom)

Co-authors: D. Heath¹, K. McDougall¹, P. Sufi¹

¹Whittington Hospital London United Kingdom

Background Laparoscopic Roux-en-Y gastric bypass (RYGB) is one of the most effective procedures in producing weight loss. There has been a rapid expansion in the number of centres and individuals undertaking these procedures but many surgeons have not performed these procedures during training and rely upon courses, mini fellowships and mentorship when starting up bariatric services. This means they do not possess a wealth of knowledge and experience to draw on for an operation which has a learning curve of 100 procedures in a group of patients whose response to complications differs markedly from their non obese counterparts. In addition most upper GI surgeons do not have experience in performing procedures of similarly complexity and requiring similar skills. In this presentation we describe the pitfalls of RYGB.

Results We describe the correct placement of the patient on the operating table, insertion of ports, the importance of the camera and instruments being at the correct location, angle and distance from the "area of interest". The placement of retractors and how to make best use of the available space, the alignment of stapling devices in performing anastomoses and had suturing. We also describe the advantages and disadvantages of each method of anastomosis and the complications that can occur with each technique and how to avoid them.

Conclusion The presentation describes ways on which the surgeon can make the operation easier and raised awareness of complications that can occur and offers suggestions on how to avoid them.

P-299 Training the Next Generation of Bariatric Surgeons - The Gravitas Bariatric Fellowship

Presenter: C. Magee (Gravitas, Wirral, United Kingdom)

Co-authors: J. Barry¹, M. Arumagasamy¹, S. Javed¹, R. Macadam¹, D. Kerrigan¹

¹Gravitas Bariatric Unit Wirral

Background Surgical training has by tradition been an apprenticeship built on long hours and experience. The European Working Time Directive and similar measures in the US have seen a significant reduction in the hours surgeons are able to work. Accordingly, fellowships where surgeons in training can be trained in highly specialised surgery have been introduced. We established a laparoscopic bariatric fellowship program in the United Kingdom in a unit treating both independent and public sector patients.

Methods The fellowship programme was piloted by a post-CCT surgeon. The objectives were to provide the trainee with the skills necessary to practice bariatric surgery independently. All operations are digitally recorded and one-on-one critiquing takes place. Training is provided by three experienced bariatric surgeons. **Result** Over a 12 month period he was trained in laparoscopic roux-en-Y gastric bypass (LRYGB), performing 22 cases independently in the first year. The fellowship programme was introduced in 2007. Over a 12-month period 2 fellows were trained. Fellows took part in 184 bariatric procedures. Fellows were operating surgeon (supervised) for 33 LRYGB, 18 laparoscopic gastric bands and 16 sleeve gastrectomies. Fellows were first assistant for 49 LRYGB and 18 laparoscopic duodenal switches.

Conclusion The Gravitas fellowship is a NHS-private partnership providing training in laparoscopic bariatric surgery. Fellows are able to practice independently on exit of the program. The Gravitas model may provide a suitable framework for advanced surgical training.

Video Presentations

V-001 Laparoscopic Roux En Y Gastric Bypass with Incisional Hernia Repair

Presenter: S. S. Raquel (Complejo Hospitalario Pontevedra, Pontevedra, Spain)

Co-authors: S. Gonzalez Fernandez Sonia¹, R. Nicolas¹, R. Crego¹, C. Tome¹, S. Estevez¹, M. A. Piñon¹

¹Complejo Hospitalario Pontevedra Pontevedra

Background Several types of hernias are frequent in morbid obese patients and often we found previous incisional hernia, umbilical hernia or recurrent

hernia when we perform a laparoscopic Roux en Y Gastric Bypass (LRYGB). We propose simultaneous laparoscopic hernia repair with the LRYGB to avoid severe hernia complications in the postoperative period or in the follow up.

Methods We present a video with the details of simultaneous hernia repair with ePTFE mesh when performing LRYGB in a morbid obese patient.

Results Female 48 years old with long term morbid obesity, BMI 43. Two previous caesarean and previous open incisional hernia repair with mesh. The patient presented recurrent incisional hernia. Pneumoperitoneum started with optical trocar. Four more trocars were placed as usual for LRYGB. One additional 5 mm trocar was placed. Adhesions were removed from hernia site. ePTFE dual mesh was placed (5 cm margin in each side). Titanium spiral tacks were used as fixation method with four cardinal polipropilene stitches. LRYGB was performed as usual. A 30 ml gastric pouch was made. Antecolic antegastric gastrojejunostomy was performed with 25 mm staple-liner. Jejunojunostomy was made with 45 mm staple-liner with an alimentary limb of 150 cm. Mesentery defect was closed with polipropilene. Tissue glue sealant reinforcement of staple-line was used. Blake-more drainage was placed. Operative time: 210 min. Postoperative period uneventful. Hospital stay: 5 days.

Conclusions The laparoscopic approach to incisional hernia simultaneously to LRYGB is feasible, safe and a good alternative to avoid severe hernia complications in the postoperative period or in the follow up.

V-002 Modified Single- Incision Laparoscopic Surgery Mini-Gastric Bypass

Presenter: C. Jung-Chien (Min-Sheng General Hospital, Taoyuan, Taiwan)

Co-authors: J. Chen¹, W. Lee¹, K. Ser¹, S. Hao¹

¹Division of General Surgery, Department of Surgery, Min-Sheng General Hospital Taoyuan

Background Single –incision laparoscopic surgery (SILS) has emerged recently. It provides benefits of minimization of surgical trauma and improvement of cosmesis. Laparoscopic mini-gastric bypass (LMGB) is one of the effective bariatric surgeries. It usually needs five to seven small skin incisions to perform this procedure. According to the thought of SILS, we developed a modified single-laparoscopic technique to perform mini-gastric bypass.

Methods Eighteen consecutive patients of mean age 33.5 years (26-51 years) underwent modified single-incision laparoscopic mini-gastric bypass (SILMGB) between February 2009 and March 2009. The mean body mass index (BMI) was 42.9 kg/m² (35-56 kg/m²) pre-operatively. Three surgeons performed all surgical interventions. Two small skin incisions (17 mm and 5 mm) with one subxyphoid skin puncture wound were made for all patients. The same perioperative protocol and surgical technique was used in all patients.

Result Modified SILMGB was successfully performed in all patients. Mean operative time was 143 min (125-160 min). Neither morbidity nor mortality was found postoperatively. However, one patient required revision surgery for incomplete division of the gastric pouch. Mean hospital stay was 4.5 days (3-8 days).

Conclusion Modified SILMGB is a safe, feasible, and reproducible bariatric procedure. We assume that this technique generates minimal somatic pain, and achieves excellent cosmetic results.

V-003 Scarless Single Incision-Single Loop Gastric Bypass: An Attractive Procedure for the Treatment of Morbid Obesity

Presenter: R. Tacchino (agostino gemelli hospital, rome, Italy)

Co-authors: F. Greco¹, D. Matera¹

¹agostino gemelli hospital rome Italy

Background Single incision laparoscopic surgery (SILS) has been developed with the aims of further reduce the invasiveness of traditional laparoscopy.

Method The technique of one-anastomosis gastric bypass from a single intra-umbilical incision is described.

Five patients underwent a single incision laparoscopic surgery-single loop gastric bypass (SILS-SLGB) for morbid obesity.

All patients were female, mean age 40,5 (range 35-50), mean weight 108 kg (range 75-130) and mean BMI 45 (range 43-49).

The ASC-TriPort is deployed within the umbilicus and used for all instruments insertion: roticulator ENDO-GRASP and ENDO-DISSECT were used for manipulating and measuring the bowel; a gastric pouch of about 8 cm is created, a loop of bowel is brought up antecolic measuring 200 cm from the Treitz ligament and the gastro-jejunal anastomosis is performed with a 30 mm linear stapler.

Results Operative Time was less then 3-hours in all cases. All intervention where uneventful and patients were discharged after an upper GI series and restoration of liquid diet.

Conclusions A high technical skill is required for manipulating, measuring and suturing the bowel with roticulator instruments. Dedicated emerging technology may contribute to the spread and to standardization of this attractive procedure.

V-004 Functional Gastric Bypass (FGB): Technical and Functional Characteristics

Presenter: F. Furbetta (Casa di Cura Leonardo, Sovigliana, Vinci (FI), Italy)

Co-authors: S. Santoni¹, B. Loiacono¹, C. Masetti¹, F. Guidi¹, F. Gragnani¹

¹Casa di Cura Leonardo Sovigliana, Vinci (FI) Italy

This personal procedure is based on a long gastric bypass (gbp)-bilo-pancreatic diversion like-, modulated by a gastric banding as a functional gastric partition. The movie shows all the technical details, the medium term results of this codified, less invasive procedure, always performed laparoscopically and of the reoperations. The perfectly vascularized and defunctionalized hand sewn gastro-intestinal anastomosis guarantees safety. The adjustable banding instead of the gastric section and closure, guarantees a safe, effective distal bypass; at the same time allows the best sequential treatment cutting risks, avoiding over and under treatments. The complete reversibility of the procedure is in keeping with the scientific and pharmacological progress. The results testify the efficacy as primary and as re-do procedure for failure. The main late complication is the band related erosion; its incidence and surgical solution are similar to the standard gastric banding.

V-005 Laparoscopic Gastric Bypass: Steps to Simplify It

Presenter: J. A. Sallet (Sallet Institute of Medicine, Sao Paulo, Brazil)

Background In the last three decades, many forms of gastroplasty have been performed with good results. However, there's 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.

Methods After performing the pneumoperitoneum, follows these steps: placement of five trocater on supra-umbilical area; dissection of gastrophrenic ligament at hiss angle; identification of the second gastric vessel in the small curvature, which is the initial point for retro gastric tunnel dissection, followed by horizontal division of stomach; placement of orogastric probe to guiding gastric pouch seccion; vertical division of stomach with linear stapler until the area previously dissected creating a mini pouch with 30 cc; opening the epiplon; identified the treitz angle, we count a jejune distance able enough to perform a gastro jejunum anastomosis with mechanic suture in pre-colic, pre-gastric and isoperistaltic form; checking the biliopancreatic limb; identification the jejuno ileal transition and performing side by side jejuno-ileal proximal anastomosis with linear stapler; testing with methylene blue both anastomosis; finally, performing a section of the jejunum right to the end of the gastroenteroanastomosis and separating the biliopancreatic and alimentary limb.

Conclusion In this way, it's possible to reduce surgery time in 1/3, because it's easier to the surgeon work between the patients' legs all the time, there is no mesenteric gap to close, test both anastomosis with methylene blue and reducing surgical time.

V-006 Two Ways to Close the Petersen's Space in the Antecolic Laparoscopic Roux-En-Y Gastric Bypass

Presenter: F. D. L. Cruz Vigo (12 de Octubre University Hospital, Madrid, Spain)

Co-authors: J. Cruz Vigo², P. Sanz De la Morena², J. Canga Presa², P. Gómez Rodríguez¹, J. Martínez Pueyo¹, V. Casanova Durán³

¹12 de Octubre University Hospital Madrid Spain; ²San Francisco Hospital León Spain; ³El Rosario Hospital Madrid Spain

Background Bowel obstruction syndrome in patients with laparoscopic gastric bypass (LGBP) is the most severe late complication of this kind of surgery, reaching even 1.2% mortality. In laparoscopic surgery, most cases are internal hernia and the Petersen's space is one of the most frequent sites. In the video, two ways to close the Petersen's space are shown, trying to minimize the risk of internal hernia.

Methods From 1999 to 2009, 1156 patients have been operated with antecolic Roux-en-Y LGBP. In the last 115 cases, the Petersen's space has been closed with non-absorbable suture using two different techniques.

Result Technique A: The Petersen's space is closed in two steps: 1) After the jejuno-jejunal anastomosis and the closure of the mesenteric defect, a non-absorbable running suture of the space including the root of the mesentery and the transverse mesocolon until the apex of the mesenteric section of the Roux-en-Y, is performed. 2) When the gastro-jejunal anastomosis is finished, the running suture is resumed, sewing the mesocolon to the mesentery of the alimentary limb up to the proximity of the transverse colon.

Technique B: After the jejuno-jejunal anastomosis and the closure of the mesenteric defect, a non-absorbable purse string suture of the mesocolon and the root of the mesentery until the apex of the mesenteric section of the Roux-en-Y limb, is performed.

Conclusion Closure of the Petersen's space can be done in a practical way, although not always easy.

V-007 Surgical Management of Morbid Obesity by Laparoscopic Roux-En-Y Gastric Bypass

Presenter: M. Hussein (American University of Beirut, Beirut, Lebanon)

Background The current gold standard for the surgical management of Morbid Obesity is the Laparoscopic Roux-En-Y Gastric Bypass.

Methods A total of 212 patients with Morbid obesity with average BMI 44, underwent Laparoscopic Gastric Bypass over a period of 30 months. Age range 19-64 yrs, Male to Female ratio 1:2. All patients were done laparoscopically via 5 trocars with refinement of the technique. The procedure can be performed in 50 minutes.

Result The Video demonstrates the potential to reduce steps, facilitate stapling, closure of defects and avoid anatomical confusion. The morbidity is 5% including 3 leaks, 3 internal hernias, 1 bleeding and 2 jejunojejunal stenosis. All treated laparoscopically. One mortality due to massive pulmonary embolus. Mean excess weight loss of 3 months is 45%, 6 months 58% and 1 year is 67%.

Conclusion Therefore, Laparoscopic Gastric Bypass is effective, safe with excellent weight loss and low morbidity and mortality, minimal discomfort and early return to normal activity.

V-008 Metabolic Laparoscopic Roux-En-Y Gastric Bypass: Technical Highlights and Initial Results

Presenter: A. Ramos (Gastro Obeso Center, Sao Paulo, Brazil)

Co-authors: M. Galvao Neto¹, M. Galvao¹, Y. Souza¹, A. Murakami¹, A. Carlo¹, E. Canseco¹, J. Campos², A. Escalona³

¹Gastro Obeso Center Sao Paulo Brazil; ²Federal University of Pernambuco Recife Brazil; ³Pontific Catholic University Santiago Chile

Background A video of technical highlights Simplified Metabolic Laparoscopic Roux-en-Y Gastric Bypass (SMGB) surgically address the control and treatment of Type 2 Diabetes Mellitus (T2DM).

Methods 89SMGB were performed in a prospective manner on patients from Jan-2008 to Feb-2009 under signed informed consent and local IRB approval. SMGB consists on creating a 8-10 cm gastric pouch along the lesser curvature., small bowel is counted from Treitz ligament up to ileo-cecal valve and marked in steps of 100 cm. The first 2 fifths are considered as jejunum and then a antecolic looped stapled gastro-ileal anastomosis is constructed. All mesenteric defects are systematically closed using non-absorbable running sutures and methylene blue test of both gastroileostomy and jejunoileostomy is performed before stapling the omega loop and convert it to a Roux limb. Inclusion criteria were BMI - 25 to 35, Age 18-60y, T2DM Hx 2 to 12y, Oral med and/or insulin use, HbA1c within 7,0 to 12,0.

Result 55 men, from 42 to 60y (m=48,5y), BMI from 26 to 32 (m=29,4), Op time 55-159 minutes (M=86 m) with one gastro-jejunojejunostomy fistula as complication and no mortality. T2DM control has been achieved in all patients but 2 patients. 13 patients have been on oral medication only (Metformin) and 74 have achieved glycemic control without need of any hypoglycemic drug.

Conclusion The SMGB is a therapeutic alternative to T2DM control and treatment. Further randomized and controlled long-term studies should be performed.

V-009 Laparoscopic Gastric Bypass: A Training Model

Presenter: S. M. Wyles (Imperial Healthcare NHS Trust, London, United Kingdom)

Co-authors: S. Hakky¹, K. Moorthy¹, A. Ahmed¹

¹Imperial Healthcare NHS Trust London United Kingdom

Background It has been well proven that the most effective treatment for severe obesity is bariatric surgery. However, since it is one of the most technically challenging branches of general surgery, there is a need for effective training models to help shorten the learning curve for trainees.

Methods We developed a short training video demonstrating the proposed procedure in a stepwise fashion, interspersed with technical tips. The animal tissue model was placed within a standardized laparoscopic box trainer, and all usual operative equipment including the harmonic scalpel, staplers, and seam-guard were available. Twelve trainees, of registrar or consultant level created, laparoscopically, a gastric pouch, a gastroenterostomy and an enteroenterostomy, as demonstrated by the video, using a combined stapled and handsewn technique. Each trainee had an expert trainer to guide them through the procedure, and opinion was sought with a post-course questionnaire using a Likert scale (1 disagree, 5 strongly agree).

Result All trainees completed the tasks and questionnaire. All trainees felt that the technical equipment and authenticity of the training conditions were of a high standard [4.33 (4-5)], and felt that the course would help improve their laparoscopic skills in real life cases [4.16 (3-5)]. Overall all were satisfied with the course [4.83 (4-5)], and would recommend it to other surgeons [4.83 (4-5)].

Conclusion We have developed an animal tissue training model with instructive video, which is a safe, cheap and effective way to learn and practice the complicated procedure of a laparoscopic gastric bypass.

V-010 Laparoscopic Sleeve Gastrectomy and Splenectomy in Lateral Approach for a Morbid Obese Patient with Chronic Idiopathic Thrombocytopenic Purpura

Presenter: M. Sodji (NO, Limoges, France)

Background Idiopathic thrombocytopenic purpura is an immune disorder characterized by low platelet counts from peripheral destruction. A 59 year-old-female of 159 kg, BMI = 40 with arterial hypertension, diabetes mellitus, and obstructive sleep apnea, had chronic Idiopathic thrombocytopenic purpura refractory to corticoids, immunoglobulines, and some new drugs.

Methods We proposed a laparoscopic splenectomy and sleeve gastrectomy in lateral approach.

Operative technique (video): Patient was operated in right lateral position using four ports. Dissection of the spleen was performed with monopolar-bipolar diathermy, ligation, and clips. Sleeve gastrectomy was performed in the same position.

Results There were no conversion, no leaks, no hemorrhage. Patient was discharged with a significant increase in platelet count.

Conclusion Laparoscopic sleeve gastrectomy and splenectomy is feasible and laparoscopic sleeve gastrectomy is an effective and safe technique.

V-011 Laparoscopic Sleeve Gastrectomy (LSG): Tricks and Craftiness

Presenter: P. Verhaeghe (CHU Amiens, Amiens, France)

Co-authors: A. Dhahri¹, D. Fuks¹, D. Crepin²

¹CHU Amiens Amiens France; ²CHU Amiens Amiens France

We need usually (eg 9/10) four ports: one 15 mm, two 12 mm and one 5 mm. First time is liberation of great curver, running from right to left, and then gastric section. We perform LSG by section of stomach six centimeter distance of pylorus with a 34 Fr calibration bougie. In December 2008 the 31th, we get the experience of 230 LSG with less than 1% laparotomy. The video (8 min 20) illustrates successively every operating time, and give some solutions if the classic way is unadaptated.

V-012 Technical Aspect of Sleeve Gastrectomy with Conservation of the Antrum in Megaobese Patient

Presenter: D. Nocca (chu montpellier, montpellier, France)

Co-authors: J. M.Fabre¹

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Background The laparoscopic sleeve gastrectomy is validated as a sole restrictive procedure or as a first step for the treatment of megaobesity. We describe in this video, the technical aspect of the LSG in a megaobese patient (250 kg).

Methods The sleeve gastrectomy was standardized among 5 surgeons expert in laparoscopic and bariatric procedures. The patient is placed in a supine and french position. Five to six trocars are inserted in a classic gastric laparoscopy configuration. First step of the dissection is the dissection of the gastro colic ligament in vicinity of the stomach and as such to enter the lesser sac. The dissection along the greater curvature starts 8 cm from them pylorus and progresses towards the angle of Hiss. We usually perform this step with Ultrasonic scalpel. If the exposure of the operative field is good we may try to cut all the short gastric vessels by the left way. A calibration tube of 36 French is placed trans orally along the lesser curvature to perform a controlled vertical gastrectomy. The sleeve gastrectomy is started where the calibration tube makes contact with the greater curvature. The resection is parallel to the lesser curvature in contact to the calibration tube.

The resection requires staplers (green/gold) capable of stapling the thick tissue of the stomach to prevent dehiscence of the stapling line. The stapling line is checked for leakage by injecting methylene blue through a gastric tube. **Conclusion** LSG is an effective and safe procedure if we respect some technical key points.

V-013 Laparoscopic Conversion from Sleeve Gastrectomy to Roux-En-Y Gastric Bypass

Presenter: C. Guillat (Hopital de la Croix Rousse, Lyon, France)

Co-authors: M. Blanchet¹

¹Hopital de lma Croix Rousse Lyon France

Background The patient operated on in this video is going to undergo a Gastric Bypass as a second stage procedure one year after a Sleeve Gastrectomy performed as a first stage for super obesity.

Methods The patient is placed in the French position. The Five trocars are inserted in the places used for the previous Sleeve gastrectomy. Dissection of the posterior wall of the gastric tube begins medially. Adhesions along the staple line are divided. The gastric tube is divided transversally to create the gastric pouch, approximately 5 cm distally to the cardia, using a 60 mm stapler with blue cartridge.

The second loop of the jejunum is lifted up in an antecolic antegastric fashion and connected to the pouch using a 45 mm stapler with a blue cartridge, The remaining opening being close with a running suture.

150 cm distally to the gastrojejunal anastomosis an entero-entero anastomosis is made to the proximal jejunum using 3 applications of 45 mm stapler with white cartridge.

A leak test is performed with methylene blue to check both the anastomoses. The intestine is divided between the 2 anastomoses in the close vicinity of the pouch using stapler to achieve the Roux-en-Y.

Result The postoperative course was uneventful. The patient was allowed to drink on Day 2, to eat a semi-liquid diet on Day 3 and was discharged on day 4.

Conclusion Roux-en-Y Gastric Bypass may be use safely as a second stage procedure following Sleeve Gastrectomy.

V-014 Open and Laparoscopic Approach of a New Surgical Technique, Which Enables Traditional Diagnostic Evaluation of the Bypassed Stomach: The Roux-En-Y Gastric Bypass on Vertical Banded Gastroplasty

Presenter: S. Cariani (University of Bologna, Bologna, Italy)

Co-authors: L. Agostinelli¹, E. Giorgini¹, L. Leuratti¹, E. Amenta¹, E. Lattuada¹, M. Zappa², E. Mozzi², G. Roviaro², G. Roviaro²

¹University of Bologna Bologna Italy; ²University of Milan Milano Italy

Background Roux-en-Y Gastric Bypass on Vertical Banded Gastroplasty (RYGB-on-VBG) is a modification of the traditional Gastric Bypass (RYGB), developed to allow the endoscopic or radiological investigation of the excluded stomach. We present the surgical technique via open and with laparoscopic approach.

Methods Through an upper midline incision, a 30 cc vertical gastric pouch was fashioned by using a 25 mm circular stapler and partitioning with a 90 mm four-row stapler. A Gore-Tex™ thin band encircled the gastric pouch outlet, of 1 cm in inside diameter. The jejunum was sectioned 30 cm from the Treitz with a linear stapler. A hand-sewn retro-colic side-to-side gastro-jejunosotomy, of 2 cm in inside diameter, was performed proximal to the gastro-gastric outlet, with a 150 cm Roux-limb. A hand-sewn side-to-side biliary-limb anastomosis completed the gastric bypass. The laparoscopic approach through 5 trocars, shows the following differences: the gastric window was created with a 21 mm circular stapler, inserted from the trocar incision on the right side; stomach was sectioned from the gastric window to the angle of His, using a 60 mm endo-GIA stapler; the ante-colic gastro-jejunosotomy was done with a 25 mm circular stapler, where the anvil was introduced from the mouth and the stapler through an enterotomy in the Roux-limb, then sutured with a 60 mm endo-GIA stapler which was used also to create the biliary-limb anastomosis.

Results The procedure achieved outcomes comparable with those of the classic RYGB, while allows traditional studies of remnant.

Conclusions RYGB-on-VBG has been safe for both, open and laparoscopic approach.

V-015 Laparoscopic Conversion of Vertical Banded Gastroplasty to Roux-En-Y Gastric Bypass with Crura Repair

Presenter: G. Dapri (Saint-Pierre University Hospital, Brussels, Belgium)

Co-authors: G. Vassilikostas¹, G. Evola¹, D. Lipski¹, E. Capelluto¹, G. Cadière¹, J. Himpens¹

¹Saint-Pierre University Hospital Brussels Belgium

Background This movie shows a laparoscopic conversion of silicon ring vertical banded gastroplasty to (SRVBG) to Roux-en-Y gastric bypass (RYGBP) with crura repair.

Methods A 44-years-old woman was consulted for invalidating gastroesophageal reflux disease (GERD) and weight regain after previous SRVBG. The patient benefited of the restrictive procedure for a total weight loss of 42 kg in 13 years, but she mentioned a weight regain of 22 kg in the last year. Weight

and BMI at the time of conversion were 80 kg and 32 kg/m² respectively. Preoperative work-up showed presence of small sliding hiatal hernia with grade C esophagitis and gastric pouch dilation. The procedure started with adhesiolysis between the left liver lobe, the silicon ring and the gastric pouch. Right and left hiatal crus were completely freed by hook cautery. Crura repair was performed with polypropylene stitch placed posteriorly and anteriorly to the lower esophagus. The gastric pouch was manufacturing at 5 cm from the previous angle of His, through a medial to lateral approach by firings linear stapler gold load. The vertical staple line of the pouch was buttressed of a running suture. One layer end-to-side manual gastrojejunostomy was performed. The upper part of the gastric remnant, with the previous VBG staple line, was resected. A 150 cm Roux-en-Y loop was measured from the gastrojejunostomy, and the jejunoejunostomy was fashioned as a side-to-side linear mechanical technique. The mesenteric and Petersen's defects were closed with non absorbable purse string sutures. The leak-test ruled out any peroperative leak. The procedure ended with the removal of the specimen through the enlargement of the left upper quadrant trocar, and placement of a drain. The nasogastric tube was removed at the end of laparoscopy.

Result Operative time was 210 minutes, and estimated blood loss of 80 mL. The patient was discharged on postoperative day; ⁴At 6 months the BMI is 23 kg/m² and the patient is out of GERD symptoms.

Conclusion Conversion of SRVBG to RYGBP with crura repair can safely be performed by laparoscopy.

V-016 Laparoscopic Conversion from Gastric Bypass to Biliopancreatic Diversion - Scopinaro

Presenter: C. E. Domene (Cima Nutro - Sao Paulo - Brasil, Sao Paulo, Brazil)

Co-authors: P. Volpe¹

¹Cima Nutro Sao Paulo Brazil

Background Demonstrate the steps of converting gastric bypass (GBP) to biliopancreatic diversion - scopinaro (BPD-S)

Methods Laparoscopic five trocar technique, measurement of alimentary limb, stapling at the level of biliopancreatic limb, completion of 200 cm alimentary limb measured from ileocecal valve, stapling distal limb at the level of the 200 cm complement, anastomosis between alimentary limb and distal bowel, thus getting a 200 cm large alimentary limb, and anastomosis of the new biliopancreatic limb 60 cm from ileocecal valve.

Result NA

Conclusion The procedure is feasible through laparoscopic approach, and it is an alternative when GBP fail losing weight

V-017 Laparoscopic Conversion from an Unsuccessful Gastric Bypass to a Biliopancreatic Diversion Like Procedure

Presenter: J. B. Marchesini (Clínica Marchesini, Curitiba, Brazil)

Background Patients submitted to gastric bypass as treatment of morbid obesity may not loose or may regain weight back due to excessive fatty food intake. The Roux-en -Y gastric bypass is not an ideal operation for fat eaters.

Methods The authors present this video of a simple technique to convert laparoscopically an unsuccessful gastric bypass to a biliopancreatic diversion like procedure. The efferent loop is transected at 20 cm from the gastrojejunostomy. The stomach stump plus this proximal segment of jejunum are considered the "stomach unit" of the BPD. The ileum is transected at 250 cm from the ileo cecal valve and it is anastomosed to the proximal transected segment of jejunum (stomach unit). The common channel length is done 50, 75 or 100 cm long according to the adopted clinical criteria. If a restrictive band is present at the gastric stump it needs to be removed or relived. This is an easy way to change a more restrictive procedure in one more absorptive one as a surgical treatment for a recurrent or refractory morbid obesity.

Result This is a video presentation of an operation performed in 38 patients without mortality and no leakages.

Conclusion The procedure is easily performed either laparoscopically or through laparotomy and avoids difficult dissection or anastomosis at the level of the stomach stump.

V-018 Laparoscopic Removal of Adjustable Gastric Band and Conversion to Roux-En-Y Gastric Bypass: Different Steps and Tricks

Presenter: G. Dapri (Saint-Pierre University Hospital, Brussels, Belgium)

Co-authors: G. Vassilikostas¹, L. Casali¹, D. Lipski¹, E. Capelluto¹, G. Cadière¹, J. Himpens¹

¹Saint-Pierre University Hospital Brussels Belgium

Background This movie shows the different steps and tricks of laparoscopic removal of laparoscopic adjustable gastric band (LAGB) and conversion to Roux-en-Y gastric bypass (RYGBP).

Methods In January 2005 a LAGB was placed in a 41-years-old woman for morbid obesity (BMI:49 kg/m²) associated to an arterial hypertension and sleep apnea. After 3 years the patient achieved a total weight loss of 17 kg (BMI: 42 kg/m²). Barium swallow showed the correct position of the band without pouch dilation; the gastroscopy evidenced grade A esophagitis; and the psychologist's analysis excluded presence of binge eating disorder. The procedure was performed as follows: 1)adhesiolysis among the left liver lobe, the band, and the smaller curvature of the stomach, until to reach a well exposure of the band, and of the gastric pouch; 2)opening of the gastro-gastric tunnel above the band by hook cautery; 3)complete exposure of the left hiatal pillar from the adhesions with the band; 4)opening and removal of the band; 5)opening of the perigastric capsule by scissors; 6)manufacturing of the gastric pouch, starting on the smaller curvature of the stomach at 5 cm from the previous angle of His, with linear stapler gold load; 7)identification of the biliopancreatic and alimentary loops; 8)manufacturing of a side-to-side linear mechanical gastrojejunostomy; 9)measurement of 150 cm of alimentary loop; 10)manufacturing of a side-to-side linear mechanical jejunoejunostomy; 11)closure of the mesenteric defect by non absorbable purse string suture; 12)closure of the Petersen's space by non absorbable purse string suture; 13)section of the small bowel between the gastrojejunostomy and the jejunoejunostomy; 14)leak-test; 15) removal of the band from the abdomen and placement of a drain; 16)removal of the subcutaneous port.

Result Total operative time was 139 minutes (20' for adhesiolysis, 10' for the gastric pouch manufacturing, 31' for the gastrojejunostomy). Estimated blood loss was of 90 mL. The patient was discharged on postoperative day 4 At 1 year the patient is well and the BMI is 28 kg/m².

Conclusion Removal of LAGB and synchronous conversion to RYGBP can easily performed by laparoscopy.

V-019 The Conversion of Lap-Band® to Another Bariatric Procedure: When and Why

Presenter: J. A. Sallet (Sallet Institute of Medicine, Sao Paulo, Brazil)

Co-authors: C. Pisani¹, L. Fernandes¹, P. Sallet¹, M. A Silva¹

¹Sallet Institute of Medicine Sao Paulo Brazil

Background This video shows a patient who had a LAGB for two years until then obtaining an excellent result. It was necessary the band removal due to an erosion. After this event, the patient had a considerable weight regain, being indicated other bariatric intervention.

Methods This video presents the performance of a laparoscopic gastric bypass and the difficulties after such a complication. The steps are: Removal of the liver fibrosis and adhesions; Dissection in the small curvature and followed by section of the stomach with linear stapler; Placement of the orogastric probe to guiding gastric pouch seccion; Vertical division of the stomach with linear stapler until the area previously dissected creating a mini pouch with 30 cc; Opening the epiplon; Identified the Treitz angle; Counting a jejune distance able enough to perform a gastro jejunum anastomosis with mechanic suture in a pre-colic, pre-gastric and isoperistaltic form; checking the biliopancreatic side; Identification the jejunum ileal transition and performing side by side jejunum-ileum proximal anastomosis with linear stapler; Testing with methylene blue both anastomosis; Performing a seccion of the jejunum right to the end of the gastroenteroanastomosis. Finally,

performing a section of the jejunum right to the end of the gastroenteroanastomosis and separating the biliopancreatic and alimentary limb.

Conclusion Reoperation after LAGB erosion is difficult. It needs a carefully anatomical dissection and right surgical technical standardization to become the second bariatric surgery safer.

V-020 Laparoscopic Revision of Gastric Band to Gastric Roux-En-Y Bypass

Presenter: M. Hussein (American University of Beirut, Beirut, Lebanon)

Background Laparoscopic revision of Gastric Band to Gastric Roux-En-Y Bypass.

Methods More than 25 cases done at the American University of Beirut Medical Center for revision of Gastric Band to Gastric Bypass secondary to complications of Gastric Band including slippage, pouch dilation, pseudo achalasia and weight failure in sweet eater. The average operation time is 2 hrs. The technical details will be shown by video presentation.

Result All did well and discharged home within 48 to 72 hrs.

Conclusion The revision of Gastric Band to Gastric Roux-En-Y Bypass is feasible, safe if done by experienced surgeon in Bariatric surgery.

V-021 Laparoscopic Conversion from Biliopancreatic Diversion - Scopinaro (BPD -S) Without Gastrectomy to Normal Alimentary Tract

Presenter: C. E. Domene (Cima Nutro - Sao Paulo - Brasil, Sao Paulo, Brazil)

Co-authors: P. Volpe¹

¹Cima Nutro Sao Paulo Brazil

Background Demonstrate the steps of conversion of bpd-s without gastrectomy to normal alimentary tract

Methods Five trocar technique, stapling of gastrointestinal anastomosis and gastro-gastric stapling anastomosis; stapling of biliopancreatic limb at the level of the anastomosis with common limb and latero-lateral small bowel anastomosis; closing of Mesenteric Spaces.

Result NA

Conclusion Conversion of BPD-S without gastrectomy is feasible through laparoscopic approach and it is an alternative when the patient does not tolerate the surgery, and refuses having a restrictive procedure

V-022 Sleeve Gastrectomy After Gastric Banding

Presenter: D. Krawczykowski (Polyclinique Priollet /Courlancy, Chalons en Champagne, France)

Background Longitudinal resection of the stomach or sleeve gastrectomy (SG) can be used as a revision after adjustable gastric banding (AGB) but leak rate as high as 10% has been described.

Methods We have an experience of 84 patients that had a SG as second line treatment after gastric banding. The indications were: 33 slippages, 21 inadequate weight loss, 21 intolerances, 5 oesophageal dilatations, 3 erosions, 1 G-G fistula. The demographics for secondary SG after gastric banding were: age: 43.2 (25-67); sex ratio: 6 M/ 78 F; mean BMI before LASGB: 44.2 (35.9-61.7); before SG: 39.3 (27.9-59.4); mean time between LASGB- SG: 51.9 (6-120) months; 32 SG have been delayed and in 52 cases the SG have been performed simultaneously to the band withdrawal.

Result The leak rate has been reduced to 6.5% by 1) using 60 mm stapler device 2) performing simultaneously the band removal and the SG 3) improving our technic (better dissection of the left crus, resection of the fibrous scar left by the band, avoiding oesophageal encroachment).

Conclusion SG after AGB is feasible but leak rate remains a major problem.

V-023 Lagb Failure: What to Do and When

Presenter: J. A. Sallet (Sallet Institute of Medicine, Sao Paulo, Brazil)

Background In the last 11 years, we performed 502 LAGB with a mean EWL of 61%. Twelve percent of patients had ewl 40%, band erosion, slippage and esophageal or pouch dilatation, representing 9% of late complications, which requested the band removal and other laparoscopic bariatric procedure.

Methods The steps for this conversion are: placement of trocars in the upper abdominal wall; dissection and removal of gastric band; creation of micro pouch with the section of stomach two centimeters below the gastric band, using linear stapler; identification of the second gastric vasa in the small curvature, which is the initial point for retro gastric tunnel dissection, followed by a horizontal division of stomach; vertical division of stomach with linear stapler until the area previously dissected creating a mini pouch with 30 cc; opening the epiploon; identified treitz angle, count a jejune distance able enough to perform a gastro jejunum anastomosis in pre-colic, pre-gastric and isoperistaltic form; checking the biliopancreatic limb; identification the jejunum ileal transition and performing side by side jejunum-ileal proximal anastomosis with linear stapler; testing with methylene blue both anastomosis; finally, performing a section of the jejunum right to the end of the gastroenteroanastomosis and separating the biliopancreatic and alimentary limb.

Conclusion LAGB is a less invasive procedure, presenting good results and low complications or mortality, but the long term follow-up shows failures, which needs a revision surgery. The referenced centers should be technically capable to perform other bariatric procedures to deal with these complications.

V-024 Gastric Banding and Concomitant Pathology: Personal and Technological Solutions

Presenter: F. Furbetta (Casa di Cura Leonardo, Sovigliana, Vinci (FI), Italy)

Co-authors: S. Santoni¹, B. Loiacono¹, C. Masetti¹, F. Guidi¹, F. Gragnani¹

¹Casa di Cura Leonardo Sovigliana, Vinci (FI) Italy

The characteristics of the liver and gastro-oesophageal junction can interfere with a correct positioning of a gastric banding. The movie shows the identification and the methods of evaluation of anatomic circumstances indicating the surgical solution to allow a correct banding. A big fatty left liver could be mobilized and lowered to get access to the perigastric technique; a 10 cm focal nodular hyperplasia of the 2° segment completely covering the oesophago-gastric junction is removed to perform the necessary cruroplasty and the gastric banding. Intra-operative endoscopy, measures of the diaphragmatic hiatus and the oesophago-gastric junction ascent indicate the opportunity to correct the oesophago-gastric junction defect to avoid anatomic and functional interferences with the gastric banding. The movie's reasons of interest are mainly related on one hand on the frequency and the disease's peculiarity of the concomitant pathology; on the other hand on the presentation of codified, original and personal techniques to identify and treat them thanks to technological resources and less invasive procedures.

V-025 Adjustable Gastric Band with Anti-Erosive Mechanism. Clinical Approach

Presenter: B. Zilberstein (Gastromed Zilberstein Institute, Sao Paulo, Brazil)

Co-authors: A. Garcia De Brito¹, F. Ramos²

¹Gastromed Zilberstein Institute Sao Paulo Brazil; ²Gastromed Zilberstein Institute Sao Paulo Brazil

Background One of the most feared complications after adjustable gastric banding procedure is the gastric erosion and sometimes slippage. These complications occurs in 3-6% of the patients in the long term follow-up. Intending to reduce this complications, a new adjustable gastric band was developed, with the advantages of being: malleable, larger and having a protective mechanism represented by an anti-erosive protective layer of polyurethane.

Methods The band is placed around the stomach involving the "pars flaccida", and its eccentric constriction allows it to be shaped as the gastric wall. All the

technical steps can be followed on the demonstrative video. 132 patients underwent this procedure using this new device since 2003.

Result 85% of the patients could be followed up for a mean period of 36 month. There was a 60% reduction of the EBW and no gastric erosion nor slippage were identified.

Conclusion Therefore the Adjustable Gastric Band with polyurethane membrane seems to represent a good protective mechanism, to avoid gastric erosion or slippage.

V-026 Hiatal Hernia and Laparoscopic Gastric Banding: The Technique

Presenter: J. A. Lopez-Corvala (Hospital Angeles Bariatric Group, Tijuana, Mexico)

Co-authors: F. Guzman-Cordero¹, F. Ortega-Pallanez¹, C. Hermsillo-Valdez¹, C. Calleja-Enriquez¹

¹Hospital Angeles Tijuana Bariatric Group Tijuana Mexico

Background Overweight and obesity are risk factors to develop gastro-esophageal reflux disease (GERD) and hiatal hernia (HH). GERD is reported in more than 15% of patients for obesity surgery. The presence of hiatal hernia and esophagitis is directly related to the body mass index (BMI) of patients.

Methods Description of technique: Under general anesthesia, endotracheal intubation and 30° reverse Trendelenburg, introduction of the first 15 mm trocar and pneumoperitoneum with open technique, at a maximal intraperitoneal pressure of 15 mmHg, introduction of trocars as usual, using liver retractor to approach the hiatus, we start with anatomical identification of the His angle and gastroesophageal junction, if we found a hiatal hernia the next step is dissection of pars flaccida and phrenoesophageal membrane to relief the right crura and left crura, the dissection is then continued towards the crura junction, making full esophageal mobilization and allowing the gastro-esophageal junction in abdominal cavity, next step is plasty of diaphragmatic opening with interrupted non absorbable sutures to repair the hiatal defect; posteriorly we place the gastric band as usual, and do a fixation of the gastric fundus with non absorbable suture, first to the left crura, next fixation to the right crura, and one or two more stitches from the fundus to the gastroesophageal junction, the liver retractor and trocars are removed under visual control, the final step is the fixation of the reservoir to the fascia, and then close of skin with monofilament absorbable suture.

Results In a period of seven months from September 2008 thru March of 2009, 184 patients underwent LAGB and 20 patients underwent LAGB with concurrent hiatal hernia repair (LAGB/HHR). Eight patients with HH at time of operation were asymptomatic (4.3%), 32 had GERD symptoms without medication and 4 of these had a HH (2.1%), 28 had GERD symptoms with medication and 8 had HH (4.3%); the total of patients with HH was 20 (10.8%).

Conclusions Adding HHR to LAGB where indicated significantly reduces reoperation rate. Every effort should be made to detect and repair HH during placement of the band, as it will decrease future need for reoperation.

V-027 Laparoscopic Adjustable Gastric Banding and Toupet 270 Grades Fundoplication. Technical Aspects

Presenter: V. Egiev (Russian Peoples' Friendship University, clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation)

Co-authors: E. Zorin¹, M. Kevin¹

¹Russian Peoples' Friendship University, clinic «MedEkspress», Moscow, Russia, Moscow, Russian Federation

Background Laparoscopic adjustable gastric banding - one of the most simple, secure and at the same time, effective bariatric operations. According to the literature up to 40% of patients with obesity suffer from hiatal hernia. We know that in the presence of large size hiatal hernia gastric banding is contraindicated. we have developed a method of simultaneous laparoscopic gastric banding and the elimination of hiatal hernia.

Methods From 2006 to 2009 we performed 391 gastric bandings, in 160 cases simultaneous Toupet fundoplication was performed, in 10 cases of giant hiatal hernia we added Ultrapro-mesh hiatoplasty. We use 4 trocars.

Mobilization with Harmonic scalpel (ETHICON, USA). Stage 1 - mobilization of gastro-esophageal part: right diaphragmatic crus, right side of esophagus, less curve of stomach, retroesophageal part, His-angle, left diaphragmatic crus, removing of retroesophageal fat. Stage 2 - crurorraphy with Endostitch (TYCO, USA). Stage 3 - fixation of stomach to diaphragm cruras. Stage 4 - placing of gastric band. Stage 5 - fundoplication by Endostitch (TYCO, USA). **Result** The average operation time 47 (30-110) minutes. No conversions to laparotomy. Early complications: 3 seromas, 1 hematoma in the port site - punctated. Lat complications: 2 port inversion - correction with local anesthesia; no band failing, 1 slippage: patient operated. Band defects: 2 banding hernias, 2 disconnecting catheters from the port, 1 detachment catheter from the band (patients operated). % EWL after 1,3,6,12 months, was 18.9%, 38%, 58.8%, 77.6%, respectively. Results of SF-36 after 6 months - 55 points, 12 months - 25 points. No heartburn, belching, chemical bronchitis.

Conclusion Our data demonstrate the possibility, effectiveness and safety of simultaneous treatment of obesity and hiatal hernia, the best quality of life after the simultaneous fundoplication. Determination of slippage risk in patients after simultaneous fundoplication was proven.

V-028 Adjustable Gastric Band (AGB) Surgery on Patients with a History of Nissen Fundoplication for Gastro-Esophageal Reflux Disease (GERD)

Presenter: A. Ortiz (Obesity Control Center, Tijuana, Baja California, Mexico)

Co-authors: A. Martinez Gamboa¹, H. Acosta², M. Viramontes So³, H. Bernal⁴

1. Obesity Control Center Tijuana, Baja California Mexico; ²Obesity Control Center Tijuana, Baja California Mexico; ³Obesity Control Center Tijuana, Baja California Mexico; ⁴Obesity Control Center Tijuana, Baja California Mexico

Background Laparoscopic AGB placement in patients with a history of surgery for GERD was considered a relative contraindication. As experience with banding grows, more patients with a history of complex gastric operations in need of bariatric procedures are encountered. Most bariatric surgeons consider this surgery as highly challenging. In order to observe the habitual anatomical landmarks to correctly position the AGB it is necessary to dissect and dismantle the anti-reflux procedure in most cases, if a recurrent hiatal hernia is present, repair is needed. We present our results and video to highlight the technical aspects for this type of surgery.

Result Since 1999 to Jan 2009 a total of 6237 AGB surgeries have been performed at our center. 17 patients had a history of Nissen fundoplication for GERD (11 were performed open and 6 laparoscopic). Mean time from anti-reflux procedure to AGB placement 11.5 years. 4 patients reported recurrence of GERD. Mean BMI at time of surgery 39.8. Mean surgical time 143 minutes, all were completed laparoscopic. Significant surgical findings; 5 patients with migration of the fundoplicated stomach in to the mediastinum and 2 patients with partial dismantled fundoplication. No complications were reported during or after surgery. Hospital stay 17 hours. Mean follow up time 2.2 years on 14 patients. EWL 54±18. No slippage, erosion or other related complications have been reported for this group.

Conclusion Gastric banding when a history of Nissen fundoplication exists is a very challenging surgical procedure, but it can be performed safely if the surgeon has experience in reoperations for failed anti-reflux procedures.

V-029 Gastric Banding as Bariatric Procedure After Failed Roux Y Gastric Bypass

Presenter: J. A. Lopez-Corvala (Hospital Angeles Bariatric Group, Tijuana, Mexico)

Co-authors: F. Guzman-Cordero¹, F. Ortega-Pallanez¹, C. Hermsillo-Valdez¹, C. Calleja-Enriquez¹, M. Mireles-Aguilar¹, L. Vazquez¹

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Background It is expected for the year 2025 that 40% of the U.S. population will be obese. Bariatric surgery is the only method that has demonstrated long-term weight loss in patients with morbid obesity.

Material and Methods In 2004 there were performed 140, 000 bariatric surgeries approximately in the U.S., being the most of them Roux Y gastric bypass (RYGB). Even though this procedure is considered the standard to which every bariatric procedure is compared, because of its good results, the incidence of failure (defined as weight loss less than 50% or BMI of 35 kg/m² or more), is in average 15% (8–40%), which represents 21,000 patients per year.

The enlargement of the gastric pouch and the dilation of the stoma, play a very important roll in the weight regain after gastric bypass. There have been proposed different options to resolve a bypass failure, by modifying the gastric pouch or enlarging the alimentary limb. Nevertheless, the incidence of complications has increased.

It has been described the lap-band as a safe bariatric procedure for a failed RYGB with good results. Our objective is to describe the technique of lap-band placement on a patient with failed Roux Y gastric bypass (VIDEO).

- Exploratory laparoscopy.
- Adhesiolysis.
- Identification of gastroyeyunostomy.
- Dissection of pars flacida
- Create retrogastric tunnel.
- Placement of the band.
- Fixation of the band suturing the gastric pouch to the left crus, and to the GE junction.
- Placement of the port as usual.

Conclusion The lap-band as a bariatric surgery in a patient with failed bypass is a procedure with less risk of complications compared with modifying the gastric pouch, stoma or the alimentary limb. It is a safe procedure and leads to an adequate weight loss.

V-030 The Lap-Band After Failure of By-Pass Procedure

Presenter: G. Sassi (Centre De Gastroplastie St Michel, Toulon, France)

Background Many patients are today in a very difficult situation, they got a bypass or similar procedure and the failure is often without answer. We believe the oesophageal placement of the lap-band by the new access way above the liver is the better solution for them, It is very easy to work in an area that was not damaged by other procedure, We explain in this video the eight points of this new procedure,

For ten years nearly 2400 patients received LAP-BAND,
827 gastric banding

1450 patients using oesophageal placement.

85 false failure of gastric-banding have got an oesophageal placement

16 patients received oesophageal lap-band after by-pass or similar procedure

Methods 2375 patients received LAP-BANDS at our institution between 1998 and 2009. 827 perigastric from with follow-up to 9.5 years. We began oesophageal placement in 2002 and 1450 patients have undergone that procedure, with follow-up to 7 years,

Results Weight loss - mean BMI in the gastric group: 31.7 at 1 year, 30.2 at 2, and 29.5 at 9.5 years. BMI in the oesophageal group: 30.9 at 1 year, 29.7 at 3, 29.9 at 4, 29.6 at 5 and 29.8 at 7 years.

Conclusions We believe this procedure is very interesting in nearly all cases of by-pass failure,

V-031 The 5 Minute Adjustable Gastric Band Placement

Presenter: A. Ortiz (Obesity Control Center Hospital, Tijuana, BC, Mexico)

Co-authors: A. Martinez Gamboa¹, H. Acosta², M. Viramontes So³, H. Bernal⁴

¹Obesity Control Center Hospital Tijuana, BC Mexico; ²Obesity Control Center Hospital Tijuana, BC Mexico; ³Obesity Control Center Hospital Tijuana, BC Mexico; ⁴Obesity Control Center Hospital Tijuana, BC Mexico

Background The surgical technique for adjustable gastric band (AGB) placement has undergone thru several modifications since it started in the early 90's. The perigastric technique was changed for the pars flacida approach, that significantly reduce operating time and late complications associated with this procedure. The gastric fundus fixation methods has also suffered modifications, from excessive tension and over suturing to more selective and less tension of the plicated stomach over the AGB. The former changes and increasing experience and knowledge about the possible mechanisms for the development of band slippage and erosion have contributed to better outcomes in most series. We will present video to highlight technical aspects of AGB placement at our center with have allow us to reduce considerably operating time and perform a very safe surgery.

Result From April 1999 to January 2009, 6237 Laparoscopic AGB placement surgeries have been performed at our center by a single surgical team. No esophageal, gastric or intestinal perforation has occurred. We only have one report of conversion to open procedure early during the first 10 cases. Once pneumoperitoneum is obtained the surgery is performed within 5 minutes in 75% of our patients in the last 1500 AGB placement surgeries. Operating time can vary considerably when excessive adhesions, prior gastric surgery or a large hiatal hernia are encountered.

Conclusion Learning from the mistakes of the past and taking advantage of the teachings of the more experienced groups can improve surgical performance, this will certainly benefit our patients.

V-032 Case Report: Rebanding After 18 Years

Presenter: M. Margolins (Baltic Obesity Research and Treatment Centre, Riga, Latvia)

Co-authors: M. Margolins¹, A. Plikss¹, G. Trofimovics², J. Margolina¹

¹Baltic Obesity Research and Treatment Centre Riga Latvia; ²P. Stradins Clinical University Hospital, Surgery Clinic Riga Latvia

Background Women, 47 years old (131 kg, 174 cm), BMI 44 with primary morbid obesity, primary arterial hypertension II stage, dislipidemia. In 1990 gastric non-adjustable banding operation with self-made band from Teflon™ vascular prosthesis was performed. Initial weight in 1990 was 120 kg. 6 month after operation, weight had been reduced till 90 kg but after 2 - 3 years weight increases till preliminary position.

Methods Our video illustrates self-made band from Teflon™ vascular prosthesis partial removing and rebanding with SAGB™ system which consists of following steps:

- (i) Atypical trocar insertion considering previous operation and adhesions.
- (ii) Adhesion cleaving and vascular prosthesis visualisation.
- (iii) Vascular prosthesis partial removing and rebanding with SAGB™. Methylene blue leakage test performing.

Result Procedure time was 3 h 10 min. The patient made an unremarkable recovery and was discharged home postoperative day 1. Patient weight is 96 kg now. BMI is 32. Excess weight lost is 52 %. Now arterial pressure is normal and reduction of dislipidemia is present. Patient had 3 band adjustment procedures.

Conclusion The aim of this case report presentation – partial removing of self made vascular prosthesis and laparoscopic rebanding with adjustable banding system is an effective method for patient with non-adjustable banding operations long time ago.

V-033 Salvage Procedure After Failed Laparoscopic Adjustable Gastric Banding in the Super Obese Patient

Presenter: S. Van Cauwenberge (Sint Jan Brugge-Oostende, Bruges, Belgium)

Background Failed laparoscopic gastric banding (LAGB) is a common finding in the super-obese patient. Conversion to a laparoscopic Roux-en-Y gastric bypass (LRYGB) is a valid option but the percentage of excess weight loss (%EWL) may be insufficient in the super-obese patient. Adding an adjustable band around the gastric pouch will allow more restriction when needed.

Method In this video we demonstrate the conversion of a LAGB to a laparoscopic Roux-en-Y gastric bypass in which we position the same band around the gastric pouch.

Results To date we performed 9 of these procedures without major complications and with excellent %EWL.

Conclusion This video demonstrates that conversion from LAGB to adjustable banded LRYGB is safe and feasible resulting in satisfactory %EWL. This procedure should be regarded as a valuable salvage procedure, worth to be investigated in the near future.

V-034 Laparoscopic Degastro-Gastric Bypass for Gastrojejunal Anastomotic Stricture: Report of a Case (Video)

Presenter: N. Corigliano (Hôtel Dieu. AP-HP, Paris, France)

Co-authors: N. Veyrie¹, A. Abdelhalim¹, S. Stéphane¹, C. Lloret Linares², J. Bouillot¹

¹Hôtel Dieu. AP-HP Paris France; ²Hôpital Pitié-Salpêtrière Paris France

Background Gastrojejunal anastomotic stricture has been reported as the most frequent complication after Roux-en-Y gastric bypass (RYGBP) for morbid obesity, and is responsible for more than 50% of all complications appearing in the early postoperative period. We report a case of gastrojejunal anastomotic stricture treated by laparoscopic degastro-gastric bypass.

Case report A 42-year-old woman operated on laparoscopic gastric bypass in another hospital two years before, was admitted to our unit for post-prandial vomiting. An upper gastrointestinal Gastrografin® swallow showed a stricture of the gastrojejunal anastomosis associated to a gastric pouch dilatation. After failure of several endoscopic dilatatory sessions, the patient was treated by laparoscopic resection and refection of the gastrojejunostomy.

Discussion Between May 2001 and March 2009 we performed 387 laparoscopic RYGBP. In all cases a transmesocolic retrogastric approach was done. A circular stapled gastrojejunal anastomosis was performed employing a 25-mm anvil. Incidence of anastomotic stricture was 1.6% (6/387). In 2 cases (33%) the stricture was associated with an anastomotic ulcer. All strictures were treated successfully by endoscopic pneumatic dilatation and proton pump inhibitors therapy. Gastrojejunal strictures are a common complication after RYGBP. In the literature, its incidence has a wide range: 1.3 to 11.4% after laparoscopic surgery. Several reasons justify such a large variability, including the surgical technique employed to perform the anastomosis: 3.2% to 7.3% of anastomotic stricture after linear stapled anastomosis, 6.9% to 8.8% after hand-sewn anastomosis, 26.8% after 21-mm circular stapled anastomosis and 8.8% using a 25-mm circular stapler.

Conclusion Gastrojejunal anastomotic stricture is a frequent complication after RYGBP. Endoscopic balloon dilatation can be offered as a first-line treatment. The failures of endoscopic treatment are very rare and may require a reoperation, preferably by laparoscopy.

V-035 Laparoscopic Treatment of Gastric Leak After Duodenal Switch

Presenter: G. Alvarez (Federal University of Santa Maria, Santa Maria, Brazil)

Co-authors: M. Gagner¹, E. Faria², D. Girardon²

¹Chairman, Department of Surgery Mount Miami United States of America; ²Federal University of Santa Maria Santa Maria Brazil

Background One of the most serious complications of duodenal switch (DS) is an anastomotic leak. A 45-year-old woman developed an esophagogastric junction (EGJ) leak after laparoscopic DS surgery and was drained by laparoscopic surgery. The wound reopened and was treated endoscopically for 5 months. Finally, laparoscopic reoperation was proposed.

Methods A 45° laparoscope was introduced at the umbilicus, and 5 trocars were placed. After dissection of extensive adhesions, we identified the EGJ. An intraoperative endoscopy helped identify the leak. The EGJ was dissected to allow anchoring an alimentary limb to the fistula; the leak's size was enlarged to anastomosis since the purpose was a non-calibrated anastomosis. A 100-cm, antecolic, bypassed limb was brought up to the EGJ and

anastomosed along the leak tract. A 2 layers handsewn suture was made. A Penrose drain was positioned.

Results The patient had an uneventful postoperative without weight regain. During follow-up, after 1 month, a GI series showed that all contrast was only being drained to the bypassed limb. Previous studies showed free flow of contrast by alimentary limb, without evidence of distal obstruction. At 3 months, GI series showed that both DS and patched were functioning.

Conclusions The use of a laparoscopy Roux-en-Y bypassed limb to treat this kind of fistula has not been previously reported. The bypassed patched limb is an excellent option to reduce the high pressure and consequently resolve the leak. The results in terms of weight loss with satiety and restriction produced by DS were quite good.

V-036 An Operative Strategy for Post-Operative Emergencies in Bariatric Patients: Laparoscopic Reduction of Strangulating Internal Hernia After Roux-En-Y Gastric Bypass

Presenter: K. Carswell (King's College Hospital, London, United Kingdom)

Co-authors: A. Belgaumkar¹, A. Patel¹

¹King's College Hospital, London, United Kingdom

Background With over 4000 weight loss operations performed per year in the UK and a post-operative incidence of internal herniation of 3-5%, general surgeons are increasingly likely to encounter emergency presentations of bariatric surgical patients.

Methods We present a case of a 29 year old woman, presenting 4 days post-partum, with severe generalised abdominal pain. She had undergone laparoscopic retrocolic Roux-en-Y gastric bypass 1 year previously. Clinical examination revealed non-specific tenderness in the epigastrium. CT scan was suggestive of an internal hernia with mesenteric stranding. Emergency laparoscopy confirmed the presence of viable ischaemic small bowel due to a mesocolic hernia, defect previously closed.

Result We demonstrate a clear, methodical approach to diagnostic and therapeutic laparoscopy in this setting, using the jejunio-jejunal anastomosis as an anatomical point of reference. The rest of the small bowel was examined systematically: the Roux loop, the afferent limb, the distal small bowel. Following adhesiolysis, the jejunio-jejunal anastomosis and the Roux loop were reduced from their supra-colic location back to the correct position. The meso-colic defect was closed. Other anatomical sites of potential internal herniation, including Petersen's defect, were actively excluded.

Conclusion Laparoscopic treatment of post-operative emergencies in the bariatric surgery population is feasible and safe, when a logical approach to the diagnosis and treatment of the problem is taken. In RYGB patients presenting with abdominal pain the surgeon should maintain a low threshold for diagnostic laparoscopy. Delays in diagnosis and treatment of internal herniae may lead to significant morbidity and even mortality.

V-037 Gastrocolic Fistula - A Late Complication of Laparoscopic Adjustable Gastric Banding

Presenter: A. Ferreira (Hospital de S. João, Porto, Portugal)

Co-authors: O. Alves¹, L. Lencastre¹, A. Gouveia¹, J. Preto¹, M. Baptista¹, G. Faria¹, S. Rodrigues¹, A. Madureira¹, J. Sarmento¹, A. Pimenta¹

¹Hospital de S. João Porto Portugal

The most common complications of Laparoscopic Adjustable Gastric Banding (LAGB) are well described and widely published.

At our institution we had the opportunity to diagnose and treat some unusual late complications. The video we are going to present refers to one of those rare complications.

A 33 years old female patient was submitted to LAGB in May 2002. In the post-operative period she had an infection of the port of calibration, cured only with port removal.

Even without adjustment of the band, the patient had a good weight loss, 35 kg, corresponding to 55% of EWL.

One and a half years after the operation, she developed a band migration. Six months later, the band was removed by endoscopy.

Patient did well without any other operation and she didn't regain the weight loosed.

Four years after the first operation she got pregnant and she had a caesarean without complications.

A few months before the admission, she started with "bad halitosis" and permanent fullness sensation.

An endoscopy revealed a "full" stomach despite the fasting period. Than an upper-GI series revealed a gastrocolic fistula, highly situated near the cardia, confirmed by a new endoscopy and abdominal CT-scan.

We operated the patient by laparoscopy, we isolated the fistula and performed the section with an endo-gia. Stapler lines were reinforced with PDS running sutures.

The post operative period was uneventful.

In conclusion, dealing with unusual complications of LAGB is possible but implies a well trained multidisciplinary team.

V-038 Simultaneous Gastric and Colic Lap Band Migration. Complication of Bariatric Surgery

Presenter: A. Póvoa (Centro Hospitalar de Vila Nova de Gaia / Espinho, Porto, Portugal)

Co-authors: C. Soares¹, J. Esteves¹, A. Gandra¹, R. Maciel¹, J. Cardoso¹, L. Gandra¹, J. Maciel¹

¹Centro Hospitalar Vila Nova de Gaia / Espinho Vila Nova de Gaia Portugal

Background Laparoscopic adjustable gastric banding is a minimally invasive treatment for morbid obesity, which has proved its safety, efficiency and reversibility. Post operative complications are rare, and might be related with the reservoir or connecting tube (infection, tube displacement or disconnection) or with the band itself (slippage, erosion, pouch dilation). The lack of unspecificity of clinical signs and symptoms makes the diagnosis difficult.

Results The authors present the case of a 54 year old female, submitted to laparoscopic adjustable gastric banding in April 2004 (BMI = 40). During the first year she reduced her body mass index to 30 and remained stable thereafter. In August 2008, while investigating a moderate colicky abdominal pain, she was submitted to a colonoscopy that showed part of the band inside the transverse colon. Although the abdominal CT scan preformed has showed clearly the connecting tube inside the transverse colon lumen, and the lap band correctly positioned around the stomach, we also performed an upper digestive endoscopy that revealed band migration to the stomach lumen. The patient underwent laparoscopic band removal, closure of both stomach and colon walls, thus treating the fistula.

Conclusion Lap band erosion and migration is a late complication of this surgery that always needs its surgical removal. The lap band migration to colon or stomach is described, in literature. Simultaneous erosion to stomach and colon lumen, with a gastrocolic fistula formation, makes this case a unique one.

V-039 Laparoscopic Transgastric Removal of Migrated Gastric Band

Presenter: M. Hussein (American University of Beirut, Beirut, Lebanon)

Background Laparoscopic treatment of Gastric Band Migration.

Methods Gastric band migration is one of the common complication of Gastric band that necessitate removal to prevent sepsis or bleeding. Endoscopic approach is not always successful especially for partially migrated gastric band, in this video through 3 trocars the anterior stomach was entered by electrocautery and identification of the band, division and removal of the band successfully done. The gastrotomy is sutured in two layers. More than 30 cases done at the American University of Beirut Medical Center successfully in this approach with no sequelae.

Result All did well and discharged home 24 hrs post surgery on oral antibiotic.

Conclusion Transgastric band removal is a novel way to remove migrated band with no complications by avoiding the risks of dissection at the cardia in infected fibrotic area.

V-040 Laparoscopic Treatment of Peritonitis Secondary to Small Bowel Perforation After One Anastomosis Gastric Bypass (Bagua)

Presenter: M. Garcia-Caballero (university malaga, malaga, Spain)

Introduction Until recently the treatment of difficult bariatric perioperative complications were performed by open surgery. But the experience acquired performing advance laparoscopic surgery applied to obese patients prompt us to try laparoscopy as treatment of complications as peritonitis.

Objectives To present the technique and tricks for managing a peritonitis 48 h after a primary surgery of BAGUA.

Patient and methods Male 39 years old with troncal obesity (BMI 42). Operated 9 years before by open cholecistitis that provoke intenses adhesions between stomach, right and transverse colon, epiploon and liver. In the primary surgery we performed adhesiolysis until identified the organs follow by BAGUA (Nutr Hosp 2004;19:372-5). Forty eight hours after the primary surgery appear biliary content in the drainage bag. The gastrografen study do not demonstrated the leak point. However the deterioration of the general state of the patient prompted us t perform an emergency laparoscopic examination.

Results We performed the pneumoperitoneum trough the drainage. The introduction of the camera demonstrated an abdominal cavity completely blocked and very difficult vision. Aiding by an atraumatic forceps and irrigation aspiration we started to clean progressively the biliary liquid and fibrin deposit until identified a intestinal perforation 20 cm proximal to the gastro-jejunal anastomosis. After systematic and abundant lavage of the abdominal cavity, we closed the perforation with some stiches reinforced by a fibrin mesh (Tachosil R). Finally we drainage the four corners of the abdominal cavity.

Conclusions The laparoscopic treatment of peritonitis secondary to obesity surgery is a challenge but posible. Offer the opportunity of solving these severe cases avoiding to sum the extra morbidity of the open approach as well as the long term consequences specially incisional hernia.

V-041 Late(6 Months) Jejunum-Jejunum Anastomosis Stenosis After Gastric Bypass Surgery

Presenter: M. Aceves-Avalos (Centro de Gastro y Obesidad Hospital San Javier SC, Guadalajara, Mexico)

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Background Small bowel obstruction as a complication of laparoscopic gastric bypass (LGBP), rates range from 1.5% to 5.5%. Few cases of jejuno-jejunal anastomosis (J-JA) obstruction are reported, most of them are deemed as early obstructions. Late (3 weeks after surgery) obstruction at the J-JA site is an exceptional situation.

Methods We report the case of a 34 year-old female who presented to the ER 6 months after LGBP with epigastric pain and nausea (without vomit) of insidious onset. The physical examination revealed mild tenderness in the epigastric region. After initial clinical evaluation and plain abdominal X-rays, an enhanced CT scan was performed revealing significant stomach, duodenum and biliary limb dilation without evidence of obstruction of the alimentary limb. 3D reconstruction was made identifying complete narrowing of the biliary limb anastomosis site without alimentary or common limb involvement.

Results The patient underwent laparoscopic surgical exploration. Operative findings revealed acute stomach, duodenum and biliary limb dilation with normal alimentary and common limbs. We decided to bypass the J-JA obstruction performing a side-to-side jejuno-jejunostomy proximal to the obstruction using a 60 mm stapler. There were no surgical complications. The patient started fluid intake the day after surgery and was discharged 4 days postoperatively with an uneventful recovery. 6 months postoperatively the patient remained asymptomatic, at the same time, radiologic control studies were taken without re-stenosis evidence.

Conclusions Narrowing at the J-JA site is an infrequent cause of small bowel obstruction after LGBP. In this case, the patient presented 6 months after surgery and with a complete narrowing of the biliary limb anastomosis site without alimentary or common limb involvement. The problem was solved with laparoscopic side-to-side jejuno-jejunostomy with an uneventful recovery.

V-042 Stomaphx for Dilated Gastrojejunostomy After Roux-En-Y Gastric Bypass

Presenter: A. Madan (University of Miami Miller School of Medicine, Miami, United States of America)

Co-authors: R. Gonzalez¹, E. Lo Menzo², J. Martinez¹, D. Alaadeen¹

¹University of Miami Miller School of Medicine Miami United States of America; ²University of Maryland Maryland United States of America

Background While Roux-en-Y gastric bypass is a well accepted option for weight loss, some patients will have weight regain or insufficient weight loss. Revisional bariatric surgery carries significant morbidity and mortality. Less invasive techniques such as endoscopic treatments have been developed to reduce stoma size. This video will demonstrate a technique of utilizing Stomaphx for dilated gastrojejunostomy after gastric bypass.

Methods The technique is utilized in patients who have had either weight regain or insufficient weight following Roux-en-Y gastric bypass. Loss of satiety, re-education and re-counseling of dietary changes, as well as documented dilated gastrojejunostomy (on upper endoscopy and/or a radiological study) are criteria for this procedure.

Result Non-absorbable fasteners are placed circumferentially around the stomach and gastrojejunostomy. The gastric wall is suctioned via the device and as many fasteners as possible are placed. Typically 20 fasteners are placed. By visual inspection, the anastomosis appears smaller after the procedure. Patients report a subjective feeling of satiety after the Stomaphx. Patients are watched overnight and go home on over the counter liquid acetaminophen. No morbidity or mortality has yet been noted after the procedure.

Conclusion Stomaphx may offer an alternative endoscopic treatment of dilated gastrojejunostomy after gastric bypass. The procedure is a relatively safe and easy. This technique may become the first line of therapy in patients who lose the feeling of satiety after gastric bypass.

V-043 Gastrojejunostomy Web After Laparoscopic Roux-En-Y Gastric Bypass

Presenter: A. Madan (University of Miami Miller School of Medicine, Miami, United States of America)

Co-authors: D. Tichansky², E. Lo Menzo³, D. Alaadeen¹, A. Iglesias¹, J. Martinez¹

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Background Webs are uncommon complications of gastrointestinal anastomoses. Due to the rarity, treatment of anastomotic webs is not well defined. In this video, we describe endoscopic treatment of a gastrojejunostomy web after laparoscopic Roux-en-Y gastric bypass (LRYGB).

Methods A 52 year old female underwent a LRYGB with intraoperative upper endoscopy demonstrating an initial gastrojejunostomy air leak. The gastrojejunostomy was reinforced with silk sutures. Repeat intraoperative upper endoscopy indicated no air leak and no intraluminal sutures. Postoperatively, the patient initially did well, but returned 18 months later with nausea, vomiting, inability to tolerate oral intake, and severe abdominal pain. She underwent a diagnostic laparoscopy which revealed no internal hernias but a few adhesions. Intraoperative upper endoscopy was significant for a gastrojejunostomy web. An endoscopic balloon dilation of the gastrojejunostomy reestablished an adequate luminal diameter of the gastrojejunostomy. Immediately following this procedure, she had excellent symptomatic relief and no weight gain. However, 14 months after the diagnostic laparoscopy, she had return of symptoms including nausea, vomiting, inability to tolerate solids, and reflux.

Result Upper endoscopy revealed retained food particles. After two days later of liquid diet, the patient underwent a repeat endoscopy which demonstrated an obvious gastrojejunostomy web and foreign body (silk suture). The web was cut with endoscopic scissors and the suture was removed. The patient now has remained asymptomatic for 18 months following excision of the web and has had no weight gain.

Conclusion Gastrojejunostomy webs may occur after LRYGB and be related to non-absorbable sutures. As demonstrated by this case, they should not be treated with dilation alone. Instead, ideal treatment includes endoscopic excision of web and removal of any foreign bodies (sutures).

V-044 Single-Incision Laparoscopic Sleeve Gastrectomy

Presenter: K. Kim (Celebration Health Metabolic Medicine and Surgery Institute, Celebration, United States of America)

Co-authors: P. Toor¹, D. Tanton¹, C. Buffington¹

¹Celebration Health Metabolic Medicine and Surgery Institute Celebration United States of America

Background Methodology for single incision access is currently being researched for various laparoscopic surgeries, including bariatrics. This video presentation illustrates our technique for the performance of sleeve gastrectomy via laparoscopic single incision.

Methods The single incision surgery was performed on a 60-year old morbidly obese female who was on a number of medications for co-morbidities, i.e. diabetes, hypertension, hyperlipidemia, dyslipoproteinemia, coronary artery disease (with previous quadruple bypass), a history of recurrent pneumonias, and depression. A sleeve gastrectomy was performed using a single/minimal incision at the umbilicus and a Nathanson retractor introduced through a subxyphoid puncture for liver retraction.

Result The laparoscopic single incision sleeve gastrectomy took approximately 1 hour and 45 minutes to perform. No intraoperative complications occurred, and the length of hospital stay was less than 48 hours. The patient experienced no food or fluid intolerance. To date, the patient has had no surgical complications, and she continues to lose weight at a rate comparable to that of other patients who have had a sleeve gastrectomy via conventional procedure.

Conclusion The performance of a laparoscopic single incision sleeve gastrectomy is feasible, even on high-risk patients. Knowledge of the effectiveness and safety of this procedure will require further investigation and randomized clinical trials.

V-045 Scarless Modified Single Laparoscopic Incision Transabdominal Surgery (SLITs) Sleeve Gastrectomy

Presenter: K. Ser (MinSheng General Hospital, TaoYuan, Taiwan)

Co-authors: L. Weijei¹, S. Yen hao¹, C. Jungchien¹

¹MinSheng General Hospital Taoyuan Taiwan

Background Laparoscopic sleeve gastrectomy had been proved to be an effective surgical procedure for treatment of morbid obesity, the conventional laparoscopic surgery routinely required five to seven port for the procedure. Less invasive surgical technique than laparoscopic surgery had recently become intense area of investigation. The single incision laparoscopic surgery is to be performed the operation through a single incision rather than conventional five port laparoscopic surgery.

Methods We had successfully performed the SLITs laparoscopic sleeve gastrectomy with an additional 2 mm port over subiphoid area for liver retraction, for better angle of His exposure and safer surgical procedure. Tissue glue was used for staple line reinforcement and the gastric specimen was retracted from umbilical wound.

Result Total 5 cases had completed the modified SLITs procedure with single umbilical incision and additional 2 mm port till 2009/3, the mean operative times was 67 minutes, no complication occurred post operatively and all patients discharged from hospital on POD3, less pain complained by patients compared to conventional laparoscopic procedures. The surgical scar was nearly invisible after 1 month follow up.

Conclusion Scarless modified SLITs laparoscopic surgery is safe and feasible for performing sleeve gastrectomy for morbidly obese patients.

V-046 Single Incision Laparoscopic Sleeve Gastrectomy**Presenter: A. Madan (University of Miami Miller School of Medicine, Miami, United States of America)**Co-authors: A. Iglesias¹¹University of Miami Miller School of Medicine, Miami, United States of America

Background Laparoscopic sleeve gastrectomy (LSG) is gaining favor as a weight loss procedure. While long term results are still pending, short and medium term results demonstrate good weight loss. Reducing the number of incision utilized to perform this procedure could also provide a further decrease in the morbidity of this procedure. Thus, we have developed a technique for single incision laparoscopic sleeve gastrectomy (SILSG). This video demonstrates our technique of SILSG in a porcine model.

Methods One incision was made in the midline to represent the umbilicus of a human. A hand port (modified by suturing the opening) is utilized through a small incision (less than 2 cm). Trocars are placed through the hand port into the abdominal cavity. Three trocars are utilized (a 12 mm and two 4 mm trocars). Three sutures are utilized to help with retraction of the stomach. Staplers are utilized to divide the stomach and a harmonic scalpel is utilized to divide the vasculature. Stomach is removed through the hand port.

Result This technique has been utilized to perform SILSG in a porcine model successfully. The main difficulty that has been noted stem from thickness of porcine stomach. Otherwise, the procedure is performed easily especially with the aid of traction sutures.

Conclusion SILSG is a technically feasible procedure in the porcine model. However, SILSG needs to be performed in an obese human to demonstrate its overall utility.

V-047 Laparoendoscopic Single Site Gastric Banding**Presenter: Y. Van Nieuwenhove (University Hospital Ghent, Ghent, Belgium)**Co-authors: K. Fierens¹, K. Van Renterghem¹, D. Van De Putte¹, W. Ceelen¹, P. Pattyn¹¹University Hospital Ghent Ghent Belgium

Background Less invasive surgery (LIS) has been made possible thanks to an explosion of technological advancement. On one hand, NOTES or natural orifice transluminal endoscopic surgery promises an exciting field of innovations but seems to be outside the expertise of most surgeons. A parallel development is the single site laparoscopic surgery (LESS, SILS, SPA,...) which actually represents the natural evolution of the laparoscopic surgeon towards less invasive surgery.

Methods We report of our experience in single incision gastric banding using the Triport[®] trocart, which is specifically designed for this type of surgery. In a video, we point out the technical difficulties of the technique and demonstrate the need for special instruments which are still in an early stage of development. Some of these prototype instrument are constructed with a double bend, allowing better ergonomics for single site surgery. These instruments are shown in premiere in a video of a human cadaver model.

Conclusion Laparoendoscopic site bariatric surgery can offer several advances by reducing the surgical trauma, provided that specifically adapted instruments are used.

V-048 Single Incision Laparoscopic Adjustable Gastric Banding**Presenter: A. Madan (University of Miami Miller School of Medicine, Miami, United States of America)**Co-authors: A. Iglesias¹¹University of Miami Miller School of Medicine, Miami, United States of America

Background Laparoscopic adjustable gastric banding (LAGB) is a commonly performed weight loss procedure. While it has a relatively low perioperative

morbidity and mortality, decreasing the pain and scarring could be beneficial. Additionally, since the incision required to place the port is approximately 2 cm, single incision laparoscopic adjustable gastric banding (SILAGB) may offer some benefit. This video demonstrates our technique of SILAGB.

Methods One incision was made to the left side of midline under the costal margin where the band port is usually placed. A 12 mm optical viewing trocar was inserted into the abdomen through that incision. This incision is extended to replace the 12 mm trocar with a 15 mm trocar as well two 5 mm trocars on each side of the 15 mm trocar. All trocars are placed through the same incision. The laparoscopic adjustable gastric band is placed with these trocars. In patients whose liver is too large, a 5 mm instrument is placed directly through the incision to lift the liver anterior.

Result To date, 100% of attempted procedures (8) were performed with a single incision. Almost all patients (6) require liver retraction. All procedures lasted less than 95 minutes.

Conclusion SILAGB is a technically feasible procedure. However, SILAGB needs to be compared with traditional LAGB for operative time, complications, patient benefits, and cost.

V-049 Laparoscopic Gastric Banding Without Visible Scar**Presenter: R. Tacchino (agostino gemelli hospital, rome, Italy)**

Background Single incision laparoscopic surgery (SILS) has been developed with the aims of further reduce the invasiveness of traditional laparoscopy.

Method The technique of lap-band placement from a single intra-umbilical incision is described. Four patients underwent a SILS-Gastric Band for morbid obesity from April to September 2008.

Results All intervention were uneventful and patients were discharged on first postoperative day, after an upper-GI series.

Discussion SILS Gastric-Band is virtually scar-less intervention and may be performed as a day-surgery procedure resulting in a very attractive procedure for morbid obese patients.

V-050 Laparoscopic Sleeve Gastrectomy with Duodenal Switch: How to Simplify That?**Presenter: J. A. Sallet (Sallet Institute of Medicine, Sao Paulo, Brazil)**Co-authors: C. Pisani¹, L. Fernandes¹, P. Sallet¹¹Sallet Institute of Medicine Sao Paulo Brazil

Background Laparoscopic SG + DS is the most complex bariatric procedure, with higher risks of complications and/or mortality than other surgeries. The critical point of this surgery is the duodenum-ileal anastomosis. This video shows that the diversion of the right gastric artery allows the performance of an easier anastomosis for the duodenum and ileum with no tension.

Methods The steps to be able to simplify the procedure and to perform the correct technique are: Opening the gastro-colic ligament and release all the gastric curvature; Dissection of antrum near the duodenum; Create a sleeve gastrectomy with linear stapler; Perform a reinforcement line with manual suture; Preparation of the duodenum with pancreatic plateau dissection; Identify the right gastric artery and make it's section; Release the duodenum with stapler; Count one meter from ileum-cecum valve, and make a mark; Count more one and half meter from ileum-cecum valve and stapler the ileum; Make a ileum-ileal anastomosis with stapler side by side one meter from ileum-cecum valve; Close the mesentery gap; Make the duodenum ileum anastomosis manually; Cholecistectomy.

Results With this technical procedure we have done 75 SG + DS without major complications or mortality.

V-051 Vertical Gastropasty with Jejunoileal By-Pass – A Novel Procedure**Presenter: A. C. Garcia De Brito (Gastromed Zilberstein Institute, Sao Paulo, Brazil)**Co-authors: B. Zilberstein¹¹Gastromed Zilberstein Institute Sao Paulo Brazil

Background Bariatric surgery add new concepts to the type II diabetes mellitus treatment. The aim of this presentation is to demonstrate a new surgical procedure, totally managed by laparoscopy, for the treatment of obesity as well for obese diabetic patients.

Methods This procedure is a mixed technique, adding to the vertical gastroplasty a laterolateral jejunal-ileal by-pass (80 cm from the Treitz angle and 120 cm from the ileocecal valve), enhancing the hormonal mechanism of the ileal loop. The procedure was performed in six patients, three DM type II patients, two other with previous AGB and in another obese patient without previous obesity surgery.

Result The mean operation time was about three hours. No intra-operative or post operative complications were observed. Hospital stay period was of two days. One year follow-up demonstrate regression of the diabetes with a mean EBW loss of 70%.

Conclusion Therefore this novel procedure can be consider in the treatment of morbid obesity as well in the control of DM type II patients, needing further studies and larger number of patients.

V-052 Laparoscopic Magenstrasse and Mill Operation

Presenter: P. Millo (regional Hospital , Aosta, Italy)

Co-authors: R. Allieta¹, R. Brachet Contul¹, M. Fabozzi¹, M. Nardi¹, M. Grivon¹

¹regional Hospital Aosta Italy

Background This procedure was performed by Davis Johnston⁶ in 1987 and the technique was optimized over time. In this purely restrictive procedure a non banded vertical gastroplasty 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.

Methods An ENDO GIA à 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 Peri-strips. 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.

Result Satisfactory weight loss is seen at 1 year with 58% of EWL and 61 % at 2 years.

Conclusion This series describes the possibility to perform a Magenstrasse in super obese like Sleeve Gatrectomy.

V-053 Video Demonstration of Safe and Quick Extraction of Heliosphere Intra-gastric Balloon

Presenter: B. Napoléon (Hôpital Edouard Herriot, Lyon, France)

Intra-gastric balloons are efficient to obtain a significant weight loss in obese. Last generation of Heliosphere, intra-gastric balloons, filled with air, have major advances allowing an easiest retrieval. Nevertheless a systematic step by step procedure is needed to facilitate the extraction. This video demonstrates the most useful procedure to extract the balloon rapidly and safely.

V-054 Duodenal Exclusion Associated to Sleeve Gastrectomy with Roux An Y for the Treatment of non Obese Type 2 Diabetic Subjects- Preliminary Results

Presenter: D. Nasser (Maringa Obesity Surgery Center, Maringa, Brazil)

Co-authors: A. Finizola¹, B. Nanni¹, K. Nasser¹, W. Eike Filho¹, M. Takahashi¹, E. Kequim¹, R. Bazote¹, D. Fagundes¹, L. Oliveira¹, R. Batista¹

¹Maringa Obesity Surgery Center, Maringa, Brazil

Background The world Diabets tipe 2 prevalence is getting higher, with epidemic characteristics in many Countires, specially in developing ones. Brazil has the tenth diabetic population in the world.

In 2004 Rubino M.D., published a study done in non obese diabetic rats showing that the Duodenal Exclusion can directly improve the glucose metabolism, suggesting that the surgery can also lead to an glicemic control in non obese diabetc tipe 2 patients. The Wheight loss of the Sleeve Gastrectomy is lower and also improve the glicose metabolism. So the association of both surgical tecniches can improve the glicose metabolism without a great wheight loss.

The long term medical treatment for the tipe 2 diabets has also riscs for the patient as severe hipoglicemia, weight gain and an inadequate desease treatment.

The objective of that study is to demonstrate the benefits of the duodenal exclusion with sleeve gastrectomy, to improve the clinical condition of the patient , suspend the insulin or hipoglicemiant drugs, and stop the secondary lesion of the diabets.

Methods This study was approved by the Ethical Comete of State University of Maringá . The subjects will be submeted to general anesthesia and videolaparoscopy aproach. The inclusion criteria are; BMI < 30 Kg/m2, limit age of 65 years old, diagnose of tipe 2 diabets, C peptide > 1, Glicade hemoglobin > 7.5% and sign the Consentiment term.

Result We will present the preliminary results of the first year pos operative, with reduction of glicemic tests since the first day and with interruption of the insulin needs.

We will show a surgical video with the more important steps of the videolaparoscopic duodenal exclusion and sleeve gastrectomy.

Conclusion Weight loss is not the reason why duodenal exclusion with sleeve gastrectomy controls diabets. Instead , bypassing the foregut and reducin food intake produce the profound long- term alterations in glucose metabolism and insulin action.

V-055 Remodeling Bodylift with High Lateral Tension

Presenter: J. F. Pascal (Cabinet, Lyon, France)

Body liftings are surgical procedures that are infrequently performed because the length of operating time implies increased risk to the patient as well as surgeon fatigue. The other drawback of body liftings is the long incision line. However in our experience, these incisions are well accepted if they are well placed and if the body change is significant.

The goal of this publication is to show how operating time can be shortened, and how the scar can be correctly positioned by using precise pre-operative markings. In addition to the high superior tension abdominoplasty, the two innovations of this type of body lift are the fat flap and the suspension of tissue in the trochanteric and buttock regions.

Meticulous hemostasis, limited undermining, and the closure of dead space are factors that produce a more reliable procedure, both in terms of postoperative problems and final results.