Preoperative Treatment with Very Low Calorie Diet

Adelaide Circle of Care, Flinders Private Hospital/Flinders University of South Australia, South Australia, Australia
Lilian Kow

Obesity is the most significant risk factor for the development of non-alcoholic fatty liver disease (NAFLD), a term that encompasses a spectrum of liver pathology ranging from fatty liver alone
(hepatic steatosis) to concomitant hepatic inflammation (non-alcoholic steatohepatitis or NASH).
NAFLD is estimated to occur in 30 to 100% of obese adults and is associated with hepatic enlargement (hepatomegaly), elevated serum aminotransferaselevels and insulin resistance.

In morbidly obese patients, any abdominal surgery is difficult because of reduced intraabdominal space due to an enlarged liver and an increased amount of intraabdominal fat. The enlarged left liver lobe obscures the gastro-esophageal junction and makes the dissection at the gastroesophageal junction and proximal stomach difficult. Furthermore, traction to a fatty liver may cause trauma with increased risk for bleeding. Technical difficulties due to an enlarged liver are one of the most common reasons for abandonment of the laparoscopic procedure and often leads to conversion to an open procedure. The successful laparoscopic bariatric procedure is associated with less postoperative pain, reduced risk of incisional hernia, better postoperative pain, reduced risk of incisional hernia, better postoperative pulmonary function, as well as shorter postoperative care when compared to open bariatric procedures.

There are different preoperative dietary regimens recommended to reduce liver size. Most studies support that a preoperative very low calorie diet induces moderate weight loss resulting in a significant reduction of intrahepatic fat content and liver volume. This moderate weight loss and reduction in liver volume facilitates the laparoscopic bariatric procedure by improving the exposure of the gastroesophaeal and proximal stomach region.

Optimizing Nutrition After Bariatric Surgery

Nicholas Wray
Adelaide Circle of Care
Flinders Private Hospital
South Australia
Australia

Bariatric surgery is an extremely effective weight loss tool which can result in significant and sustained weight loss. Implementing a structured post-surgical dietary protocol and managing the nutritional deficiencies that can result from such surgery, are essential to any bariatric surgical practice.

There are 4 critical stages after bariatric surgery where dietary manipulation and intervention are essential for weight loss success.

1. Post-surgical healing phase (liquid diet) - enables healing to occur from the surgery and minimizes patient discomfort whilst lessening the risk of stretching the new stomach pouch.
2. Progression of diet back to solids - semi-solid meals are introduced then gradual progression back to solid diet. The soft texture diet enables the stomach to get used to foods again, and the patient begins the learning process of how much they can safely eat.
3. Normal diet - dietary intervention during the longer time period from post-surgical period right through to target weight. Dietary guidance and regular contact with the patient is essential to continue a steady but adequate rate of weight loss and minimize nutritional deficiencies.
4. Maintenance of target weight - ongoing dietary review to ensure weight lost is maintained.

An experienced bariatric dietitian is a critical team member in each of these stages. The nutritional consequences of bariatric surgery must be considered on an individual basis, as both macronutrient and micronutrient deficiencies can occur. Deficiencies must be screened for and appropriate supplementation provided.

Multidisciplinary Approach in Adolescent Bariatric Surgery

A/Prof Wendy Brown
Centre for Obesity Research and Education
Monash University
Melbourne, Australia

Bariatric surgery has been shown to be an effective, and cost-efficacious, tool in the management of adolescent obesity. However, adolescence is a unique period in an individual's life, whereby identity is established and risk taking behaviour is common. They are not children, nor "little adults". Patient selection, perioperative and postoperative management of the adolescent patient requires that their special needs are acknowledged, and a multidisciplinary team is required to maximise outcomes.

Taiwan's Experience of Multidisciplinary Approach in Bariatric Surgery

Kong Han Ser, M.D., WeiJei Lee, M.D.,PhD.
MinSheng General Hospital, Taoyuan county, Taiwan.

Morbid obesity is a serious disease as it is accompanied by substantial co-morbidity and mortality. The prevalence is increasing to an alarming extent. In the past few decades, bariatric surgery has developed and gained importance. Bariatric surgery is proved to be the only treatment permitting significant and long lasting results for patients suffering from morbid obesity with indications of BMI>40 kg/m(2) or BMI >35 kg/m(2) associated with one or multiples comorbidities. Bariatric care should be delivered within credentialed multidisciplinary systems. Roux-en-Y gastric bypass (RGB), adjustable gastric banding (AGB), and biliopancreatic diversion with duodenal switch (BPD + DS) are validated procedures that may be performed laparoscopically. Laparoscopic sleeve gastrectomy (LSG) also is a promising procedure proved in recent literatures. We would like to report our experience in multidisplinary approach in Taiwanese morbidly obese patients.

Obesity Conference; Understanding of psychological aspects of obese patients are essential for good follow-up after bariatric surgery

Atsuhito Saiki
Center of Diabetes, Endocrine and Metabolism, Toho University Sakura Medical Center

The pre- and post-operative management of bariatric surgery patients is multidisciplinary. Especially, physician should be responsible for the treatment of obesity, nutrition, risk factors and complications for the long-term follow-up together with nutritionist and nurse. On the other hand, it is also essential to understand the psychological aspects for good follow-up after bariatric surgery. Because bariatric surgery requires a considerable change in eating behaviors and patients will experience psychosocial change post-operatively.

Our institution holds a monthly “Obesity Conference” for more than 15 years. It is the multidisciplinary case conference and consists of not only physicians, nutritionists, nurse and physiotherapists, but also psychiatrist and clinical psychologists. Since 2010, our team has invited surgeons and has become a bariatric surgery multidisciplinary one. A highlight of the conference is to discuss the findings from interview, intelligence test and psychological test such as Rorschach Test (Comprehensive System) and Egogram performed by Mental-health professionals. We first understand and sympathize with the patient’s familial social background, past history, psychological stress and psychic reality as much as possible. Subsequently, we evaluate the personality traits and whether the patient has mental disorder and/or eating disorder. Then, the comprehensive strategy for follow-up after bariatric surgery is discussed and consented. In our team, physician mainly coordinates the conference and pre- and post-operative management including mental-health.

Our conference established a “high lambda” personality (Rorschach Test), which was highly detected in Japanese severe obese patients. High lambda is characterized as avoidance of complexity and the patients are often resistant against their behavior modification. To understand this personality is helpful to predict their “dropout” after bariatric surgery.

Understanding of “patient” with psychological aspects is essential to success in bariatric surgery. Obesity Conference must improve to popularize such an excellent bariatric surgery in Japan and to make more obese patients happy with the surgery!

The Role of the Dietitian in Bariatric Surgery Team

Yotsuya Medical Cube
Eri Kikkawa

The basic principle of treatment for obesity is that the consumption of energy overcomes the intake of energy. However, the obesity cannot be treated only by negative balance of energy. There are a number of problems with obese patients, such as eating habits, living conditions and social lives. Therefore, the multidisciplinary team approach with sufficient expertise to manage the interplay of these behavioral, nutritional, psychological, medical and surgical issues would seem imperative.

Our institution has performed nearly 200 bariatric cases since 2006. Our team consists of bariatric surgeons, nurses, social worker, and national registered dietitian for the management of bariatric patients. The main role of dietitian is nutritional management before and after surgery for the purpose of bettering the outcome of surgery. For example, the preoperative nutritional assessment and education of the patients plays an important role in reducing the risks of surgery and the postoperative instructions from the dietitian are provided for weight loss induced effectively and prevention of nutritional deficiency and malnutrition.

The postoperative excess weight loss was 22.9% at 1 month, 41.5% at 3 months, 58.5% at 6 months, 70.4% at 12 months, and 73.6% at 24 months. The dietician has given the patients the details about nutrition and guided them properly. Therefore, there was no patient suffering from nutritional deficiency and malnutrition after surgery. In addition to that, our result shows that our multidisciplinary approach was successful for morbidly obese patients in Japan.

Psycho-Social approach by the social worker for bariatric patients in Japan./ A model to ensure the success of bariatric surgery

Tetsuya Nakazato
Yotsuya Medical Cube

Morbid obesity is a new but rapidly increasing social problem in Japan. More than 200 patients have underwent bariatric surgery since 2006 at Yotsusya Medical Cube.

We have organized the multidisciplinary Team which consists of surgeons, a nutritionist, a pharmacist, nurses, and a social worker. The team approach plays an important role in the success of treatment for bariatric patients. In this approach, the social worker is in charge of the psycho-social support for patients. For example, there are two kinds of psycho-educational groups organized by the social worker: 1) Pre-surgery orientation group with post-surgery patients as supporters every Wednesday and Thursday; 2) Post-surgery patient group meeting every December, the counseling has also been provided on individual basis as well as in group settings for pre-surgery and post-surgery patients.

As social work is a profession for those with a strong desire to help improve people's lives,, social workers are in an important position to help bariatric patients by helping them cope with and solve issues in their everyday lives, such as family and personal problems, relationships, and social problems. Therefore, as the patients can focus on their physical problems and treatment, this intervention has lead to the success of bariatric surgery in our hospital.

I will speak about effects of the social worker intervention for bariatric patients with my experiences and research.

A multidisciplinary approach to obesity treatment

Takashi Oshiro
Department of Surgery, Toho University Sakura Medical Center, Chiba, Japan

Open and laparoscopic bariatric surgeries have been performed in Japan since 1981 and 2000, respectively. But because of the low rate of obesity in the population (the percentage of the population with a BMI over 30 is 3.2%), and even medical personnel have little interest in trying to understand weight loss surgery. Although more than 90% of bariatric surgery is performed laparoscopically in the world, health insurance coverage is applied only for open surgery in Japan at this time. With regard to gastric bypass for Japanese obese patients, no consensus has yet been reached among domestic societies for the treatment of obesity due to the high risk of gastric cancer. For these complex reasons, only a few hospitals perform bariatric surgery routinely in Japan. However, considering that there has been an increase in obesity-related diseases in Japan, and since obesity continues to increase, it appears that there are many patients who would be candidates for bariatric surgery.

It is well known that the implementation of a presurgical patient assessment and diet programs by a multidisciplinary team can lead to optimal results after bariatric surgery. Our multidisciplinary team, including physicians, psychologists, nurses, psychotherapists, dietitians and physical therapists has worked for years on obesity treatment. Surgeons joined this team in 2010, and we started performing both open and laparoscopic bariatric surgeries. We herein present our multidisciplinary approach to pre-, peri- and postoperative care.

Diabetes control and lessened cerebral cardiovascular risks after gastric bypass surgery in Asian Taiwanese with a body mass index <35 kg/m2

[1]Cardiovascular Department of internal Medicine, Min-Sheng Hospital, Taoyuan, Taiwan, ROC [2]Department of surgery, Min-Sheng Hospital, Taoyuan, Taiwan, ROC
Jih-Hua Wei[1],Wei-Jei Lee[2],Shu-Chu Chen[2],Yi-Chih Lee[2],Yen-How Su[2]

Background: Morbid obese patients with type 2 diabetes mellitus (T2DM) and a body mass index(BMI) >35 kg/m2 benefit greatly from Roux-en-Y gastric bypass surgery (RYGB). Whether the patients with T2DM and a body mass index (BMI)<35kg/m2 also profit from this surgical procedure is not known. In Asian Taiwanese, the risks associated with T2DM and cardiovascular diseases occur at a relatively lower BMI levels. We examined the safety and efficacy of RYGB in Asian Taiwanese patients with T2DM and a BMI of 22-35 kg/m2 in a referral medical center.Methods: A total 62 consecutive patients with T2DM and a BMI of 22-35kg/m2 underwent RYGB between 2003 and 2009. The data were prospectively collective before surgery and at 3, 6 and 12 months after operation. Results: Of the 62 patients, 15 were men and 47 were women (age 40.1 ± 10.1 years). Their preoperative characteristics were BMI 30.2 ± 3.2 kg/m2, body weight 81.8 ± 11.8 kg, waist circumference 100.6 ± 10.4 cm, and duration of T2DM 5.9 ± 6.0 years. There was no mortality, major surgical morbidity, or excessive weight loss experienced. The BMI decreased postoperatively by 20%, from 30.2 ± 3.2 kg/m2 to 24.0 ± 2.8 kg/m2 (P <.001). The fasting blood glucose level decreased from 194.7 ± 70.4 mg/dL to 99.8 ± 28.4 mg/dL (P <.001), and the hemoglobin A1c decreased from 9.1% ± 1.7% to 6.0% ± 0.9% (P <.001). The 10-year cerebral and cardiovascular disease risk was estimated with UKPDS risk engine before and after RYGB. The risk for fatal and nonfatal stroke and coronary heart disease decreased essentially. Conclusion: RYGB safely and effectively remits T2DM in Asian Taiwanese with a BMI <35 kg/m2. It also lessens the 10-year cardiovascular cerebral disease risks. More larger, longer term, prospective and randomized studies are needed to confirm these effects.

Prevalence of nonalcoholic steatohepatitis (NASH) in morbidly obese Japanese patients who underwent bariatric surgery

Yosuke Seki
Yotsuya Medical Cube

1) Division of weight loss surgery, Department of minimally invasive surgery, Yotsuya Medical Cube, Tokyo, Japan
2) Department of Medicine and Molecular Science, Gunma University Graduate School of Medicine, Gunma, Japan

Yosuke Seki[1)], Kazunori Kasama[1)], Satoru Kakizaki[2)], Hideharu Shimizu[1)]

Background:
Non-alcoholic fatty liver disease (NAFLD) is increasingly being recognized to occur more commonly in the obese with a clinicopathologic entity that extends beyond uncomplicated steatosis to steatohepatitis (NASH), advanced fibrosis, liver failure and hepatocellular carcinoma. In our previous report, we showed that racial difference between Japanese and Western people in terms of NAFLD and related liver dysfunction. There are few reports investigating the prevalence of NASH in morbidly obese Japanese.

Methods:
Twenty-eight consecutive morbidly obese Japanese who underwent bariatric surgery in Yotsuya Medical Cube from October 2009 to July 2010 were enrolled. There were 16 females and 12 males (mean age: 40.3±11.2). Mean pre-operative weight was 114.4±22.3kg and mean BMI was 41.9±6.9kg/m2. A trucut liver biopsy was performed from left lobe of the liver at the time of surgery and analysed by a single pathologist. The liver biopsies were assessed by applying histopathological criteria that are accepted in the pathology literature.

Results:
Eighty-nine percent (25 in 28) of the patients undergoing bariatric surgery were found to have steatosis. And 71.4% (20 in 28) were found to have NASH. One patient was found to have established cirrhosis.

Conclusion:
Hepatic steatosis was very prevalent in our cohort of patients presenting for bariatric surgery. The prevalence of NASH was much higher in Japanese morbidly obese patients than the reported prevalence of NASH in Western individuals. These findings support that Asian are more prone to central obesity and, thus, have increased risk for obesity-related comorbidities.

The Feasibility: SILS port Roux-en-Y Gastric Bypass for Low BMI Diabetes Mellitus

[1]Bariatric & Metabolic International Surgery Center,E-Da Hospital,Taiwan [2]International Minimally Invasive Surgery Training Center [3]General Surgery
Chih-Kun Huang[1,2,3],Chi-Hsien Lo[1,3]

Background: Single Incision Laparoscopic Surgery has been expanded to bariatric surgery. Laparoscopic Roux-en-Y gastric bypass is already accepted as one of the most effective procedure for the treatment of type 2 diabetes mellitus. Hereby, we described our experience using SILS Port to performed Roux-en-Y gastric bypass in nine patients with type 2 diabetes mellitus patients.Methods: After getting approval of E-Da Institutional Review Board, 9 cases with diagnosis of Type 2 Diabetes Mellitus patients with low body mass index (BMIless than 30) underwent Roux-en-Y gastric bypass using the SILS Port from August 2010 to November 2010. Standard Roux-en-Y gastric bypass was performed with 25ml of gastric pouch, 100cm of alimentary and biliopancreatic limb. Results: Four female and five male patients with mean BMI 27.15 and average of diabetes history of 10.2 years, underwent SILS Port Roux-en-Y gastric bypass. Novel liver suspension technique was performed in all patients. Mean operation time was 135 min. And two patients needed additional trocars intra-operatively, related to the difficulty in the dissection of gastric pouch and gastrojejunostomy suture. There was no surgical complication or mortality. At the first month postoperatively, mean AC sugar dropped from 198mg/dL to 116.1mg/dL, and mean HbA1c decreased from 9.71% to 8.18%. Conclusion: Laparoscopic Roux-en-Y Gastric Bypass with SILS Port is feasible and reproducible, but should be performed under strict indication and by an experienced surgeon. Even in low BMI patients, it showed high technical skill demands, increased operation time and high conversion rate.

Early Resolution of Type 2 Diabetes Mellitus by Laparoscopic Ileal Transposition with Sleeve Gastrectomy Surgery in 23 to 35 BMI Patients

[1]Bombay Hospital [2]Center of Metabolic Surgery, Levioza Clinic, Pushpanjali Building, Santacruz(W), Mumbai, India

Ramen Goel[1],Pravin Amin[1],Madhu Goel[2],Sanjeet Marik[1]

Introduction: Diabetes is considered a life style disease. 56% diabetic patients with BMI greater than 7 are at high risk of diabetes related complications. Bariatric surgery results in diabetes resolution in over 84% patients. Based on hindgut hypothesis suggesting role of incretins like GLP-1, early trials of ileal interposition surgery have displayed consistent HbA1c levels below 7 in over 80% patients with over 30 kg/m2 BMI. In developing countries majority of T2DM patients are not morbidly obese and surgical procedures are to be evaluated for their efficacy in this group. In this study we have assessed the efficacy of ileal transposition with sleeve gastrectomy (SGIT) in 23 to 35 BMI T2DM patients.Method: After institutional ethical committee approval & Indian Council of Medical Research registration(CTRI/2008/091/00206), selected T2DM patients [HbA1c over 7, C Peptide more than 1] underwent Lap SGIT by a single surgeon. Data of first five patients with minimum 6 months follow up was analyzed for glycemic control, reduction/ discontinuation of diabetes medication.Results: The study target (HbA1c less than 7) was achieved in 60 % patients within 1 month , and in 100% patients within 6 months. Requirement of medicines reduced significantly within 6 months and their HbA1c levels reduced from 9.65% to 6.22%. Conclusion: Laparoscopic SGIT represents a new paradigm, for the treatment of T2DM even in non morbidly obese patients. Conflict of Interest: None.Funding: Research related to this study was funded by Bombay Hospital trust, Mumbai, India.

Is Laparoscopic Duodenojejunal bypass with Sleeve an effective alternative to Roux en Y gastric bypass: A Randomized Trial

[1]Department of Bariatric and Metabolic Surgery,Gem Hospital and Research Centre,Coimbatore,India

Praveen Raj[1],Palanivelu Chinnusamy[1]

Background:The incidence of Obesity and related metabolic disorders including Carcinoma Stomach in India is one of the highest in the world .Hence one requires a procedure that allows postoperative surveillance of the stomach with the best outcomes in terms of weight control and resolution of comorbidities .Here we compare one such procedure,Duodenojejunal bypass with Sleeve against the standard Roux-en Y gastric bypass.Methods:52 patients were randomized into 2 groups of Laparoscopic Duodenojejunal bypass with Sleeve (DJB) and Laparoscopic Roux en Y gastric bypass (RYGB) of 26 patients each. Results:The mean BMI at the end of 6 months and 1 year was 35.16, 29.25 in RYGB and 34.51, 28.10 in DJB. The %excess BMI loss at 6 months and 1 year were 52% ±19 and 77% ±24 in RYGB and 58% ±14 and 82% ±19 in DJB, which was not statistically significant.14/26 patients in the RYGB and 19/26 in the DJB group had Type II Diabetes .In RYGB 12 had complete resolution and 2 had improvement and 16 patients in the DJB had complete resolution and remaining 3 had improvement . There was 100% resolution of Dyslipidemias in both groups. There was 1 patient in the DJB group who presented with internal herniation 1 month post-op was managed surgically. Conclusion:Laparoscopic Duodeno-jejunal bypass with Sleeve, which combines the principles and advantages of Sleeve Gastrectomy and RYGB is a safe and effective alternative to gastric bypass in weight reduction and resolution of comorbidities.Also, with the possibility that the procedure can be made less restrictive by altering the size of the sleeve, it can be employed as a procedure to treat Metabolic Syndrome even in the lower BMI group. But, a long term follow up is necessary to establish it as a standard procedure.

Overview of Laparoscopic Sleeve Gastrectomy (LSG).

Clinical Professor of Surgery, Montreal, QC CANADA
Michel Gagner, M.D. FRCSC, FACS, FASMBS, FICS, AFC(Hon.)

Sleeve gastrectomy (SG) has been a simpler bariatric operation, which shows good resolution of co-morbidities and provides excellent weight loss. Laparoscopic SG was initially performed for high-risk patients (in 2000) to enable increased safety for both operations. However, indications for SG as a primary procedure have been increasing. The Third International Consensus Summit for SG was held in New York City, Dec 2-4, 2010, to evaluate techniques and results.
Methods: A questionnaire was filled out at the Second ICSSG March 19-22, 2009 in Miami Beach and compared to the recent one in NYC in 2010.
Results: Findings are based on 106 questionnaires, representing a total of 14,776 SG. In 86.3%, SG was intended as the sole operation and 81.9% of the surgeons reported no conversions from a laparoscopic to an open SG. Mean ± SD %EWL: 1 yr 60.7 ± 15.6, 2 yrs 64.7 ± 12.9, 3 yrs 61.7 ± 11.4, 4 yrs 64.6 ± 10.5, >4 yrs 48.5 ± 8.7. Bougie size was median 34.0 Fr., (range 16-60). The dissection commenced 5.0 ± 1.4 cm (median 5.0, range 1-10) proximal to the pylorus. Staple-line was reinforced in 65.1%; of these, 50.9% over-sew, 42.1% buttress and 7% do both. Post-op, a high leak occurred in 1.5% and a lower leak in 0.5%, hemorrhage in 1.1%, splenic injury in 0.1%, and later stenosis in 0.9%. Post-op GE reflux (~3 months) was reported in 6.5% (range 0-83%). Mortality was 0.2 ± 0.9% (total 30 deaths in 14,776 patients). This year, 5 years results showed a mean of 50% EWL, a higher result than with gastric banding, but comparisons with gastric bypass are still pending. Conclusion: SG for morbid obesity should be recognized as a primary operation.

Rise of Sleeve gastrectomy in Asia

Muffazal Lakdawala

Abstract

Bariatric surgery is an ever evolving field. There have been several discoveries that have changed the way bariatric procedures are carried out. This has led to a lot of enthusiasm within the surgical community. Many of the bariatric surgical procedures have not been able to stand the test of time and have been replaced with newer, simpler and more effective procedures rendering the older ones obsolete.

Sleeve gastrectomy is a relatively new procedure. What was initially started as the first stage of a duodenal switch surgery in super super obese patients has now come of age to have its place as a standalone procedure in bariatric surgery. There is a lot of excitement in the surgical community about this procedure. Its popularity can be attributed to its favourable early results. Hence surgeons from across the world are now offering it to an increasing number of patients. The benefits of sleeve gastrectomy seem to far outweigh its risks. It is a technically easier procedure with a lower learning curve. There are less chances of developing nutritional deficiencies and the remnant stomach is always accessible for examination which is of great significance for stomach cancer endemic countries like Japan and Korea.. Asian studies have already suggested better results in terms of weight loss and resolution of co-morbidities after a sleeve gastrectomy. Increasing proficiency of Asian surgeons in Single Incision surgery has led to further increase in the popularity of this procedure in Asia.

The only word for caution for complete adoption of LSG is that long term results are still awaited and leaks from staple lines are difficult to treat.

Long term results of laparoscopic sleeve gastrectomy for Korean

Gangnam CHA medical center, CHA university, Seoul, Korea
Sang-Moon Han

Purpose: In Asia, its types and the main causes are different from than in the western society. Therefore, the treatment plan should be different, and the surgery for morbid obesity should be carefully chosen. Long term results of the isolated laparoscopic sleeve gastrectomy which was performed for the Korean are reported.
Methods: We retrospectively reviewed 168 patients who underwent LSG from January 2003 to January 2011. One hundred thirty nine of these patients had more than 6 months of follow-up, and they are subjects of this report. Sleeve gastrectomy was performed laparoscopicaly using Endo-GIA stapler to create a lesser curve gastric tube over a 48-Fr bougie. The longest follow up time is 8 year.
Results: Preoperative Body Mass Index (BMI) is 36.7±5.4 (30.0-59.1). The percentage of excess weight loss (%EWL) in the postoperative first, third, fifth, and seventh year was 71.4±22.1, 66.0±29.9, 67.8±27.6, and 60.4±29.3. The percentage of excess BMI loss (%EBMIL) was 73.1±24.3, 67.8±31.0, 73.4±32.1, and 62.2±29.7. However, the follow up rate is decreased by postoperative time. The follow up rate in third year is 62.5% and fifth year is 30.2%. There was no 30-day peri-operative mortality. Three major complications (1 delayed bleeding, 2 leakage) occurred.
Conclusion: Isolated laparoscopic sleeve gastrectomy has been an effective weight loss operation in the most of the Korean patients. However, the more follow up rate after LSG is needed.

Sleeve Gastrectomy in Banding country.

Consultant Bariatric Surgeon St George Hospital Sydney
Dr Ken Loi MBBS Bsc(med) FRACS

Laparoscopic gastric banding has been the dominant bariatric procedure in Australia for the last 10 years. Most bariatric surgery are performed in private hospital and there is no database to allow us to examine adequately the trend of different operations. Overall the numbers of bariatric procedures increased from 500 per year to 15000 last year. However, from medicare data documented by government, we are able to estimate there is a decline in numbers of lap band performed and increase in numbers of sleeve gastrectomy. The presentation will examine the possible reasons behind it and illustrate the problems that will be facing australian bariatric surgeons in the next 5 to 10 years.

Laparoscopic sleeve gastrectomy in Japan

Masayuki Ohta, MD, Seigo Kitano, MD
Department of Surgery I, Oita University Faculty of Medicine, Oita 879-5593, Japan

In Japan, laparoscopic bariatric surgery was introduced in 2000, and laparoscopic sleeve gastrectomy (LSG) has been performed since 2005. Since gastric cancer is a frequently-occurred disease in Japan and the excluded distal stomach after laparoscopic Roux-en-Y gastric bypass (LRYGB) cannot be checked by usual endoscopy, LRYGB is probably not so suitable for Japanese patients. Therefore, a number of LSG is rapidly increasing. Japan Research Society for Endoscopic and Laparoscopic Treatments of Obesity (JELTO) which was organized 5 years ago carried out a nationwide survey on laparoscopic bariatric surgery in 2010. From 2000 to 2009, total 340 laparoscopic bariatric operations were performed by 9 Japanese institutes, and 102 of the operations (30%) were LSG. In 2009, 70 morbidly obese patients underwent laparoscopic bariatric surgery, and 50 of the 70 patients (71%) did LSG. There was no mortality and the postoperative complication rate was 7.8% in the 102 cases. Major complications were staple-line leakage in 4 cases (3.9%) and intra-abdominal bleeding (reoperation required) in 3 (2.9%). Percent excess weight loss after LSG was 66% at 12 months and 68 % at 24 months, respectively. According to the weight loss, 91% of patients with type 2 diabetes achieved remission, hypertension were resolved in 62% of patients, and dyslipidemia were resolved in 53%. This survey showed the safety and effectiveness of LSG in Japanese morbidly obese patients. In addition, LSG has been approved as a special advanced technique in some Japanese institutes by the Ministry of Health, Labour and Welfare since this year, which is partly covered by the government health insurance. Now, LSG has been rapidly spread in Japan and will play an important role in treatments for morbid obesity.

Update in the outcomes of over 800 sleeve gastrectomies with 6 years of followup.

[1]Mercy Bariatrics Perth Australia
Leon Cohen[1], Jon Armstrong[1], Harsha Chandraratnah[1]

Since 2004 we have performed over 850 sleeve gastrectomies. This is a heterogenous group that includes 770 primary cases and 80 revisional sleeves. The first 107 sleeves were calibrated against a 50fr bougie and the next 680 against a 40 Fr bougie. We are now using a 36 Fr bougie (63) in most cases. Results in our largest series of 618, 40 Fr primary sleeves show an excess weight loss that peaks at 18 months at 74% and is now at 61% out to 4 years. In the earlier 50 Fr series the weight loss peaked at 62 % at 24 months and had fallen to 42 % by 60 months. So far in the earlier 50 fr series 12 of the patients have been re sleeved with their EWL returning to an average of 55 % EWL at 24 months. Only one 40 fr patient has required resleeve so far. Impact of sleeve size , surgical technique, commencement BMI, age and sex on outcomes will be discussed.

Conclusion:

We believe that sleeve gastrectomy produces robust weight loss in the medium term providing an appropriate size bougie is selected. (no more than 40Fr) Late weight regain is in line with the natural history of other bariatric approaches and can be adequately managed by resleeve gastrectomy.

Single Incision Transumbilical Laparoscopic Sleeve Gastrectomy (SITU-LSG), How I Do it?

*Bariatric & Metabolic International Surgry Center, E-Da Hospital, Kaohsiung, Taiwan
†Department of General Surgery, E-Da Hospital, Kaohsiung, Taiwan
‡Department of Chemical Engineering, Institute of Biotechnology and Chemical Engineering, I-Shou University, Kaohsiung, Taiwan
Chih-Kun Huang, MD*†‡, Chi-Hsien Lo, MD*, Jer-Yiing Houng, PhD‡, Yaw-Sen Chen, MD†, Po-Huang Lee, MD†

BACKGROUND: Sleeve gastrectomy has been recently proposed as a sole bariatric procedure because of the resulting considerable weight loss in Asian morbidly obese patients. Traditionally, laparoscopic sleeve gastrectomy requires 5-6 skin incisions to allow for placement of multiple trocars. With the progression of scarless concept, multiple abdominal procedures have been performed using a single incision trans-umbilical (SITU) incision, with good cosmetic outcomes.
METHODS: We retrospectively reviewed our patients receiving sleeve gastrectomy from November 2008 till September 2010 .A total of 27 consecutive patients underwent laparoscopic sleeve gastrectomy with single incision and trans-umbilical approach. Three trocars were inserted via the umbilical incision after pneumoperitoneum.
RESULTS: Of the 27 patients, 19 were women and 8 were men, with a mean age of 32 years (range, 20-46). The mean preoperative body mass index was 35.9 kg/m (range,32.4-42.3). The mean operative time was 70 minutes (range, 30-170). Intra-operative novel liver suspension tape was used in all patients, and no perioperative or postoperative complications happened. No conversion or need for adding trocar during the procedure was found.No mortality was noted.
CONCLUSIONS: SITU laparoscopic sleeve gastrectomy is safe, technically feasible, and reproducible. Intra-operative modification of liver retraction is the key element in improving surgical field and decreasing operation time.

Possible mechanisms of rapid improvement of glucose tolerance and insulin secretion after laparoscopic sleeve gastrectomy (LSG)

Hiroshi Yamamoto
Departments of Surgery, Shiga University of Medical Science

【Objective】 LSG has been designed as the first of a two-stage procedure for the high-risk, super-obese patient. Recently LSG has been applied as a single-stage procedure because of excellent weight loss and low incidence of complications. More recently, the accumulating data suggested that LSG produces remission or cure of type 2 diabetes mellitus (DM). To investigate the mechanism which LSG improves glucose tolerance, oral glucose tolerance test (OGTT) was performed at preoperative and 3 months after surgery.
【Methods】 We performed LSG on two diabetic patients, one patient with impaired glucose tolerance (IGT) and two non-diabetic patients. Plasma glucose, insulin and Glucagon-like peptide-1 (GLP-1) levels during OGTT were measured. Fasting ghrelin levels were also measured. To assess gastro-intestinal motility during OGTT, we used cine MRI.
【Results】 Diabetic patients discontinued oral hypoglycemic agent or insulin immediately after surgery. HbA1c was improved in diabetic patients. OGTT showed that great improvement of glucose tolerance with enhancement of insulin and GLP-1 secretion in diabetic patients. Area under the curves (AUC) for insulin and GLP-1 were increased after LSG. Fasting ghrelin levels were decreased in all patients. Cine MRI during OGTT revealed that gastro-intestinal motility was remarkably induced after LSG.
【Conclusion】 These results suggest that LSG can lead to rapid improvement of glucose tolerance and insulin secretion. Increased GLP-1 secretion and decreased fasting ghrelin levels may play a role of improvement of glucose tolerance and insulin secretion after LSG. Induced gastro-intestinal motility during OGTT may lead to increased GLP-1 secretion after LSG.

Complications after laparoscopic sleeve gastrectomy for morbid obesity

Akira Sasaki[1], Kazunori Kasama[2], Toru Obuchi[1], Shigeaki Baba[1], Akira Umemura[1], Go Wakabayashi[1]

[1] Department of Surgery, Iwate Medical University School of Medicine, Morioka, Japan

[2] Department of Weight Loss Surgery, Yotsuya Medical Cube, Tokyo, Japan

Background: Laparoscopic sleeve gastrectomy (LSG) is a quick and relatively simple type of bariatric surgery which shows good resolution of co-morbidities and good weight loss. We report on complications after LSG as a single-stage bariatric surgery and the results of a survey on LSGs conducted by the Japan Research Society for Endoscopic and Laparoscopic Treatments of Obesity.

Methods: Data were collected on all patients undergoing bariatric surgery between January 2005 and December 2009, which included 340 patients from nine hospitals in Japan. We evaluated short-term morbidity in 102 patients undergoing LSG and excluded patients undergoing LSG with duodenojejunal bypass.

Results: A total of 102 LSGs were successfully performed without conversions to an open surgery. In 2004, there were no LSGs reported. In 2009, the most commonly-performed procedures were LSG (50 patients), laparoscopic gastric bypass (8), LSG with duodenojejunal bypass (8), and laparoscopic adjustable gastric banding (4). Approximately 8% of patients had perioperative complications. The most common complications were staple line leaks (4%). Reoperation occurred in seven patients (7%), four with bleedings and three with staple line leaks. No mortalities occurred. In our eight LSG patients, late gastric leak occurred in one patient; and it was treated with an endoscopic mucosal closure after failed attempts to treat the percutaneous abdominal drainage.

Conclusion: The frequency of serious complications among patients undergoing LSG was relatively low. It is a safe single-stage bariatric surgery for Japanese morbid obesity.

Is LSG perfect for Asian?

Ruby Hall Clinic, Pune, Maharastra , India
Dr. Shashank Shah

Laparoscopic Sleeve Gastrectomy(LSG) was initially introduced as a primary stage in super obese patients to optimize their medical / anaesthesiological fitness and also to ease the surgical technique for the index bariatric operation at a later date. With evolving technique it has become popular stand alone procedure with proven results of an efficient Bariatric operation in terms of effective excess weight loss , co morbidity evolution and improvement in the quality of life. Our center has performed more than 700 LSG till date. The longitudinal data analysis of them is presented at multiple International Bariatric and Metabolic conferences. With Asian peculiarities of high adiposity, prone for type 2 diabetes, high carbohydrate diet ,these studies have highlighted LSG with a favorable effect on hyperglycemia ,with difficulty to monitor or treat nutritional deficiencies. Before we call it as an ideal Bariatric operation, some facets need to be thrown light on: like longevity of the results, recidivism etc. Long term data with the large population and comparative studies with the existent bariatric operations is awaited.

National report: treatment of morbid obesity from Australia

President, Obesity Surgery Society of Australia and New Zealand(OSSANZ)
Lilian Kow

Obesity is considered the greatest public health challenges confronting Australia. Amongst developed nations, Australia is one of the most overweight, with over 60% of adults and 25% children overweight or obese.

PREVALENCE OF OBESITY BY AGE AND GENDER, 2008

Age Group	Males (%)	Females (%)	Males ('000)	Females ('000)	Total ('000)
0-4	0%	0%	0	0	0
5-19	7.8%	6.2%	165.4	124.9	290.3
20-24	11.1%	9.3%	84.7	68.2	152.9
25-34	19.4%	13.5%	281.8	193.0	474.8
35-44	19.9%	21.2%	301.5	324.6	626.1
45-54	23.2%	29.2%	338.6	430.8	769.4
55-64	28.5%	35.6%	344.9	431.7	776.6
65-74	22.2%	31.9%	164.4	244.2	408.6
75+	14.2%	16.9%	79.6	134.3	213.9
Total	**16.5%**	**18.5%**	**1,760.8**	**1,951.8**	**3,712.5**

5% of Australians have Type 2 diabetes. Of these, 10.8% are as a result of being obese.
OSSANZ (est 1980) represent the obesity society in Australia and New Zealand. Membership: 350 health professional: surgeons, physicians and Allied Health.

The OSSANZ Bariatric Surgical Standards(OBSS) are the credentialing guidelines . A National registry is being set up. The average cost for bariatric surgery in Australia is about $15000-20000

National Report from Taiwan (Republic of China)

Wei-Jei Lee, M.D., Ph.D.
Dept. of Surg., Min-Sheng General Hospital, National Taiwan University, Taiwan

In the past decade, the incidence of obesity (BMI > 27) increased from 10.5% to 19% in male Taiwanese. Among them, those with moderate or severe obesity increases more rapidly, from 2.4% to 6%. This alarming phenomenon is more common in rural than in urban area. Although the incidence of overweight remained stationary (20.3% to 19.3%) in female Taiwanese, the incidence of mild obesity still increased from 7.6% to 10.5%. More importantly, diabetes (Glucose > 126 mg/dl) incidence increased from 4.6% to 9.3% of adult male in the past decade.

Bariatric surgeries steadily increased in the past 5 years in Taiwan. IFSO Taiwan chapter was founded in 2009. There are more than 5 comprehensive bariatric centers now in Taiwan. In a survey from IFSO Taiwan chapter, the total registered number of bariatric surgeries increased from 255 cases in 2005 to 726 cases in 2009. Laparoscopic gastric bypass is the most commonly performed procedure, followed by sleeve gastrectomy and gastric banding. The results of bariatric surgery in Taiwan are comparative to international standard.

National report of treatment of obesity and metabolic disorder from (India).

Dr. Mahendra Narwaria, MS, FICS.

President, Obesity and Metabolic Surgery Society of India

Asian Indians exhibit unique features of obesity; excess body fat, abdominal adiposity, increased subcutaneous and intra-abdominal fat, and deposition of fat in ectopic sites (liver, muscle, etc.). Obesity is a major driver for the widely prevalent metabolic syndrome and type 2 diabetes mellitus (T2DM) in Asian Indians in India and those residing in other countries. Based on percentage body fat and morbidity data, limits of normal BMI are narrower and lower in Asian Indians than in white Caucasians. A consensus statement, was published for revised guidelines for diagnosis of obesity, abdominal obesity, the metabolic syndrome, physical activity, and drug therapy and bariatric surgery for obesity in Asian Indians after consultations with experts from various regions of India belonging to the various medical disciplines representing reputed medical institutions, hospitals, government funded research institutions, and policy making bodies.

According to National Family and health Survey (NFHS), approximately 7.1% of Indian population is under obesity risk. Almost 65% of adult urban Indian are –either over weight, obese or have abdominal obesity. The highest incidence is observed in North western (Punjab) part of India (M: F- 30.3/37.5%), followed by South (M: F-24.3/34%) and North east (M: F-17.3/21%).

With an estimated 50.8 million people living with diabetes, India has the world's largest diabetes population, followed by china with 43.2 million. The prevalence of type II DM in adult population ranges from 9% to 16%, with 14.2 % of male and17.5 of female.

The Obesity and Metabolic Surgery Society of India was established in 2001. The indication for surgery is generally in accordance with guidelines using the WHO standard for obesity on Asia, i.e. BMI >37.5/32.5 with co-morbidities. There are few no of bariatric and metabolic surgeries carried out outside the standard guidelines for obesity surgery but they are mainly as part of some clinical trials.

There are about 80 surgeons (certified general, GI surgeons with training and experience) performing bariatric surgery regularly in India, carrying out 2000 procedures per year.

There are 5 high volume centres and few of them applied for centre of excellence (ICE) certification from ASMBS.OSSI is jointly working with SRC to develop centre of excellence in India. Cost of bariatric treatment depends upon

the types and location of the operative procedure. We accept and operate the international patients.

Refrences:-

- IDF-Diabetes Atlas, 4th edition, Oct 2009.
- G. Vijaykumar et.al; JAPI, Aug 2009, Vol-57.
- A. Mishra, P.Chowbey, BM Makkar, NK Vikram et.al; JAPI, Feb 2009.

Current status of Bariatric surgery in Korea

Dr. Lee's Bariatric Surgery Center in Seoul, Korea
(*The Korean Metabolic and Bariatric Surgery Society)*
Hongchan Lee, M.D., Ph.D

Obesity is not only a health problem in western countries, but also in Korea. According to 2009 Korean National Health & Nutrition Examination Survey(KNHANES), prevalence of obesity in adults was 32.4% which is a big change over the last 10 yeas. More alarming is the problem of children and adolescent. From 2003 to 2009, number of bariatric procedures was increased in 622%.

All surgeries were performed through laparoscopic procedures. 63.3% adjustable gastric bandings, 12.6% gastric sleeve resections, 5.9% VBGs(with or without sleeve resection) were the restrictive operations performed. 12.0% Roux-en-Y gastric bypass, 12.6% Mini-gastric bypass, 2.6% Duodeno-jejunal Bypass were the malabsorptive(both restrictive) procedures since 2003.

Based on the statistics, the surgeon were performed in most hospitals when the BMI was over 35kg/m2 while more than 2 significant obesity related co-morbidities were found with BMI over 30kg/m2. Currently the bariatric surgery in Korea is still at a developing level, and has not been performed very much compared with the number of patients who need it.

As the bariatric surgery will gain more important as the number of obesity people increases every day, physicians need to make more efforts to help the public to have correct understanding about the bariatric surgery. Insurance coverage is another concern in my country because bariatric surgery is not covered by National Health Insurance in Korea. So, it became an expensive surgery, not accessible for everybody. As obese people are often from middle to lower socioeconomic class, access to surgery is very limited. As these people are in need, we have to raise our voice about reimbursement for bariatric patients.

BARIATRIC & METABOLIC SURGERY in the Philippines

President, Philippine Society for Metabolic and Bariatric Surgery
Hildegardes C. Dineros, MD, FPCS FACS

Third world countries like the Philippines was not immune to the epidemic of Obesity, with a progressively rising prevalence, one in four being overweight and one out of twenty is obese. Roughly, there are 4 million obese Filipinos and close to a million are morbidly obese. Of about 90 million population, the extrapolated prevalence of Diabetes is 5 million, more than 90% of which belong to Type 2 category.
The Philippine experience in Bariatric Surgery started in 2001 as VBG. The following year, Open Gastric Bypass was performed and 5 years later, Laparoscopic techniques were done for RYGBP, Gastric Banding, BPD-DS, and Sleeve Gastrectomy. Class II Obesity, defined as BMI 30kg/m^2 was the baseline criterion for weight loss surgery since at this level, co-morbid conditions are already observed.

The Philippine Society for Metabolic and Bariatric Surgery was established in 2007, composed of about 25 surgeon members, half of which are doing bariatric surgical procedures already, and majority doing mostly Gastric Banding. Certified General Surgeons with training and experience in laparoscopic bariatric surgery, have up to the present, performed close to 600 bariatric operations. Surgery for Non-obese Type 2 Diabetes was first done in 2008using LSG with Loop DJB.

National report from Hong Kong

Wilfred Mui
Hong Kong Bariatric and Metabolic Institute

Bariatric surgery is a new specialty in Hong Kong and it is growing from its infancy stage. It was introduced in Hong Kong in 2001 and the development was very rapid in the past ten years. Bariatric procedure in Hong Kong is evolving from a single surgical procedure (gastric banding) to the full package of both endoscopic and laparoscopic surgeries. The primary procedures in Hong Kong at the moment are restrictive procedures (intragastric balloon, gastric banding, sleeve gastrectomy and sleeve plication), whereas malabsorptive procedures (mini-gastric bypass and sleeve gastrectomy with DJB) are reserved as second-line therapy. Initially, we encountered difficulties in persuading patients and even doctors in accepting such an invasive treatment for obesity. Now, more and more physicians and patients understand the importance of weight control in severe obesity and agree that the beneficial effect of surgery seems out-weighted its risk in selective group of patients. We will report the development of this specialty in Hong Kong.

National Report from Malaysia

Professor Dr Chin Kin Fah (Presenter), Dr Pok Eng Hong
Department of Surgery, Faculty of Medicine, University Malaya, Kuala Lumpur, Malaysia.

In Malaysia, a developing country, the increasing prevalence of obesity and associated metabolic syndrome has created major healthcare problem due to the adoption of more westernized lifestyle and diet. Population surveys have found the prevalence of obesity has rapidly increased 3 folds in recent decade. The National Health & Morbidity Study in 1996 and 2006 revealed that the prevalence of overweight (BMI 25-30) rose from 16.6% to 29.1%. The prevalence of obesity (BMI>30) increased from 4.4% to 14%. It was also showed our female population, ethnicity of Indian & Malay and house wife tend to be obese. It was noted the prevalence of diabetes mellitus in this population also increased from 8.3% to 14.9% with substantially portion of them undiagnosed. There is an estimated about 1.5 million diabetes patient (5.7%) which is a significant healthcare burden in Malaysia with a small population of about 26 million people in 2006. Although the bariatric surgery has been prove to be cost-effective treatment of obesity and associated co-morbidity especially DM, the adoption of this advanced surgery is still slow in Malaysia. Currently, only hospitals with qualified and experienced laparoscopic surgeon are routinely offering this procedure. The lack of surgical training opportunity, public awareness and no insurance coverage for obesity might be the factors that hinder the progress of this surgery. Lastly, we foresee, with the rising prevalence of T2DM affecting younger age group and the promising effectiveness of bariatric surgery as a form of metabolic procedure, the most cost effective therapy for early obese T2DM should be surgery, as a first line modality in future.

National Report on Bariatric Surgery from Japan

Department of Weight Loss Surgery, Yotsuya Medical Cube, Tokyo, Japan
Kazunori Kasama MD, FACS

Obesity among adults is defined as a BMI of 25 or higher in Japan. The obesity prevalence (BMI ≧ 25) has increased to 28.6% in male and 20.6% in female over the past decade. Obesity prevalence (BMI ≧ 30) is 3.2%.

The prevalence of diabetes mellitus with HbA1c >6.5 or under treatment has increased from 6.9 million in 1997 to 8.9 million in 2007.

Recently, one of our bariatric societies (Japanese Society for Surgery of Obesity and Metabolic disorders) has announced a statement on BMI criteria for bariatric surgery in Japan. The criteria recommends bariatric surgery for people who have BMI ≧ 35 or BMI ≧ 32 with obesity-related comorbidities. But bariatric surgery for people with BMI between 32 to 35 remained to be positioned on a clinical trial.

From 2000 to 2009, totally, 340 laparoscopic bariatric procedures were performed in 9 institutes. The most popular procedure was laparoscopic Roux-en-Y gastric bypass (LRYGB, n=147), then the second one was laparoscopic sleeve gastrectomy (LSG, n=102) and the third one laparoscopic adjustable gastric banding (LAGB, n=55). However, the number of LRYGB has decreased and in contrast, the number of LSG has rapidly increased.

The medical cost of bariatric surgery is approximately 10.000-20.000 dollars. It depends on the types of procedures.

There are several problems to prevent and treat obesity. Modern lifestyle and foods are out of alignment with true health. Nation's recognition of obesity is an obstacle to civilization and enlightenment of bariatric surgery in Japan.

In conclusion, we are still ill-equipped to deal with the crisis of obesity and diabetes mellitus. It is essential to establish the international network in APC for development in this field.

National report on surgical treatment of obesity and metabolic disorder in Singapore

KTP Hospital Singapore
Dr Anton Cheng

According to the Singapore National Health Survey 2004, obesity rate (BMI > 30) in Singapore was 7.3% in female and 6.4% in male. Among the three major racial groups in Singapore, 4.2% of Chinese, 19.3% of Malays and 13.4% if Indians are obese. In 2004, 8.2% of the population was diabetic , with 8.9% of male and 7.6% of female. The latest unpublished data showed obesity rate has gone to 10.8% of the population in the 2010 National Health Survey, With the Malay population showing 25% obesity. DM rate however, has not changed over the last 12 years.
The Obesity and Metabolic Surgery Society of Singapore is registered as of January 2011. A national database is being set up. Indication for surgery is generally in accordance with the Singapore Ministry if Health guidelines using the WHO standard for obesity on Asia, i.e. BMI > 37.5 or BMI > 32.5 with obesity associated co-morbidities. There is no metabolic surgery carried out outside the standard guidelines for obesity surgery.

There are about 10 surgeons performing bariatric surgery regularly in Singapore, carrying out about 200 procedures per year. 80% of these, divided equally, are sleeve gastrectomies and gastric bands. There are smaller numbers of bypass and other procedures.

There is no certified center of excellence in Bariatric surgery in Singapore. Cost varies according to where these procedures are carried out. A lot of those performed in government hospitals are heavily subsidised.

National report of treatment of morbid obesity and metabolic disorder from Thailand countries

Suthep Udomsawaengsup

Slide-1

- Obesity and overweight prevalence in adults in your country
  - Grade I Obesity = 15.4%
  - Grade II Obesity = 2.2%
- Obesity prevalence in children in your country
  - Age 2-5 = 7.9%
  - Age 6-12 = 6.7%
- Gender and age distribution (possibly)

*use most recent statistics

Slide-2

T2DM prevalence in adults in your country

9.6% 4.8% previously diagnosed and 4.8% newly diagnosed diabetes

Gender and age distribution (possibly)

Male 33.8% Female 66.2%

Mean age = 60.9 + 11.5 and duration of diabetes 10.5+ 7.6 years,

Slide-3

- Do you perform bariatric surgery in your country?
  Yes
- If yes, who is a candidate for bariatric surgery?
  BMI >40kg/m2 or >35 with co-morbidity and had try non surgical Rx
- Do you have a bariatric society in your country?
  Yes Thai Society of Metabolic and Bariatric Surgery (TSMBS)
  http://www.thaibariatric.org

Slide-4

- Approximately how many bariatric surgery operations are being done in your country yearly 100
- What is your estimate as to the relative percentages (adding up to 100%) distribution of bariatric operations in your country RYGB 63% LAGB 29% Sleeve 8%

Slide-5

- Who performs bariatric surgery in your country
  general surgeon- endoscopic surgeon 9 , certified bariatric surgeon 6

- Approximately how many surgeons practice bariatric surgery in your country?
  = 15 surgeons

Slide-6

- Is there any credential system (surgeon, facility)?
  Yes, For Surgeons: the Royal College of Surgeons of Thailand and the Medical Council of Thailand
  Facility: Hospital credential
- If any, what type of professional education or training currently exists for the bariatric surgeon?
  Yes Clinical fellow in Bariatric surgery (2 institute / 4 regular fellow a year)

Slide-6

- Is there any nationwide database for sharing the pre- and post-operative data results to provide a cumulative picture of the success of bariatric surgery?
  Not yet applied

Slide-7

- Roughly, what is the average cost for bariatric surgery in your country?
  *In US dollars
  RYGB = 6000 USD(Government) 20000 USD (private)
  LAGB = 5000 USD (Gov) 15000 USD (pri)
  Lap Sleeve =3000 USD (Gov) 13000 USD (pri)
- Are insurances (government, public, private) paying for the cost of surgery?
  Yes Partially

Slide-8

- Do you perform metabolic surgery for the patients with lower BMI (beyond indication for bariatric surgery) in your country? Yes for Some

- Do you perform revision bariatric surgery in your country?
  Yes
- Do you accept patients from overseas (so called “medical tourist”) in your country?
  Yes

Slide-9

- Which are the problems you face in your country to prevent the obesity disease from spreading?
  Availability and advertising of Junk food Philosophy of Living, Some Believe such as Obese is a sign of Wealthy
- Which are the problems you face in your country to treat the obesity disease?
  Reimbursement system, Acceptance for medical co-worker, Cost of Treatment
- Which are the needs?

Slide 10

- Your favorite topics,
  Metabolic result of Bariatric Surgery in Thais
- Particularity of your country regarding Bariatric/Metabolic surgery.

Slide-11

- Your conclusions to the obesity problems in your country
  The incidence of obesity in Thailand is increasing. Prevention is certainly important. Public has been alerted more about effect and hazard of obesity. Media takes more involvement and helps very much in distributing medical information

- Recommendations

National report of treatment of morbid obesity and metabolic disorders from Turkey

Alper Celik, M.D.
Yeniyuzyil University Faculty of Medicine
Department of General Surgery,
Istanbul / Turkey.

Slide-1

*Approximately 66% of whole Turkish population is under obesity risk.
*The incidence of obesity is 24% for males and 31% for females.
*The highest incidence is observed in Southeastern part of Turkey (61%), followed by mid-Anatolia (55%), Northern west (50%), and West parts (15%)
*The percentage of normal weight adults is 13.6% in females and 20% males.
*The incidence of overweight children is 24% for females and 31% for males.
*The incidence of obesity among children below age 15 is 9% for females and 12% for males.

Slide-2

*The prevalence of T2DM in adult population (35-70 y) is 14.7%
*The prevalence of Glucose Intolerance in adult population is 9.6%.
*T2DM prevalence increases with age, 50 years being the cut-off point. After age 50, T2DM prevalence reaches 30%.

Slide-3

*We have a national bariatric and metabolic surgery society in Turkey.
*I perform both metabolic and bariatric surgery.
*For bariatric surgery purposes my indication is BMI over 40
*For patients with T2 Diabetes or Metabolic Syndrome, BMI (unless over 20) is not a limitation in my surgical practice.

Slide-4

*The annual number of bariatric operations is estimated to be around 500 cases.
*I performed 76 operations within 2 years on my own (7.6%).

Slide-5

*There are no specified or certified bariatric surgeons in Turkey.
*The number of surgeons mainly doing bariatric surgery is around 10.

Slide-6

*There is no credential system in Turkey and bariatric surgery is not regarded as a specification.

Slide-6

*There is no nationwide database for sharing the pre- and post-operative data of bariatric surgery.

Slide-7

*The average cost for bariatric surgery in Turkey varies between 5000 and 20000 USD, depending on the type and location of the operative procedure.
*The government only pays 30-40% of the bill if the patient obtains a multidisciplinary council approval. (The council mainly consists of endocrinologists!)

Slide-8

*For patients with T2DM, I operate on all patients with a BMI above 20, if they meet the metabolic criteria for the operation.
*I did 4 revision bariatric surgeries. (1 anastomotic stricture, two band removals with sleeve and one band removal with BIB).
*I work at a private university and its private hospitals in Istanbul. We accept and operate on overseas patients.

Slide-9

*The main problem, also affecting my country from obesity pandemic is the so called "Coca-colonization", which refers to global standardization of refined or saccharified food.
*From my (surgical) aspect, the main problem is internists and endocrinologists who are trying to discover America once again.
*The main need is education and social awareness.

Slide-10

*Protection is more important than treatment. I personally believe that we should worldwide keep away from refined and saccharified food. However, these products are easy to keep, suitable for overseas transport and unfortunately, they are tasty.

*Each government should establish their policy for nationwide food supplies and consumption of childhood food products.
*Turkish people like to eat bread with spaghetti and/or rice. I think that we should at first educate people, than we should raise a social awareness about the global food industry, metabolic syndrome and the importance of physical exercise.
*For those with already settled metabolic syndrome, the importance and affectivity of surgical treatment should be emphasized, with particular notation on the advantages of laparoscopic surgery.

Slide 11

*From bariatric point of view, the importance of a team work has always been emphasized. I have recently moved to a new institute in Istanbul and am trying to settle my own team.
*From metabolic point of view, I operate on T2DM patients with end-organ damage. I have operated on 46 non-obese, overweight or type 1 obese (BMI=30-35) patients with T2DM. I believe that we should also emphasize and try to produce a global awareness for surgical treatment of Diabetes.

National report
Bariatric surgery in Brazil: Current status

Joel Faintuch , Francisco Karkow, Fernanda Pezzi (Sao Paulo University Medical School and Fatima Faculty, Caxias do Sul)

Introduction

Obesity is a growing epidemic not only in industrialized countries but also in the developing world. The main difference in places like Brazil is the phenomenon of nutrition transition. Till the recent past undernutrition was the main problem. The rapid shift toward excessive body weight resulted in the relatively frequent coexistence, in the same family and in the same house, of examples of the two derangements, namely undernourished children with obese parents, or the opposite association.

Antiobesity procedures were started in this country in the 1970´s, in the form of jejunoileal bypass. Multiple modalities were tested along the years, especially in Hospital das Clinicas, Sao Paulo, which was the pioneer institution, till the creation of the Brazilian Society of Bariatric and Metabolic Society (BSBMS) in 1999, by Artur Garrido Jr.

Yearly congresses have been organized since that time, and the Society counts more than 900 members including surgeons as well as allied health professionals. Current president is Ricardo Cohen. A Bulletin was created in 2000 by Joel Faintuch and Artur Garrido Jr and converted into a quarterly Journal five years later. Now the Journal has merged with the Brazilian Archives of Digestive Surgery, which also appears every three months.

Acceptance of the specialty

Until the early 1990´s just a few dozen surgeons had interest in bariatric operations and very few surgical residents had exposure to such the techniques. However after the establishment of BSBMS growth has been exponential, notably after government and private health providers accepted reimbursing the operations. At this moment such procedures are very well established all over the country, and actively sought by obese patients. Indeed, public hospital often suffer with long waiting lines.

Surgical residents in large academic hospitals and also in certain private ones have the chance of operating bariatric candidates during their rotations, and a couple of Centers of Excellence in Bariatric Surgery has been created in Sao Paulo, with a tendency to grow towards other cities as well.

Surgical procedures

The most practiced modality in the country is the Roux-en-Y gastric bypass (RYGB), which is the first intervention recognized and funded by the Federal Social Security System. Approximately 75% of the candidates undergo this treatment, bur multiple other options are endorsed by BSBMS, namely vertical banded gastroplasty, sleeve gastrectomy, gastric banding, Scopinaro procedure and duodenal switch, along with the endoscopically placed intragastric balloon.

Patient care and hospital facilities

A national consensus signed by six surgical and clinical professional societies in 2007 established directives for most routines and indications concerning bariatric interventions, from patient selection to hospital equipment and postoperative care.

Current statistics

Brazil has roughly 190 million inhabitants of which between 2 and 4 million are morbidly obese, depending on the estimate. About 30 000 bariatric procedures are conducted each year, of which 25-300 % are payed by the Federal Social Security System, 60-70% by commercial Health Providers, and around 5 % privately financed.

Distribution of morbid obesity

A national survey under the initiative of BSBMS revealed that though morbid obesity doesn´t spare any of the regions of Brazil, distribution is not homogeneous. The two poorest areas, namely the North and Northeast, display the lowest proportion (2%). The rich Southeastern region, which includes Sao Paulo, wasn´t bad either with 2.5% prevalence. The highest rates corresponded to the Western region and to the South, both with 5% values.

As concerns the South there is a rather obvious explanation. This area is quite affordable, there is strong immigrant influence especially from Italian and German people, and the population appreciates hearty meals. The Western region was a surprise and no obvious explanation is available, though meat is particularly abundant in that area because of vast cattle-raising farms.

Metabolic surgery

In the last five years several groups have engaged in standard bariatric or tailor-made operations for non-morbidly-obese diabetics, with variable results. Animal investigations were atarted in a number of University laboratories, and Master´s as well as PhD theses are going on . Some controversy occurred when a couple of teams started performing such interventions on a routine basis. A consensus established in 2009 decided that these treatments are still experimental and should be conducted under approval of an Ethical Committee, for the purposes of scientific investigation only.

References

Monteiro CA et al.. The burden of disease from undernutrition to overnutrition in countries undergoing rapid nutrition transition: a view from Brazil. Am J Public Health. 2004 ;94 :433-4

Morais AA, Faintuch J, Leal AA, Noe JA, Bertollo DM, Morais RC, Cabrini D. Inflammation and biochemical features of bariatric candidates: Dos gender matter ? Obes Surg. 2010 Feb 2.

Ribeiro AG, Costa MJ, Faintuch J, Dias MC. A higher meal frequency may be associated with diminished weight loss after bariatric surgery. Clinics (Sao Paulo). 2009;64 :1053-8

Dalcanale L, Oliveira CP, Faintuch J, Nogueira MA, Rondó P, Lima VM, Mendonça S, Pajecki D, Mancini M, Carrilho FJ. Long-term nutritional outcome after gastric bypass. Obes Surg. 2010 ;20 :181-7.

de Souza SA, Faintuch J, Fabris SM, Nampo FK, Luz C, Fabio TL, Sitta IS, de Batista Fonseca IC. Six-minute walk test functional capacity of severely obese before and after bariatric surgery. Surg Obes Relat Dis. 2009 ;5 :540-3

Faintuch J, Dias MC, de Souza Fazio E, de Oliveira FC, Nomura RM, Zugaib M, Cecconello I. Pregnancy nutritional índices and birth weight after Roux-en-Y gastric bypass. Obes Surg. 2009 ;19 :583-9

Faintuch J, Marques PC, Bortolotto LA, Faintuch JJ, Cecconello I. Systemi8c inflammation and cardiovascular risk factors: are morbidly obese subjects different ? Obes Surg. 2008 ;18 :854-62

Cintra W Jr, Modolin ML, Gemperli R, Gobbi CI, Faintuch J, Ferreira MC. Quality of life after abdominoplasty after bariatric surgery. Obes Surg. 2008 ;18 :728-32.

Brazilian Society of Bariatric and Metabolic Surgery < www. sbcb.org.br >

Metabolic Surgery in Asia

Wei-Jei Lee, M.D., Ph.D.
Dept. of Surg., Min-Sheng General Hospital, National Taiwan University, Taiwan

Type 2 diabetes mellitus (T2DM) is now a global health priority. It was estimated that more than 240 million people in the world are affecting with T2DM and that number is expected to 360 million by the year 2025. More than 60% of the world's population with diabetes comes from Asia and the incidence of T2DM in Asia is increasing more rapid than the rest of the world. In Taiwan, the T2DM incidence of adult male increased more than double from 4.6% to 9.3% in the past decade. Unlike in the west, where older population is most affected, the burden of diabetes in Asian countries is disproportionately high in young to middle-age adults. For those early onset T2DM patients, the incidence rate of diabetic nephropathy is alarmingly high, especially in those not well controlled patients. In Asia, 55% of newly diagnosed end staged renal disease patients are due to T2DM. How to control this chronic and deliberating disease will be a very important health issue in Asia.

There are strong evidences that bariatric surgery can cure most of the associated T2DM morbid obese patients (BMI > 35 Kg/m^2). However, the mechanism for diabetes remission after gastric bypass remained speculative. Optimal outcomes for diabetes remission after metabolic surgery will occur if the mechanism is understood and patients best suited to the surgery are selected and those who will predictably have a poor result are excluded. To be able to make such decisions, we need a collaborative study from Asia for the Asian. This information is helpful for applying gastric bypass surgery as metabolic surgery for type 2 diabetes treatments in the future.

"Asian particularity on Obesity and Metabolic disorder"

The personality of the patients with morbid obesity

Kohji Shirai
Internal Medicine, Sakura Hospital, Toho University, JAPAN.

Bariatric surgery might become indispensable for the therapy of morbid obesity. Metabolic disorders could be well improved by bariatric surgery. In some cases, weight reduction relief the insulin therapy in obese type 2 diabetes mellitus. But, following up term after operation is very important, because actual body weight reduction can be obtained in this term. The trouble in this term seems to be not so few. One is psychological unstableness. We had already experienced them during semi-starvation therapy. For example, depression, refusal diet, trial of suicide, solitary and so on.

To understand the causes for that unstableness, personalities of the patients were analyzed using Rorschach test by applying Ender's methods. In many cases, depression and organic psychological diseases were concealed. One of conspicuous features was high lambda style, in which, passive attitude, superficial understanding, apparent obedience were observed. Those people were controlled well in the hospital, but, they easily show rebounds once outside of the hospital. The percentage of high lambda style is increasing as the degree of obesity.

Before operations of the patients, we had better understand the personality of the patient, beforehand. Moreover, psychotherapy such as enforcement will improve the benefit of surgery. And, how to understand the personality of the patients need further studies.

Bariatric surgery in Asia. A literature review.

Department of Weight Loss Surgery, Minimally Invasive Surgery Center, Yotsuya Medical Cube, Tokyo, Japan
Yosuke Seki, Kazunori Kasama, Hideharu Shimizu

Like in Western countries, bariatric and metabolic surgery in Asia has been steadily gaining popularity although the pace of spread is gradual. The purpose of the present review is to evaluate the current evidence regarding weight loss, complication rates, postoperative mortality, and co-morbidity improvement after bariatric surgery for Asians. Pubmed was searched for citations.

Laparoscopic Roux-en-Y Gastric Bypass for Normal Weight Type II Diabetes Mellitus

*Bariatric & Metabolic International Surgry Center, E-Da Hospital, Kaohsiung, Taiwan
†Department of General Surgery, E-Da Hospital, Kaohsiung, Taiwan
‡Department of Chemical Engineering, Institute of Biotechnology and Chemical Engineering, I-Shou University, Kaohsiung, Taiwan
Chih-Kun Huang, MD*†‡, Chi-Hsien Lo, MD*, Jer-Yiing Houng, PhD‡, Yaw-Sen Chen, MD†, Po-Huang Lee, MD†

Background: Laparoscopic Roux-en-Y gastric bypass (LRYGB) can dramatically ameliorate type 2 diabetes mellitus (T2DM) in morbidly obese patients. However, little evidence supports the effectiveness of LRYGB in normal weight patients.
Methods: After getting E-Da IRB approval, twelve normal weight patients with T2DM underwent LRYGB. Data, including patient demographics; BMI; co-morbidities; and details of diabetes mellitus, including disease duration, family history, medication use, and remission were prospectively collected and analyzed.
Results: The mean age of 5 men and 7women was 51 years (range, 35-65 years); mean BMI, 23.6 (range, 22.9-24.7 kg/m^2); and mean duration of T2DM onset was 11 years (range, 3-20 years). Mean operation time was 89 min (range, 46-229). Mean hospitalization was 2 days (range, 1-4). There was no mortality. One patient received laparoscopic repair of Peterson's defect due to symptoms from internal hernia 6 months later after surgery. The result of diabetic remission would be reported.
Conclusions: In this preliminary report, LRYGB is safe in normal-BMI Diabetic patients; result of long-term follow up for diabetic remission is expectable.

Ileal Interposition for Control of Type-2 Diabetes

Dr Surendra Ugale,
Kirloskar Hospital,
Hyderabad, India

Ileal Interposition is a specific surgery directed to control type -2 diabetes & can be performed for patients of any weight. We present 48 cases of Ileal Interposition surgeries for control of type-2 diabetes done since Feb.2008 under clinical protocol after Institutional Ethics Committee approval.
Selection of patients was done after checking C-Peptide levels and Insulin resistance with HOMA-IR and excluding any cases of LADA. All procedures were completed laparoscopically with 6 ports, performing 3 transections, 3 anastomosis, closure of all 3 mesenteric gaps and a variable sleeve gastrectomy depending on BMI levels. The ileal segment was 170 cms long with transections at 30 cms proximal to I-C junction and 20 cms distal to Lig of Trietz to perform the Standard procedure utilizing the hindgut hypothesis mainly. A Diverted option, using duodeno-jejunal bypass was added for the difficult diabetic situations to also include the foregut hypothesis.
In a follow up of 18 months we have found significant improvement in blood glucose, HbA1c, triglycerides & microalbuminuria. Results were statistically significant for Blood glucose, HbA1c, triglycerides & microalbumin at all times upto 24 months. Malabsorption as measured Vit B12, Ca+2, Iron-- was not observed.
We conclude that Ileal Interposition can be done with safety & is effective in controlling type -2 diabetes in patients with any BMI, without any malabsorption.

Title: Laparoscopic Sleeve Gastrectomy with Duodenojejunal Bypass for Type 2 diabetes with BMI under 35 kg/m^2

Kazunori Kasama MD,FACS. Yosuke Seki MD, Hideharu Shimizu MD,

Abstract:

Background

We introduced laparoscopic sleeve gastrectomy with duodenojejunal bypass (LSGB) for Japanese obese patients with a risk of gastric cancer in 2007. Forty-three patients underwent LSGB from April 2007 to December 2010. Regarding anti-diabetic effect, the remission rate of Type 2 diabetes (T2DM) was 93%. This result showed that LSGB could achieve comparable or better remission of T2DM, compared with other bariatric procedures. The metabolic surgery for patients with BMI lower than 35 kg/m^2 is still controversial. We evaluated the effect of LSGB on T2DM with BMI under 35.

Methods

Seven patients with T2DM underwent LSGB. The preoperative mean BMI and weight were 33.4 ±1.5 kg/m^2 and 97.4 ±11.0kg, respectively. There were six patients with T2DM and one patient with IGT. The data on T2DM, lipid profile and blood pressure of the subjects were studied before and 12 months after surgery.

Results

The mean excess weight loss at 12-month follow up point was 82.7%. The mean fasting plasma glucose and HbA1c before and 12 months after surgery were 154.7 mg/dl, 8.1% and 128.5 mg/dl, 6.1%. The remission rate of T2DM was 83%. The mean systolic blood pressure and LDL before and 12 months after surgery were 147.5 mmHg, 158.4 mg/dl and 131.0 mmHg and 140.0 mg/dl. There was one patient who could not achieve the remission of T2DM with 20- year history and preoperative insulin required status (more than 100 U/day). The other CVD risk factors related to T2DM were improved clinically.

Conclusion

This result showed that LSGB for low BMI patients with T2DM could achieve the considerable remission rate of T2DM and reduce the other CVD risk factors.

Metabolic surgery in Korea : Remission of hyperglycemia with modified mini-gastric bypass for the patients with BMI less than 30 kg/m^2

Kyung Yul Hur, M.D.
Department of Surgery, Soonchunhyang University College of Medicine, Seoul, Korea

Background: Type 2 Diabetes mellitus (T2DM) has become an epidemic health problem. Compared to western countries, Asian T2DM occurs in patients with lower body mass index (BMI) due to central obesity and decreased pancreatic β-cell function. The efficacy of laparoscopic mini-gastric bypass (LMGB) in obese patients with T2DM is proven by numerous studies. Treatment outcomes of LMGB for non-obese T2DM patients are also estimated to be excellent. The aim of our pilot study was to evaluate the efficacy and safety of LMBG in non-obese T2DM patients (BMI < 30 kg/m^2).
Methods: Eighty-eight patients underwent LMGB at Soonchunhyang University Hospital from August 2009 to November 2010. Preoperative data including glycosylated hemoglobin (HbA1c), fasting plasma glucose (FPG), and 2-hour post prandial glucose (2-hr PPG) were compared with data collected at 1, 3,6 and 12 months postoperatively.
Results: All procedures were completed laparoscopically. Mean age was 47.1 years, mean BMI was 25.3 kg/m^2, mean operative time was 96.2 minutes, and mean postoperative hospital stay was 4.6 days. Neither mortality nor major complications occurred. Mean preoperative HbA1c, FPG, 2-hr PPG, and C-peptide level were 9.7%, 222 mg/dl, 343 mg/dl, and 2.78 ng/ml, respectively. 12months follow-up was possible in13 patients. HbA1c, FPG, 2-hr PPG, and C-peptide level at 12th post-operative month were 6.3%, 124 mg/dl, 194 mg/dl, and 2.18 ng/ml, respectively.
Conclusion: The present preliminary study demonstrated resolution of hyperglycemia in non-obese T2DM patients (BMI < 30 kg/m^2). Although long-term follow-up data are required, early operative outcomes were satisfactory in terms of glycemic control and safety of the procedure.

Metabolic Surgery in Hong Kong

Wilfred Mui
Hong Kong Bariatric and Metabolic Institute

Asians have higher fat content and different indications for bariatric surgery as compared to western population. In response to DSS in Rome, Asia Consensus Meetings on Metabolic Surgery, endorsed by the Asia Pacific Bariatric and Metabolic Surgical Society were held at Trivandrum in India in 2008 and Taipei 2010 to discuss the situation in Asia. Most experts agreed that Asians are more prone to develop diabetes at lower BMI and early consensus for the use of metabolic surgery to treat Type II diabetes mellitus in Asia were laid and stated as the followings:

1. Bariatric/Gastrointestinal Metabolic surgery should be considered as a treatment option for obesity in people with Asian ethnicity with a BMI more than 35 kg/m2 with or without co-morbidities.

2. Bariatric/Gastrointestinal Metabolic surgery should be considered as a treatment option for obesity in people with Asian ethnicity above a BMI of 30 if they have central obesity (waist circumference more than 80 cm in females and more than 90 cm in males) along with-at least two of the additional criteria for metabolic syndrome: raised triglycerides, reduced HDL cholesterol levels, high blood pressure and raised fasting plasma glucose levels or Type II diabetes mellitus patients who are inadequately controlled by life-style and medical therapy.

3. A surgical approach may also be appropriate as a non-primary procedure alternative to treat Type II diabetes mellitus patients with BMI >27 and central obesity (waist circumference more than 80 cm in females and more than 90 cm in males) who are inadequately controlled by life-style and medical therapy.

Most clinicians and patients in Hong Kong at present are not aware of the option of surgery for treating Type II diabetes. Increasing evidences demonstrate that gastrointestinal surgery including current bariatric surgery has a specific and independent effect on the disease. We have introduced metabolic surgery to treat Type II diabetes since 2008 in Hong Kong. At the moment, we limit our patients to BMI >27 with poorly controlled DM. Options would be sleeve gastrectomy vs. gastric bypass vs. sleeve gastrectomy with DJB.

Experience of diabetes surgery in India

Muffazal Lakdawala

Abstract

Diabetes is believed to be a quintessential medical disease. The notion that surgery is effective and can lead to a virtual cure is a revolutionary concept that evolved when long term results of bariatric surgery started coming in. This led to a major shift in the goal of treatment from improving life with diabetes towards curing it. These reports have far reaching implications for a country like India which is the diabetic capital of the world. It is postulated that by 2025 there will be 57 million Indians suffering from type 2 diabetes mellitus. Almost 70% of the diabetics are overweight.

It is a well known fact that Asians have a higher body fat percentage as compared to their western counterparts. Asians are metabolically obese and tend to develop comorbidities like type 2 diabetes at a much lower weight. Visceral fat as measured by the waist circumference holds a lot more importance in Asians. In the wake of these observations 1st Asian consensus meeting on metabolic surgery was organized to contend the existing NIH criteria for defining obesity in the Asian perspective.

Presently laparoscopic roux-en-y gastric bypass (RYGB) and laparoscopic sleeve gastrectomy (LSG) are the most commonly performed bariatric procedures in India. Indian studies have shown about 98% resolution of type 2 diabetes after RYGB in morbidly obese. Recent reports suggest comparable results after LSG albeit it takes longer than after RYGB. Presently these procedures are being recommended for patients with a BMI of 32 and above with type 2 diabetes mellitus. It has also been recommended for patients with a BMI of 30 and above in conjunction with waist circumference and presence of comorbidities.

The contention is whether the same results can be simulated in diabetics who are not obese. Whether metabolic procedures like ileal transposition and duodenojejunal bypass will stand the test of time is yet to be seen. Trials are going on in various parts of the world. India has the biggest diabetic load and stands to benefit the maximum from any positive outcomes. There is immense hope riding on this concept as any positive results would prove to be a boon to the millions of diabetics who can then hope of a pill or insulin free life.

Overview of Metabolic Surgery Worldwide

Karl Miller, MD, FACS, Hallein Clinic, Austria
Henry Buchwald, Department of Surgery, University of Minnesota USA

An email survey was sent to the leadership of the 36 International Federation for the Surgery of Obesity and Metabolic Disorders nations or national groupings, as well as Denmark, Norway, and Sweden. Responses were tabulated; calculation of relative prevalence of specific procedures was done by weighted averages. Out of a potential 39, 36 nations or national groupings responded. In 2008, 344,221 bariatric surgery operations were performed by 4,680 bariatric surgeons; 220,000 of these operations were performed in USA/Canada by 1,625 surgeons. The most commonly performed procedures were laparoscopic adjustable gastric banding (AGB; 42.3%), laparoscopic standard Roux-Y gastric bypass (RYGB; 39.7%), and total sleeve gastrectomies 4.5%. Over 90% of procedures were performed laparoscopically. Comparing the 5-year trend from 2003 to 2008, all categories of procedures, with the exception of biliopancreatic diversion/duodenal switch, increased in absolute numbers performed. However, the relative percent of all RYGBs decreased from 65.1% to 49.0%; whereas, AGB increased from 24.4% to 42.3%. Markedly, different trends were found for Europe and USA/Canada: in Europe, AGB decreased from 63.7% to 43.2% and RYGB increased from 11.1% to 39.0%; whereas, in USA/Canada, AGB increased from 9.0% to 44.0% and RYGB decreased from 85.0% to 51.0%. The absolute growth rate of bariatric surgery decreased over the past 5 years (135% increase), in comparison to the preceding 5 years (266% increase). Bariatric surgery continues to grow worldwide, but less so than in the past. The types of procedures are in flux; trends in Europe vs USA/Canada are diametrically opposed.

System of Obesity Surgery: overview

Adelaide Circle of Care, Flinders Private Hospital/Flinders University of South Australia, South Australia, Australia
Lilian Kow

Obesity is a disease in which fat has accumulated to the point where health is impaired. It is a rapidly growing problem not only in the western society but also more recently in the Asia Pacific region.Worldwide, the incidence of morbid obesityhas doubled, and about 300 million people are now considered obese.

Obesity surgery started more than 50 years ago. Tremendous advances have been observed in this practice of surgery. New techniques, new procedures, minimally invasive access and improvements in preoperative management have transformed the system of obesity surgery into a subspecialty of its own. To date,there is no effective diet ordrug therapy available to treat the morbidly obese.On the other hand, bariatric surgery has been proven to be effective, providingmarked and lasting weight loss, ranging from 47.5%to 70.1% of excess body weight.These resultsare achieved in relative safety, with operative mortalityequal or less than that for other major operativeprocedures (about 0.5%).The weight loss outcome, results in dramatic improvement on the co-morbidconditions of morbid obesity.

The major medical co-morbid conditions can be divided into thosewhere reversal or improvement has been proven such as type 2 diabetes, hyperlipidaemia, hypertension, obstructive sleep apnea,etcand those where reversal or improvementare reasonable and presumed such as cardiac and peripheral vascular disease, incidence of thrombophlebitis and pulmonary emboli and various carcinomas.

The ameliorating effects of bariatric surgery are not limited to medical co-morbidities. Socially, quality of life is vastly improved, as are body image, personal hygiene, and sexual activity.Many of the economic deprivations of the morbidly obese are reversed after marked weight
loss due to increased employment opportunities advancement potential, and level of income.The sum total of these co-morbidity benefits is anincrease in longevity.

Role of incretins in metabolic surgery-induced remission of type 2 diabetes.

Chikashi Shibata, Takeshi Naitoh, Fumie Ikezawa, Hirofumi Imoto, Masayuki Kakyo, Makoto Kinouchi, Naoki Tanaka, Iwao Sasaki.
Department of Surgery, Tohoku University School of Medicine, Sendai, Japan.

Two hypotheses are proposed as a mechanism for remission of type 2 diabetes (T2DM) in metabolic surgery; one is foregut hypothesis associated with the exclusion of the duodenojejunum from the nutrient exposure, while another one is hindgut hypothesis associated with the rapid exposure of the ileum to the bike and nutrients. These hypotheses are tested using rat models of T2DM, including Goto-Kakizaki rats and obese Zucker rats. Two most representative procedures of metabolic surgery in rats are ileal interposition (II) and duodenojejunal bypass (DJB). II is considered as a model for hindgut hypothesis, whereas DJB as a model for foregut and partly hindgut hypothesis. These 2 procedures improve glucose metabolism, and there are no differences in T2DM remission effects between 2 procedures. Incretins including GIP and GLP-1 are assumed to play an important role in remission of T2DM in these procedures. Most studies reported that II does not affect fasted plasma GLP-1 levels but increases those after glucose or meal administration. Effects of II on the fasted and postprandial plasma GIP levels are still controversial. The effects of DJB on plasma GLP-1 and GIP levels are also controversial, and mechanisms independent of incretin are assumed in DJB-induced remission of T2DM. Clinically, ileal interposition with sleeve gastrectomy (II-SG) and ileal interposition with diverted sleeve gastrectomy (II-DSG) are being attempted. More than 90% of patients achieved adequate glycemic control (HbA1C<7%). Plasma levels of GLP-1, GIP, and PYY significantly increased, while plasma levels of ghrelin significantly decreased, after II-SG and II-DSG in the fasted and postprandial states. These results indicate the important role of incretins in metabolic surgery-induced remission of T2DM, but mechanisms other than incretins are also likely.

From the Aspect of Mental health

Tetsuya Nakazato
Yotsuya Medical Cube

Morbid obesity is a not only physically but also psycho-socially complicated disease. It is important to focus on the environment of the patients. For example, familial relationships, friendships, work relationships and other relationship.

Surgical treatments for morbid obesity have started in our institution since June 2006. The objective of the treatment is to improve quality of life (QOL). For improvement of QOL, physical, psychological, and social supports are important through pre- and post-treatment. Our multidisciplinary team consists of doctors, nurses, nutritionist, and social worker. This multidisciplinary approach is necessary to achieve highly effective treatment for obesity. To defeat the complexity of obesity, approach from different aspects is important. The key to success lies in a multidisciplinary team to empower the patients.

As the profession of social worker is to establish interaction between patients and their environments, The roles of the social worker in bariatric surgical team start from the first intake of all clients, conducting support groups, making an assessment of psycho-social problems and counseling.

The term “Mental illness” encompasses a wide variety of problems. The presence of psychiatric disorders is not an absolute contraindication to weight loss surgery.

The lecture will be regarding behavioral and psychological factors in the assessment and the treatment of bariatric surgery patients.

From the aspect of Nutrition; Formula diet

Atsuhito Saiki
Center of Diabetes, Endocrine and Metabolism, Toho University Sakura Medical Center

Formula diet is a powdered preparation and is composed of high-protein, low-carbohydrate, low-fat, vitamins and minerals. Formula diet is safe, convenience and effective in weight loss for treatment of obesity. However, the nutritional efficacy is not fully explored.

We compared the effects of partial use of formula diet (MicroDiet®; 170kcal/pack, protein 21.5g/pack, fat 2.4g/pack, carbohydrate 16.5g/pack) and conventional subcaloric diet on weight reduction, body fat distribution and related metabolic variables in obese patients with type 2 diabetes for 24 weeks. In formula diet group, weight reduction, visceral fat reduction, decrease in systolic blood pressure, HbA1c, triglyceride and increase in HDL-C was greater than in conventional diet group. Interestingly, improvements in visceral fat, HbA1c, triglyceride and HDL-C per reduced body weight were higher in formula diet group. These findings have given us a hypothesis that formula diet has specific nutritional effect, which is independent of calorie restriction. To clarify the hypothesis, we investigated the effects of formula diet on visceral fat, metabolic parameters and adipokines expression in Zucker diabetic fatty rats (low-calorie diet; 56kcal/g, P:F:C=25:15:60, formula diet (MicroDiet®); 56kcal/g, P:F:C=50:14:36). The changes in body weight were not different between groups, however in formula diet group, decrease in visceral fat volume and improvement in triglyceride and HDL-C were greater. Adiponectin, LPL, PGC-1α and PPARγ mRNA/protein expression in visceral fat tissue were higher in formula diet group. On the other hand, formula diet also led to greater reduction of liver fat content in Zucker rat.

Formula diet may be useful for prevention of malnutrition and long-term weight gain after bariatric surgery. Furthermore, the potent effect on liver fat reduction is also useful before surgery, because enlarged fatty liver in obesity compromises surgical access to gastroesophageal junction. Pre- and post-operative formula diet may be a key nutritional option when bariatric surgery is performed.

Consensus of Asian Diabetic Surgery Summit (ADSS) and APBSS

Wei-Jei Lee, M.D., Ph.D.
Dept. of Surg., Min-Sheng General Hospital, National Taiwan University, Taiwan

2005 APBSG consensus meeting has modified the indication of bariatric surgery for Asian people to

1. Obese patients with their BMI over 37
2. Obese patients with their BMI over 32 in the presence of diabetes or other two significant obesity related co-morbidities.
3. Have been unable to lose or maintain weight loss by dietary or medical measures.
4. Age of patient > 18 years and < 65 years.
   * Under special circumstance and inconsideration with a pediatrician, bariatric surgery may be used in children under age 18

2010 ADSS meeting in Taipei has proposed the indication of metabolic surgery for Asian diabetes people

1. Metabolic surgery should be recommended for diabetes patients with their BMI over 37
2. Metabolic surgery should be considered for diabetes patients with their BMI over 32 and not well controlled (HbA1c > 7.5%) after intensive medical treatment.
3. Metabolic surgery may be considered for diabetes patients with their BMI over 27 with many co-morbidities and not well controlled (HbA1c > 7.5%) after intensive medical treatment.
4. Age of patient > 18 years and < 70 years, with acceptable surgical risk and without end-organ damage.
   *The patient should be cared and followed by multi-discipline medical team and pre-operative B-cell function evaluation is indicated

Concensus of Diabetic Surgery Summit (DSS)
Impact on Asian population

Wilfred Mui
Hong Kong Bariatric and Metabolic Institute

Background: The purpose of the Summit, led by Prof. Rubino is to formulate new consensus for surgical intervention for Type II diabetes mellitus in western population. It created tremendous impact on Asian population and in response to DSS guidelines, ADSS and ACOMOMS guidelines were developed specifically for Asian population.
Method: Multidisciplinary voting delegates around the world gathered at Roma in March 2007 for the 1st DSS. During the meeting, available scientific evidence were examined and discussed by the entire group. Consensus for diabetic surgery for western population was established.
Results and Conclusions:

1. GI surgery should be considered for the treatment of T2DM in acceptable surgical candidates with BMI >35kg/m2 who are inadequately controlled by lifestyle and medical therapy.
2. A surgical approach may also be appropriate as a non-primary alternative to treat inadequately controlled T2DM in suitable surgical candidates with mild-to-moderate obesity (BMI 30-35 kg/m2). RYGB may be an appropriate surgical option for diabetes treatment in this patient population.
3. Although novel GI surgical techniques (eg, duodenal-jejunal bypass, ileal interposition, sleeve gastrectomy, endoluminal sleeves) show promising results for the treatment of T2DM in early clinical studies, they should currently be used only in the context of IRB-approved and registered trials.
4. To improve quality of medical evidence, the development of standards for measuring clinical and physiological outcomes of surgical treatment for T2DM is a high priority.
5. Randomized controlled trials are strongly encouraged to assess the utility of GI surgery to treat T2DM.
6. Development of a standard registry/database is a high priority for research in this area. In addition to clinical trials, animal studies can provide useful information about the efficacy and mechanisms of GI metabolic surgery to treat T2DM.

Consensus of OSSANZ National Report from Australia

President, Obesity Surgery Society of Australia and New Zealand
Lilian Kow

The OSSANZ Bariatric Surgical Standards (OBSS) was developed to ensure that all surgeons who undertake to perform Bariatric Surgery within any Health Service (Public or Private) are properly credentialed and have the scope of providing a quality bariatric surgical service in accordance with both their level of skill and experience and the capability of the Health Service.The following are the recommended OSSANZ Bariatric Surgical Standards for defining the scope of clinical practice for Bariatric Surgery.

An Australian standard has been developed to guide the process of credentialing and defining the scope of clinical practice (www.safetyandquality.org).

These recommendations have been developed to ensure the delivery of high quality bariatric service within any Health Service. It is recommended that these OBSS assists Credentialing Committees of Health Services to ensure their bariatric surgeons are performing operations commensurate with their skill and are also providing a quality bariatric service to their patients as defined below.

These OBSS apply to all surgeons who are practicing or considering bariatric surgery. They are guidelines recommended for Credentialing Committees of Health Services in the certification and recertification of bariatric surgeons in Australia and New Zealand.

For surgeon members, the process of their application for clinical practice of bariatric surgery (operation specific) within any Health Service should be of the following 3 categories:

1. Provisional Bariatric Surgical Accreditation

Provisional Bariatric Surgical is the first step for surgeons with FRACS or equivalent, who wish to become fully accredited Bariatric Surgeons in any Health Service. This is the agreed step to be taken when undergoing and completing training in bariatric surgery, and mentoring of cases, before being accredited as Bariatric Surgeon for a specific bariatric procedure:

a. Nominated by 2 surgeons experienced in Bariatric Surgery.
b. Successful completion of, and proof of, approved Bariatric Surgery Training or a Bariatric Course.
c. Documentation of minimum of 3 mentored cases by another Bariatric Surgeon, with written approval by the mentor.
d. The surgeon may then proceed to documenting 20 bariatric cases, (Logbook) which is to be forwarded to, and to be approved, by the Credentialing committee.
e. Agree to contribute to the OSSANZ Bariatric Registry.

2. Full Bariatric Surgical Accreditation

Bariatric Surgical Service is applied for after fulfilling the requirements of the Provisional Bariatric Surgical Accreditation.

a. Has fulfilled the criteria of Provisional Bariatric Surgeon and received the necessary written approvals.

b. Maintains and updates clinical skills and bariatric knowledge which includes one bariatric surgical meeting (national or international) yearly.
c. Continues to contribute to the ongoing OSSANZ Bariatric Registry and follow-up.
d. Maintains surgical skills by at least 20 bariatric operations annually.
e. Reviewed/renewed triennium.

3. Grandfather Clause

Surgeons already performing Bariatric surgery will need to provide the following when applying for recertification as Bariatric Surgeons by their Health Service

a. Fully qualified and recognized General Surgeon
b. Evidence of successful completion of a Bariatric Course or Training
c. Evidence/experience and explanation of Bariatric Training
d. Name of 2 referees - experienced in Bariatric Surgery.
e. Evidence of having performed 100 Bariatric Cases and complication rate

JSSO Consensus Statement 2010

Chairman of the JSSO guideline committee, Isao Kawamura

JSSO, as a body member of IFSO, had been formulating its guidelines for about 3 years in order to enact them. These were completed and released as Statement 2010 in 2010. The basis of the guidelines was established by complying with the IFSO guidelines 2008, in consideration of the state of affairs in Japan and characteristics of obesity patients. However it also takes account of the flexibility to handle future revision if necessary. The first feature of JSSO is the fact that surgeons should have an idea the treatment of morbidily obese patients lasts a lifetime, does not end with surgical treatment only. Those are compared to lines and points. In other words, the treatment of morbid obesity needs multidisciplinary treatment with a team which includes physicians, psychiatrists, dieticians, counselors and so on. Surgical indications characterize the second feature of JSSO. Indications for bariatric surgery is applied for the patients with BMI ≧35, because the criterion of Japanese obesity is defined by BMI≧25. We have defined the indication for metabolic surgery by BMI≧32 and have positioned it as clinical study. It obliges a through follow-up for the patients under the rigid registration system. Our report mainly consists of these details.

ACMOMS I

Muffazal Lakdawala

Abstract

Background: The Asian consensus guidelines were the outcome of a two day deliberation that was organized in Trivandrum, India on the 9th and 10th August 2009.

Methods: Asian Consensus Meeting on Metabolic Surgery (ACMOMS) was the first ever meeting of its kind in Asia where 52 professionals involved in the field of bariatric surgery, metabolic surgery, diabetes, and medical research from countries across Asia and the GCC met at Trivandrum, India to vote for and create a new set of guidelines for the Asian phenotype, which were different from the NIH guidelines set for bariatric surgery. The aim was to set culturally, geographically, and genetically relevant standards for the management of obesity and metabolic syndrome.

Results: It is known that Asians have higher adiposity for a given level of obesity, and this is visceral obesity as compared to other populations. Currently, worldover guidelines set by NIH in 1991 are being followed for bariatric surgery. Surgeons believe that NIH guidelines need to be revisited and modified. It is in light of these observations that the genesis of ACMOMS took place. At ACMOMS, it was recommended that the NIH guidelines are not suitable for Asians, and the BMI guidelines should be lowered for indication of surgery. Waist or waist-hip ratio must gain significance as compared to BMI alone for Asians. The recommendations were as under:

- Bariatric/Gastrointestinal Metabolic surgery should be considered as a treatment option for obesity in people with Asian ethnicity with a BMI more than 35 kg/m2 with or without co-morbidities.
- Bariatric/Gastrointestinal Metabolic surgery should be considered as a treatment option for obesity in people with Asian ethnicity above a BMI of 32 kg/m2 with co-morbidities.
- Bariatric/Gastrointestinal Metabolic surgery should be considered as a treatment option for obesity in people with Asian ethnicity above a BMI of 30 kg/m2 if they have central obesity (waist circumference more than 80 cm in females and more than 90 cm in males) along with at least two of the additional criteria for metabolic syndrome: raised triglycerides, reduced HDL cholesterol levels, increased LDL levels, high blood pressure and raised fasting plasma glucose level.
- Any surgery done on diabetic patients with a BMI less than 30 kg/m2 should be strictly done only under study protocol with an informed consent from the patient. The nature of these surgeries should be considered as yet purely experimental only as part of research projects with prior approval from the ethics committee.

Conclusions: The collective recommendations were submitted as a report to the executive committee for approval. These guidelines have now been accepted by the Asia Pacific Metabolic and Bariatric Surgery Society (APMBSS) and IFSO Asia Pacific Chapter and have been published in the journal of Obesity surgery.

Bariatric Training and Education

Hallein Clinic, Austria
Karl Miller, MD, FACS

Obesity surgery is not only a craft but it also signifies consideration of the disease as a whole. An Operation Primer undertakes the task of communicating
basic surgical techniques. Only someone who knows all the technical possibilities and procedures is in a position to react flexibly and adequately in different situations. About 50 different surgical methods have been developed in obesity surgery in the past 50 years. It is obvious from this that the optimal surgical method for the obese patient does not exist. Experience has shown that peri- and postoperative complications can be reduced with with simplified working steps. An Operation Primer is an ideal format for communicating new operative methods but it does not replace training by an experienced surgeon. A surgeon cannot rest on his laurels but must always keep up with the latest techniques. I would therefore like to take this opportunity to thank the Industry for making Mental Training, training on the computer simulator and operations in the laboratory possible. First-class surgery is possible only through careful acquisition of knowledge, regular training and quality control. Additional mental training is an effective way of optimizing the outcomes of further training for laparoscopic procedures. It is associated with fewer costs and with better outcomes in some crucial assessment scales than additional practical training.

Bariatric Surgery clinical fellowship in the USA

Seiichi Kitahama, MD
Minimally Invasive Surgery Fellow
Michael E. DeBakey Department of Surgery
Baylor College of Medicine, Houston, TX

Bariatric surgery has been gaining popularity worldwide.? It is still not easy to master the comprehensive perioperative bariatric patient care and advanced laparoscopic skills including intracorporeal hand-sewn anastomosis.

Currently there are 62 bariatric surgery fellowship training programs in the USA according to the Fellowship Council ([a:http://www.fellowshipcouncil.org/]http://www.fellowshipcouncil.org).? The organization monitors individual fellowship training and regulates the matching process to ensure high volume and high quality training. ?

I completed one year clinical laparoscopic bariatric surgery fellowship, predominantly LRYGB and LAGB, with some LSG at Legacy Good Samaritan Hospital in Portland, Oregon.? Subsequently I am undergoing another clinical MIS/bariatric surgery fellowship predominantly LRYGB and LSG, with some LAGB at Baylor College of Medicine in Houston, Texas. ?Both hospitals are accredited as Bariatric Surgery Center of Excellence by Surgical Review Corporation.

I would like to share my experience with 7 bariatric surgeons and discuss the way to organize a bariatric training program.

Bariatric Fellowship in Australia

Dr Benjamin Woolven
St George Private Hospital

General Surgical Training in Australia requires a six year undergraduate or 4 year post graduate medical degree and two years of post graduate experience before commencement. General surgical training is undertaken over a minimum of 5 years and requires successful completion of a two part clinical examination. Further post fellowship training is at the discretion of the individual surgeon though non compulsory two year programs in upper gastrointestinal, colorectal and hepatobiliary surgery have been established. There is no centrally administered training program in bariatric surgery though a number of individual institutions offer one year fellowship programmes.

The authors experience is of a one year programme undertaken at St George Private Hospital in Sydney in Upper Gastrointestinal and Bariatric Surgery. During the fellowship there were 275 bariatric operations including 52 laparoscopic adjustable bands, 158 laparoscopic sleeve gastrectomies, 29 laparoscopic gastric bypasses and 61 revisional operations. There were 433 non bariatric operations. International candidates from Singapore, New Zealand and the United Kingdom have previously completed the programme. Future international candidates are welcome to apply for the St George Fellowship program and other bariatric training programmes throughout Australia.

Bariatric Fellowship Training in a Center of Excellence, Taiwan Experience

[1] Bariatric & Metabolic International Surgery Center, E-Da Hospital, Kaohsiung, Taiwan.
[2] Department of General Surgery, E-Da Hospital, Kaohsiung, Taiwan.
[3]Department of Chemical Engineering, Institute of Biotechnology and Chemical Engineering, I-Shou University, Kaohsiung, Taiwan.
Chi-Hsien Lo[1], Chih-Kun Huang[1,2,3]

Background: Bariatric surgery has gained more popularity in Asia-Pacific area. But, the multiple co-morbidities of morbid obesity and steep learning curve make comprehensive training program to be looked-for in recent years. Hereby, we present the fellowship training program in a unique International Bariatric Surgery Center of Excellence (BSCOE) in Taiwan.
Methods: From July 2009 to July 2010, fellowship training process, learning curve, patients demographic data, operation time and surgical complications were all collected from different stages of the learning. According to the bariatric training protocol of the institution, data was analyzed and compared.
Results: In this one-year period, totally 346 laparoscopic bariatric operations were performed in the BMI Surgery Center, E-Da Hospital. As a primary surgeon, the fellowship performed 169 bariatric cases independently after 43 assistance. Different type of bariatric surgeries were performed, as gastric banding with or without gastric plication, sleeve gastrectomy and Roux-en-Y gastric bypass. There were only 5 surgical complications (3.55%). There was no mortality. In this journey, we reviewed different stages of the fellowship training, as being from a mere assistant, progressed to primary surgeon, and then supervisor.
Conclusion: Low complication rates came from excellent supervised bariatric training program and we proposed a bariatric surgery training guideline in Asia-pacific area.

Better Short-term Weight Loss for Patients with Group Therapy after Gastric Banding

Digestive and Bariatric Surgery Division, Taipei Medical University Hospital, Taipei, Taiwan
Weu Wang M.D.

Background:
Adjustable gastric band surgery is one of the standard surgeries for the treatment of morbid obesity. The results between, however, varies. Post-operative intensively follow-up and group therapy may offer the patients better concept of eating behavior and life style change, and further lead to better weight loss.

Materials and Methods;
From January 2008 to Dec 2009, 156 patients had received gastric banding surgery. Among these, 31 patients joined the post-operative group therapy including nutritional counseling, aerobic exercise and diet education willingly. Another 31 patients was selected without post-operative group therapy as comparative group. The data was collected retrospectively.

Results;
The mean BMI was 43.6±5.3 kg/m^2 in the study group and 42.8±6.5 kg/m^2 in comparison. The BMI at one year after surgery was 32.8±3.6 kg/m^2 and 34.2 + 4.6 kg/m^2 respectively. The average adjustment was 5.2 times in study group comparing to 3.8 times. The study group has better loss of body fat and higher percentage of muscle component.

Conclusion:
Post-operative group therapy is effective for better weight loss and greater improvement of body fat percentage for patients undergo gastric banding.

Laparoscopic adjustable gastric banding in a Japanese institute

Department of Surgery I, Oita University Faculty of Medicine, Oita, Japan.
Masayuki Ohta, MD, Teijiro Hirashita, MD, Yukio Iwashita, MD, Tadashi Ogawa, MD, Kazuhiro Yada, MD, Takashi Masuda, MD, Hidetoshi Eguchi, MD, Seigo Kitano, MD

Background/Aim: Although bariatric surgery has not been popular in Japan, the most popular bariatric procedure is now laparoscopic sleeve gastrectomy. In 2005, we introduced laparoscopic adjustable gastric banding (LAGB) into Japan, and here, our data were presented and evaluated.
Methods: Between August 2005 and December 2010, 31 morbidly obese patients (18 women / 13 men, mean age of 39yr) received LAGB in our institute. All patients were morbidly obese (BMI>35 kg/m^2), and the averaged weight was 118 kg and BMI was 43 kg/m^2. In regard to LAGB devices, LAP-BAND® (Allergan Medical) was used in 29 patients and SAGB® (OBTECH Medical GmbH) in 2 patients. All procedures of LAGB were performed through the pars flaccida pathway with band fixation using gastric-to-gastric sutures. Averaged follow-up duration was 35 months.
Results: All the procedures were completed laparoscopically. Two complications were experienced (postoperative bleeding and port trouble), and reoperations were needed in the patients. Weight loss and % excess weight loss on the average were 25kg and 44% after 1 year, 33 kg and 57% after 3 years and 29 kg and 51% after 5 years. Accordingly, comorbidities were frequently improved, and type 2 diabetes and metabolic syndrome were resolved in 9 of 10 patients (90%) and in 14 of 17 patients (82%), respectively.
Conclusions: LAGB is safe and effective in Japanese patients with morbid obesity, and our data seem to be equivalent to those previously reported in Western countries.

Patient Selection for Laparoscopic Adjustable Gastric Banding

Centre for Obesity Management and Surgery, National University Hospital, Singapore
Asim Shabbir, Litang Chen, Raymond Lim, Jia-yan Wee, Lifeng Zheng, Davide Lomanto, Jimmy BY So.

Surgery is the most effective treatment for morbid obesity. Various bariatric operations are available but the ideal operation remains unknown. Laparoscopic Adjustable Gastric Banding (LAGB) is one of commonest bariatric operations. It is simple, adjustable, reversible and minimally invasive. However, the outcome of weight loss is highly variable and band-related complications occasionally occur. To achieve the best outcomes, careful patient selection and a committed follow-up program are essential. Our centre started LAGB since 2004. In 2007 and 2008, we introduced laparoscopic sleeve gastrectomy (LSG) and gastric bypass (LRYGB) respectively. We reviewed our patients who underwent bariatric surgery in the past 6 years, and compared the results among these 3 procedures. We investigated potential predictors of outcomes after LAGB and we also reviewed published date for additional predictors. Till 2010, we had 72 patients who underwent bariatric surgery (42 LAGB, 22 LSG, 8 LRYGB). The median age was 44(range: 24-68) and the BMI was 41 (range: 30-57). Median follow-up among the three procedures was 45, 8 and 6 months respectively. The median excess weight loss (EWL) was 29, 34, 44% respectively. Among patients who underwent LAGB, 29 patients (69%) defaulted follow-up in long-term. Twenty-two (52%) patients had unsatisfactory weight loss (<30%EWL) and 6 (14%) patients developed band complications and required band removal. In general, predictive factors for poor outcomes include age, unwilling to change lifestyle habits and loss of follow-up. In conclusion, long-term results of LAGB are unsatisfactory in unselected patients. Careful patient selection is essential in achieving good outcomes in LAGB.

Lap banding in Thailand

Institute: Bunrungrad International Hospital, Bangkok
Professor Paisal Pongchairerks

Laparoscopic Gastric Banding was the first bariatric procedure done in Thailand in 2003. Its preference decreased gradually as Thai surgeons acquired more expertise in other more difficult procedures. The popularity of laparoscopic sleeve gastrectomy also seemed to contribute to this trend. However, banding still entertained the benefit of being a relatively easy procedure among all. Surgeons seemed to come across more long-term complication after more years of follow-up, including esophageal dilatation, reflux with or without esophagitis, slippage and band erosion. Some cases of reoperation were experienced. Nowadays, Thai surgeons have different opinions as for the indication of gastric banding.

Gastric Band in India

Bombay Hospital Fortis Hospitals, Mumbai, India
Ramen Gyanendra Goel

Bariatric surgery started late in India. VBG was introduced in late 1990s. First gastric band surgery in India was done in 2000 & subsequently till 2005 almost all surgeons started bariatric career with gastric band. Most of experienced laparoscopic surgeons could adept gastric band comfortably & numbers of band surgeries increased rapidly till realization started settling in that band is not effective in almost 25% - 35% with 3 year explantation rates of 20% - 30% in different hands.

Introduction of gastric bypass & sleeve gastrectomy has led to further decline in gastric band surgery's fortunes in India. Gastric band now accounts for less than 1% of procedures in most of bariatric practices. Few recent centers have shown renewed interest in gastric band implantations with successful outcomes.

Various reasons attributed to poor results seen by Indian surgeons may be attributed to poor follow up due to failure to get regular adjustments due to long distances, incompletely developed bariatric program, high rate of oesophageal dilatation etc. Lack of patience, due to slow weight loss results, compared to other bariatric surgeries may also attribute to high explanation rate.

Gastric band surgery accounts for almost 50% of bariatric procedures in USA, but only long term follow up will show whether fate of bands will follow the Indian graph. As gastric sleeve is becoming the procedure of choice amongst bariatric surgeons & patients in India, the future of gastric band surgery in India is bleak.

Cross Validation of the Moorehead-Ardelt Quality of Life Questionnaire II with WHOQOL and SF36 and Clinical Application

[1] Bariatric & Metabolic International Surgery Center,E-Da hospital,Taiwan [2]Department of Internal Medicine,E-Da hospital,Taiwan

Huai-Ching Kuo[1],Chi-Hsien Lo[1],Chih-Kun Huang[1],Chi-Yang Chang[2]

Background: Obesity has become a major worldwide public health issue. There is a need for tools to measure patient reported bariatric outcomes. The Moorehead-Ardelt Quality of Life Questionnaire II (MA-II) contains six items. The objective of this study was to translate the MA II into Chinese and validate it in patients with morbid obesity.

Methods: The MA-II was translated into Chinese and backtranslated into English by two language specialists to create the Taiwan version, which was validated by correlations with two other generic questionnaires of health-related quality of life (HRQOL), Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36), and World Health Organization Quality of Life (WHOQOL)-BREF Taiwan version. The convergent validity was accomplished by a series of Spearman rank correlations. Reliability of the MA-II Taiwan version was determined by internal consistency obtained by Cronbach alpha coefficient and test-retest reliability obtained by intraclass correlation coefficient.

Results:One hundred subjects with morbid obesity were enrolled to test the MA II Taiwan version convergent validity and internal consistency. Test-retest studies (2 weeks apart) were applied to 30 morbidly obese patients. Satisfactory internal consistency was demonstrated by a Cronbach alpha coefficient of 0.79. Good test&-retest reliability was shown by intraclass correlations ranging from 0.73 to 0.91. The total sum of MA-II scores was significantly correlated with all four domains of the WHOQOL-BREF and two major components of SF-36 . All six MA-II items showed significant correlations with each other , and total sum of MA-II scores was negatively correlated with body mass index , indicating a one-dimensional questionnaire of HRQOL.

Conclusions:The MA-II Taiwan version is an obesity-specific questionnaire for QOL evaluation with satisfactory reliability and validity. It has the advantages of extensive evaluation for HRQOL, cross-cultural application, rapid completion, high response rates, and an advanced scoring system.

Change in Quality of life at 12 months after Bariatric Surgery in Morbidly Obese patients

[1]The Department of Weight Loss Surgery, Yotsuya Medical Cube, Tokyo, Japan
Kazuko Sonoda[1],Kazunori Kasama[1],Yosuke Seki[1],Hideharu Shimizu[1],Kikkawa Eri[1],Tetsuya Nakazato[1],Toshie Shiraishi[1]

Background Laparoscopic Roux-en-Y gastric bypass (LRYGB) is the gold standard method in Bariatric Surgery. However, considering that gastric cancer is one of the most common diseases in Asia, Kasama has introduced Laparoscopic Sleeve Gastrectomy with Duodenojejunal Bypass (LSG/DJB). Now LSG/DJB is becoming an effective procedure for the treatment of morbidly obese patients in Japan. In this study, we compared Quality of Life (QOL) and excess weight loss (EWL) 12 months after LRYGB and LSG/DJB.MethodsWe compared 38 patients who under went LRYGB (Group B) and 25 patients who under went LSG/DJB (Group SB) between June 2006 and March 2009. QOL factors assessed were Social Life, Confidence, Figure, Depression, Healthiness, Activity and Exercise. We had given Q&A sheets to the patients and asked them to evaluate their improvement in these factors. We have created an Improvement Score from 1 to 5 (5 being the best condition). We have also analyzed EWL in both groups.Results12 months after surgery, all QOL factors were improved in both groups. There was no significant difference in mean score of QOL in all factors between Group B and Group SB. There was no significant difference in EWL between both groups. ConclusionLRYGB is considered to be the most popular procedure in Bariatric Surgery, but we suggest that LSG/DJB could also be an effective procedure from a view point of QOL and EWL.

An Individual Surgeon versus a Team Approach: Surgical Outcomes of Laparoscopic Roux-en-Y Gastric Bypass

[1]E-Da Bariatric & Metabolic International Surgery Center

Ya-Wei Huang[1], Chi-Hsien Lo[1], Chih-Kun Huang[1]

Purpose: Laparoscopic Roux-5 en-Y gastric bypass (LRYGB) has been shown to improve both the health and quality of life of morbidly obese patients. We studied to compare the efficacy and safety of using a team approach to LRYGB versus an individual surgeon. Materials and Methods: Data were retrospectively collected from 200 consecutive patients undergoing LRYGB for morbid obesity between August 2005 and February 2008. Group I (GI) and Group II (GII) included 50 patients who underwent surgery and were cared for by the same surgeon. Group III (GIII) included the next 100 consecutive patients, who underwent LRYGB by the same surgeon, but were cared for by a dedicated bariatric team. Results: Among the 76 males (38%) and 124 females (62%) in the study, excess weight loss at 1and 3 months follow-up did not differ; however, it was significantly different at 6 months and 12 months. At mean follow-up, 30% in GI, 6% in GII, and 8% in GIII experienced complications. Most complications in the GI group occurred early and were related to surgical technique, while in groups GII and GIII, complications related to technique were markedly reduced. Males were 4.57 times as likely as females to have complications related to bariatric surgery. Conclusions: A team-based approach is a better option for patients undergoing LRYGB than is cared by a single surgeon. With an experienced bariatric surgeon, the team approach resulted in shorter operative times and hospital stays, better weight loss without increased complications.

Difference Between Laparoscopic Sleeve Gastrectomy and Roux-en-Y Gastric Bypass Regarding Weight Loss Effect and Amount of Food Intake According to Level of BMI

Yotsuya Medical Cube
Eri Kikkawa , Kazunori Kasama , Yosuke Seki , Hideharu Shimizu , Tetsuya Nakazato , Kazuko Sonoda

<Background>
Laparoscopic sleeve gastrectomy (LSG) for morbidly obese patients is gaining popularity in Japan. It's indications and long-term results are currently under evaluation, whereas laparoscopic Roux-en-Y gastric bypass (LRYGB) is the golden standard procedure with good long term outcomes. In addition, some articles reported that LSG could not lead to sufficient weight loss for super morbid obesity. This study aimed to compare the difference of excess weight loss (EWL) and amount of food intake of patients with BMI < 50 or ≧ 50 between LSG and LRYGB.
<Methods>
For this study, 123 patients who underwent LRYGB (48patients) or LSG (75 patients) were retrospectively analyzed for 24 months after surgery. There are 101 patients with BMI < 50 in LSG group (n=60) or LRYGB group (n=41), and 22 patients with BMI ≧ 50 in LSG group (n=15) or LRYGB group (n=7). We compare the EWL and the amount of food intake after LSG to those after LRYGB according to BMI. We analyzed the amount of food intake by means of diet recall and a questionnaire. We defined the preoperative amount of food intake as 100% and calculated the rate of change after surgery.
<Results>
As for BMI < 50, the percentage of EWL and the rate of change of food intake at 24 -month follow up point were 81.7% and 52% in LSG group and 82.8% and 47% in LRYGB group. As for BMI ≧ 50, the percentage of EWL and the rate of change of food intake at 24-month follow up point were 29.8% and 54% in LSG group and 62.3% and 58% in LRYGB group. This data show that the EWL of patients with BMI≧50 after LSG at 24-month follow up point is not comparable to the other results, but the rate of change of food intake of the same group is comparable.
<Conclusion>
As for BMI≧50, we need to restrict the amount of food intake after LSG more than LRYGB for the purpose of bettering the EWL. However, it means that LSG can be a standalone procedure for morbidly obese patients with BMI<50 as well as LRYGB, but LSG is not expected to be performed as a solo procedure for the patients with BMI≧50.

Evaluation of the Clinical Pathway for Laparoscopic Bariatric Surgery

[1]The Department of Weight Loss Surgery, Yotsuya Medical Cube, Tokyo, Japan
Mai Yamashita[1], Kanako Yuasa[1], Hideharu Shimizu[1], Yosuke Seki[1], Kazunori Kasama[1], Megumi Tanimura[1]

<Background>Clinical Pathways (CPs) are comprehensive systematical patient care plans for specific procedures. The CPs for morbid obesity were implemented in our department in February 2006. The aim of this study is to evaluate the CPs for laparoscopic bariatric surgery.<Methods>The CPs were applied to the 189 patients who underwent bariatric surgery. The assessment criteria included degree of compliance with hospital stay, indicators of clinical care effectiveness, and comparison with the other CP reported in Pubmed.<Results>Fig. shows the number and rate of noncompliance with hospital stay in different bariatric procedures. The only reason for noncompliance with hospital stay was patient-dependent causes. There was no staff-related or institution-related reason. This result was almost similar to that reported in the past from Spain.<Conclusion>Our data show that compliance with hospital stay depends on the difficulty of bariatric surgery. From the point of view of the reason of noncompliance with hospital stay, clinical pathway which is controlled by a team with a wide experience in bariatric surgery can offer our patients with morbid obesity bariatric surgery with the smallest possible range of complications.

Laparoscopic Procedure	Number of noncompliance /total number of procedure	Rate of noncompliance
Adjustable Gastric Banding	0/17	0%
Roux-en-Y Gastric Bypass	13/51	25.49%
Sleeve Gastrectomy	13/81	16.04%
Sleeve with Duodenal Jejunal Bypass	10/40	25.00%
Total	36/189	19.04%

Singaporean Asian Patients have paradoxically higher rates of vitamin D deficiency compared to Western Patients

[1]Department of Endocrinology, Singapore General Hospital, Singapore [2]Department of Surgery, Singapore General Hospital

Daniel C. Wai[1],Shanker Pasupathy[2],Sonali Ganguly[1],Kwang W. Tham[1]

Background: Vitamin D deficiency has been reported in between 57% to 65% of patients in Western countries before bariatric surgery and can drop further after surgery, resulting in metabolic bone disease. No studies have however reported vitamin D (vit-D) levels in patients before bariatric surgery in tropical Singapore. Aims of Study: To retrospectively investigate vit-D and intact parathyroid hormone (iPTH) levels in obese patients immediately before undergoing bariatric surgery in a tertiary hospital.Methods: Baseline patient characteristics, preoperative Vit-D and iPTH levels were studied together with its relationship to race, gender and body mass index (BMI). Results were presented as mean (standard deviation).Results: 46 patients underwent bariatric surgery. 61% were female. There were 44% Chinese, 26% Malay, 24% Indian, and 7% were of other ethnicity. 78% had laparoscopic sleeve gastrectomy, 20% Roux-en-Y gastric bypass, and 2% bilio-pancreatic diversion. The mean age was 39 (10.6) and the mean BMI was 43.6 (9.8). The mean of vit-D was low at 17.4 ng/ml (8.6). 75% were deficient (<21 ng/ml), 21% were insufficient (21-29 ng/ml), and only 4% had sufficient vit-D (>29 ng/ml). Mean iPTH was low at 6.5 pmol/l (3.5). 50% of the patients had raised iPTH. Vit-D levels were inversely correlated with BMI (r2=0.242, p=0.008). Non-Chinese patients had higher BMI (46.3 vs 40.0, p=0.032), lower vitamin D levels (13.6 vs 23.2 ng/ml, p=0.002) and higher iPTH (8.7 vs 4.4 pmol/l, p=0.007). Those were not different between males and females. Conclusion: The majority of obese patients, especially Malays and Indians, had deficient and insufficient vit-D levels even before bariatric surgery. Alarmingly the proportion of patients deficient was higher than in Western countries despite the fact that Singapore has sunshine all year round. Physicians in tropical countries therefore should routinely screen for its deficiency preoperatively with appropriate repletion.

A Simple Clinical Scoring System to Identify Patients at Risk of NASH Before the Development of NASH

[1]Department of General and Digestive Surgery, Flinders Medical Centre, Adelaide, Australia [2]Department of Digestive Surgery, Osaka Medical Centre for Cancer and Cardiovascular Diseases, Osaka, Japan

Jacob A Chisholm[1], Yosuke Seki[2], James Toouli[1], Jurgen Stahl[1], Jane Collins[1], Lilian Kow[1]

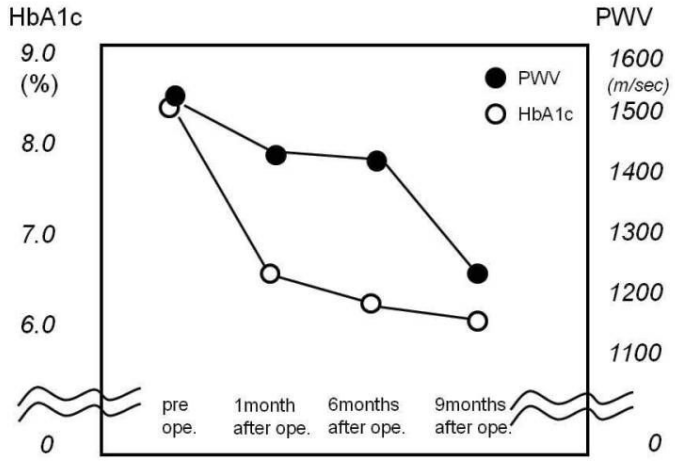
Background Nonalcoholic fatty liver disease (NAFLD) is common in the morbidly obese. It is a condition that can lead to progressive fibrosis and cirrhosis. A clinical scoring system to identify patients predisposed to fibrosis would assist in selecting patients for liver biopsy and further management. Methods Liver biopsies were taken from 370 consecutive patients who underwent laparoscopic bariatric surgery. Clinical and biochemical parameters were then assessed for correlation with histological features of non-alcoholic fatty liver disease. Results Sixty eight patients (18%) were found to have non-alcoholic steatohepatitis (NASH). Raised insulin resistance, ALT and total bilirubin were independently associated with NASH. The presence of at least 2 of the 3 provided the best combination of sensitivity (0.71) and specificity (0.71) for predicting NASH. Conclusion Raised insulin resistance, ALT and total bilirubin are clinical indicators for the presence of NASH prior to the development of fibrosis.

Bariatric surgery improves arterial stiffness of the patient with metabolic syndrome

[1]Department of Rehabilitation, Kamagaya General Hospital, Chiba, Japan [2]Department of Diabetes and Endocrinology, Saitama Medical University, Saitama, Japan [3]Department of Ageing Control Medicine, Juntendo University Graduate School of Medicine, Tokyo, Japan [4]Department of obesity surgery, Kamagaya General Hospital, Chiba, Japan

Yuichi Shinoda[1], Ikuo Inoue[2], Takuji Shirasawa[3], Isao Kawamura[4]

Obesity is an independent predictor of cardiovascular risk. Increased arterial stiffness, as reflected by an increased pulse wave velocity (PWV), is significantly and independently associated with higher risk for cardiovascular morbidity and mortality. According to recent reports, individuals with obesity are likely to have an increase in aortic stiffness, independent of blood pressure (BP) level, ethnicity, and age. A 60-year-old Japanese woman with obesity (BMI 45.5) and metabolic syndrome was referred to us. Her diabetic status is under control after bariatric surgery. The PWV decreased significantly after treatment (1528 vs 1211cm/sec) with reduction of visceral fat (100 vs 52 cm^2). The bariatric surgery could improve arterial wall stiffness in patients with metabolic syndrome. The pathophysiologic mechanisms that link abdominal adiposity to arterial stiffening are should be investigated.



Case study : Partial Situs Inversus in a Morbidly Obese Female.

Sanjay Borude

Introduction

A 32 years old female presented with off & on mid chest pain and Morbid Obesity (BMI 41.41Sq. Mtrs) & secondary infertility. One FTND & she had a h/o ? liver problem.

Method

CT Chest/Abd/Pelvis showed Enlarged Mediastinal Lymph nodes and Partial Situs Inversus since there was no Dextr-Cardia.

Ba Meal FT also showed Situs Inversus. Haematology, Biochemistry, ECG, 2D Echo, Chest X-ray were normal.

Patient planned for a Sleeve Gastrectomy in a supine reverse Trendenburg's position. Primary surgeon stood on the left of the patient. Camera 12 mm port in the supra-umbilical region, 12 mm port in the line of umbilicus in (L) mid-clavicular line, 5 mm port right epigastrium for liver retraction, another two 5 mm working ports either side of the mid abdomen.

Intra-operative findings: Large stomach on the right of abdomen, Liver extending from left to right, Spleen in the RHC region. Devascularisation of the greater curvature started from about 6 cms from the Pylorus to the right crus. Stomach resected with 32 F Bougie in the stomach. Staple line burried with 2-0 Ethibond suture. Abdominal drain placed. Ryles tube placed in the stomach.

Result

Patient's recovery was uneventful. Patient started on oral liquids 20 hours after the surgery. Ryles tube was removed after 24 hours and drain after 30 hours.

Conclusion

Patient was totally asymptomatic so far GI tract was considered. It was only the surgical task for the surgeon because of the "Mirror-Image" effect.

Laparoscopic Revisional Gastric Bypass after open bariatric surgeries

[1]Surgery Department, Riyadh Military Hospital, Riyadh, Saudi Arabia
Haider Alshurafa[1]

Objective: To confirm the feasibility of the laparoscopic revisional gastric bypass after open failed bariatric operations.Method: Retrospective review of all patients who have underwent revisional gastric bypass after open bariatric operations, all of these operations were done by the author.Results: The were 56 patients over 5 years had revisional gastric bypass, 28 patients had previous open bariatric operations. They form 6% of all the patients who have underwent laparoscopic gastric bypass by the author, 50% of these were post open bariatric surgeries. Only 4 patients had converted to open procedures, one was started open and it was at the early of the author experience. 55 patients were started laparoscopic and 3 were converted to open due to sever adhesions, they were also in the early experience. Out of f post open bariatric operations, 21 patients have failure to lose weight and/or weight regain, 4 patients have complications, and 3 patients have both failure to lose weight and complications. There were no mortality and no leakage. Only one patient have needed laparoscopic re-exploration due to twisting at the jejuno-jejunal anastomosis three days post operation. There were only 8% minor complications, like wound infections, self controlled bleeding.Conclusion: Laparoscopic revisional gastric bypass is feasible after open bariatric surgeries but these types of operations have high surgical skills demand and carry higher risks for the complications.

Revisional endoscopic surgery after gastric bypass

[1]Bariatric surgery , University Hospital Brugmann , Brussels , Belgium [2]monika lybeer
alex M.F. heylen[1],monika E.B. Lybeer[1]

The importance of the restrictive component of gastric bypass procedures is well recognized.Dilatation of the pouch-outlet , the pouch volume itself and the presence of a gastro-gastric fistula after gastric bypass are three factors responsible for substantial weight gain, volume per meal increases, rapid pouch emptying invites for binge-eating. Revisional surgery should be avoided by doing the first operation as it should , but if necessary it is often difficult and prone to at least double the morbidity of the primary operation and with unknown long term results. Narrowing the stoma size , closure of a gastrogastric fistula endoscopically with the OTSC clip is a very effective and safe alternative.Presentation of a study on 118 patients endoscopically treated either for stoma dilatation or gastrogastric fistula between october 2008 and june 2009

Validity of sleeve gastrectomy for band failures

[1]Al Taie center for laparoscopic and Obesity surgery,Dubai,UAE
Abdulsalam S. Al Taie[1]

Introduction: Gastric banding is the one of the main restrictive procedures among the bariatric operation. sleeve gastrectomy proved to be more than just a restrictive operation,and proved to be successful for patients who had failed to lose their weight with banding.Patients and Method: 52 patients were included in this study. All had their bands done More than a year earlier. mean BMI 41 (38-49) . Mean age 28(18 -52).31 female and 21 male. they were with no significant co-morbidities. All had sleeve gastrectomy done along with the removal of the band at the same session . The band was removed, the tunneling sutures is removed and the fundus was stretched back to its original anatomy after the excision of the peri gastric fibrous ring at the band site. Then sleeve gastrectomy is performed in the usual way using endo GIA stapling devise and we suture the proximal staple line with 2/0 vicryl . The follow up ranges from 1 to 4 years (19)(14)(11) and (8) patients respectively.Results: There was no major morbidity(Gastric leakage) ,no mortality, 3 wound infections, 1 chest infection. No convertions to laparotomy. Mean hospital stay 3 days(2-4). At the end of the first year following the operation all had significant weight loss 35-45% of the EBW. At 2 year 33 patients have lost 55% of the EBW. By the third year 19 patients had 55% EBW loss,At 4 years 8 patients lost 65% of their EBW.Conclusion: Sleeve gastrectomy can be regarded as a salvage procedure for band failure patients and sure it is more than a restrictive procedure , it is a valid metabolic operation and may be comparable to Gastric bypass for patients with failed bands.

Laparoscopic pouch resizing, new gastro-jejunal anastomosis and strictly cardial adjustable band placement for failed Gastric Bypass

[1]General, Obesity, Endocrine and Oncologic Unit Centre Hospitalier de Dinant, Dinant , Belgium

Jean-Philippe M.m.K. Magema[1],Virgil_A Dimbezel[1],Isabelle_M Kellner[1],Gael G Jacquemin[1],Jean-P Boeur[1]

Bariatric surgery has developed and provides a great quantity of different procedures, some more innovative and still undergoing careful evaluation.We now face a growing number of long-term "failed" patients. For the RYGBP, literature usually rates from 20 to 35 %.Proximal pouch dilatation is a well known cause.We here describe a new approach: Laparoscopic pouch resizing, new gastro-jejunal anastomosis and strictly cardial adjustable band placement.To our knowledge this procedure has not been reported in literature yet.A 58 years woman who underwent a LRYGBP surgery 3.5 years priorly, with primarily good weight loss and resolution of type 2 diabetes, regained weight and thus underwent this procedure.The surgical technique, documented with patient s data, XR pictures and per-operative shootings, is described.No early complications were reported. The patient is doing very well at 4 weeks follow-up.We tend to gather more patients on more long term follow-up to assess scientific conclusions for what could be an interesting "second chance" new procedure for those failed cases.

Laparoscopic Band Revision to bypass:A Single Stage procedure

[1]Department of Bariatric and Metabolic Surgery,Gem Hospital and Research Centre,Coimbatore,India
Praveen Raj[1],Palanivelu Chinnusamy[1]

Background:As the number of Bariatric Surgeries increased, so did the number of Revisional Surgeries too. As per the recent meta-analysis by Buchwald et al, the number of Bariatric procedures performed in Asia in 2008 is the least .As the number of procedures being done is on the rise , we Asians including Indians might have to start facing more number of Revisional Surgeries too.Video:In this High Definition Video , we demonstrate one of our cases of a Laparoscopic Band Revision to bypass as a Single Stage procedure for weight Recidivism in a 35 yr old Female.Steps:-The adhesions over the band was released, the band was cut and removed along with the pseudo capsule after dividing the gastro-gastric sutures.-The gastric pouch was created using linear staplers in the standard fashion and the anastamosis was done using standard limb lengths, 75cm biliopancreatic limb and 75cm alimentary limb.-The gastrojejunostomy is being performed in antecolic fashion using linear staplers.-Mesenteric defects were closed as well.

Laparoscopic Revisional Roux en Y Gastric Bypass for Weight Recidivisim

[1]Department of Bariatric and Metabolic Surgery,Gem Hospital and Research Centre,Coimbatore,India
Praveen Raj[1],Palanivelu Chinnusamy[1]

Background:As the number of Bariatric Surgeries increased, so did the number of Revisional Surgeries. As per the recent meta-analysis by Buchwald et al, the number of Bariatric procedures performed in Asia in 2008 is the least .As the number of procedures being done is on the rise , we Asians including Indians might have to start facing more number of Revisional Surgeries too. Roux en Gastric bypass is one procedure with very few revisional alternatives.Video:In this High Definition video, we demonstrate a Revisional Bypass for weight recividism , wherein the the large gastro-jejunal stoma was revised in a 22 yr old female .The patient who on evaluation for weight recidivism was found to have a larger stoma than usual and hence had increased capacity to eat. Hence was taken for stomal revision by narrowing the stoma using a linear staplers application over a 36 F bougie and excising a gastrojejunal sleeve thus narrowing the stoma. The patient is losing acceptable amount of weight postoperatively.

Bariatric Revision Surgeries

Sanjay Borude

Abstract

Introduction

REAL complications associated with the operation and SIDE EFFECTS associated with the alteration in the upper GI anatomy.
The preioperative mortality of bariatric surgery was 0% and worldwide is usually associated with

1. Anastomotic leaks with peritonitis (75%) or
2. Pulmonary embolism (25%).

Method

REVISION INDICATIONS - GASTRIC BAND SURGERY

- Port Site Complications after GB
- Port Leakage- Cracking of the kink-resistant tubing or Tube Disconnection
- Port Site Pain
- Port Dislodging or Flipping
- Bulging of the Port through the Skin
- Infection of the Fluid within the Band
- Infection of the Port - Either at Surgery or Band Fill or Erosion

REVISION INDICATIONS - SLEEVE GASTRECTOMY SURGERY

- Pouch Enlargement
- Staple Line Dehiscence
- Stomach Perforation
- Stricture
- Volvulus

REVISION INDICATIONS - GASTRIC BYPASS SURGERY

- Pouch Enlargement
- Staple Line Dehiscence
- Stricture
- Perforation
- Infection
- Psychological
- Associated Disease

Analysis

Early postoperative complications

- PULMONARY EMBOLISM is the leading cause (1% to 2%) of perioperative death in bariatric surgical patients.
- The incidence of MAJOR WOUND INFECTION after gastric bypass ranges from 1% to 3%.
- GASTROINTESTINAL BLEEDING within the 30-day perioperative interval may have a variety of causes.
- Small bowel obstruction (SBO) ranges from 1% to 2%
- ACUTE GASTRIC DISTENTION

The incidence of intraoperative complications in our series 1.4%

Late complications

- Incisional hernia (most common)
- Symptomatic gallbladder disease ranges from 3% to 30%.
- Vomiting.
- The incidence of Late Staple-line breakdown varies from 2% to 23%.
- Gastro-gastric fistulae after transsection ranges from 1% to 2%.
- The incidence of marginal ulcer after RYGB ranges from 3% to 10%.

Conclusion

Complications following Bariatric Surgeries can be reduced to negligible if great care is taken Pre-Intra-and Post-operative period.

Preliminary Case Report on the Change in Metabolic Profile in Non-Obese Type 2 Diabetic Patients treated with Surgery in the Philippines

Dineros, Hildegardes C.

Background: The metabolic effects of bariatric surgery, particularly the remarkable resolution of Type II DM are well established. Several mechanisms of action have been proposed in addition to weight loss as the major factor causing such improvement in co-morbidities. The aims of this presentation are as follows: 1. To describe a novel procedure, the Laparoscopic Sleeve Gastrectomy with Loop Duodeno-Jejunal Bypass; and 2. To present the observed changes in metabolic panel in 3 patients before and after Metabolic Surgery.

Methods: From January 1, 2008 to December 31, 2010, three (62 and 56 y/o females, and a 43 y/o male) non-obese patients with medically uncontrolled Type 2 Diabetes Mellitus underwent Laparoscopic Sleeve Gastrectomy with Loop Duodeno-Jejunal Bypass. Preoperative profile was taken and compared to 1,3, 6, 12 and 24 months.

Results: All 3 patients had 3 months follow-up data, 2 had 6 and 12 months follow-up data and 1 had 2 years follow-up data. Decrease in BMI ranged from 1-3 kg/m^2. Improvement of FBS, HbA1c was noted as immediate as 1 month postoperatively with discontinued Oral Hypoglycemic medication and Insulin as early as 3 months after surgery. No surgical morbidities were noted.

Conclusion: Laparoscopic Sleeve Gastrectomy with Loop Duodeno-Jejunal Bypass can be performed safely. There are multiple mechanisms for its euglycemic effect, a subject for further investigation.

Affiliations:
Department of Surgery, St. Luke's Medical Center, Philippines
Bariatric & Metabolic Institute, Cardinal Santos Medical Center, Philippines

Metabolic outcomes of bariatric surgery: a result from Thai Subjects

Chula Minimally Invasive Surgery Center, Department of Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand 10330
Udomsawaengsup S, Tansawet A, Timratana P, Prathanvanich P, Pungpapong S, Tharavej C, Navicharern P

Background: Obesity and its co-morbidities become to be one of the most important health care problems. Weight loss surgery has been proved as the most effective and sustainable method to obtain long term weight control and to achieve improvement of metabolic disorders. There are limited results contributing from Asian subjects. We reviewed our metabolic outcomes of surgical treatment for morbidly obese patients in our institute.
Methods: Data from all patients who underwent bariatric surgery in Chulalongkorn University were collected and metabolic outcomes were reviewed.
Results: From Jan 2003 to December 2010. Fifty-five consecutive Thai patients underwent bariatric surgery by the Chula Minimally Invasive Surgery Center. The mean age was 35.2 years (18-57 years). Twenty four (56.4%) were men. The pre-op BMI was 49.2 $kg/m.^2$ Roux en Y Gastric bypass was the most common procedure (78%). In RYGB group showed mean EWL of 64.2% at 2 years. 20 of 55 (36.3%) were type II diabetic, all of them were getting improvement post operatively; of which, 81.8% were completely resolved and 18.2% were able to decrease dosage of hypoglycemic drugs. 28 of 55 (50.9%) were hypertensive, 46.7% of them were able to discontinue antihypertensive drugs and 46.7% were decreasing dosage. 19 of 55 (34.5%) were dyslipidemia; 60% were resolved and 40% were improved.
Conclusion: Metabolic results in Thai patients undergoing bariatric surgery are excellent. This initial data from Thai subject reflects a comparable result worldwide.

Comparison Between the Effects of Laparoscopic Sleeve Gastrectomy and Laparoscopic Roux-en-Y Gastric Bypass on Type 2 Diabetes Mellitus in Morbidity Obese Japanese Patients: A Retrospective 1 Year Study

[1]The Department of Weight Loss Surgery, Yotsuya Medical Cube, Tokyo, Japan
Hideharu Shimizu[1],Yosuke Seki[1],Eri Kikkawa[1],Kazuko Sonoda[1],Tetsuya Nakazato[1],Kazunori Kasama[1]

<Background>Laparoscopic Roux-en-Y gastric bypass (LRYGB) provides sustained weight loss and leads to well-documented remission of Type 2 diabetes (T2DM), whereas data on the effectiveness of laparoscopic sleeve gastrectomy (LSG) on T2DM are scarce<Methods>We conducted a retrospective study on the therapeutic effect on type 2 diabetes and biochemical characteristics in 16 morbidly obese T2DM subjects undergoing LSG and 24 subjects undergoing LRYGB before and at 1, 3, 6, 12 months after surgery, matched for age, gender, BMI, fasting plasma glucose, HbA1c, insulin, C-peptide, HOMA-IR, DM duration<Results>The preoperative median BMI was 40.8 kg/m2 in the LSG group and 44.9 kg/m2 in the LRYGB group and as for T2DM, most subjects were not severe type from their history and biochemical markers. The percentage of excess weight loss at the 1, 3, 6, 12-month follow up points after LSG and LRYGB were 28.8 and 27.8, 46.2 and 47.0, 64.2 and 63.9, 74.2 and 71.8%, respectively. The remission rate of T2DM at the same follow up points after LSG and LRYGB were 38 and 35, 75 and 73, 87 and 93, 93 and 100%, respectively.<Conclusion>For not severe T2DM in Japanese morbidly obese Japanese patients, the therapeutic effect of LSG and LRYGB on T2DM was comparable at 1-year interval.

Laparoscopic Duodenojejunal bypass with Sleeve gastrectomy- A novel procedure for resolution of Metabolic Syndrome in patients with BMI <32.5:

[1]Gem Hospital and Research Centre,
Praveen Raj[1],C Palanivelu[1]

Background:Type II DM resolution in morbidly obese patients following Metabolic Surgery suggests these might benefit even non-morbidly obese patients with Metabolic Syndrome. Available literature favours Combined Restrictive/Malabsorptive procedures over the others in control of Diabetes and other co-morbidities. Laparoscopic Duodenojejunal bypass with Sleeve gastrectomy is one such procedure performed in our series.Methods:Patients with < 32.5BMI, confirmed to be Type IIDM with HbA1C >7.5 were included in the study. Patients with Sliding Hiatus Hernia and C-peptide levels < 1 were excluded. Laparoscopic Duodenojejunal bypass was done in a retro colic fashion, anastomosis being done end-end, single layer suturing with a 60 F Sleeve.Results:A total of 14 patients (8 women, 6men) included in the study were prospectively evaluated. The mean age was 36.5yrs.The mean pre-operative BMI, (Fasting Blood Glucose) FBG and HbA1C was 29.9,196.4mg/dl and 8.2%.The postoperative BMI,FBG and HbA1C at the end of 6mts and 1 year was 25.4,110.2,6.3% and 24.2,106.4,6.1% respectively. 12 out of 14 patients had complete remission and 2 had reduced medication use.4 out of six patients who had Hypertension had complete remission, 2 had no improvement. Conclusion:Laparoscopic Duodenojejunal bypass with Sleeve, which combines the principles of Sleeve Gastrectomy and Foregut hypothesis, is an effective procedure for resolution of Diabetes and other co-morbidities even in lower BMI population. The stomach remnant is amenable to endoscopic surveillance for Carcinoma Stomach. Also with the possibility of altering the size of the Sleeve, the procedure can be made less restrictive which is best suited for a country like India with a low calorie-higher quantity food intake pattern, hence preserving the quality of eating.

SLEEVE GASTRECTOMY : METABOLIC AND BARIATRIC SURGERY : A BLESSING FOR THE ASIANS

M.S., DLS(India), DLS(France), FAIS , Fellow :Bariatric surgery ,Cleveland Clinic ,USA
Institution : Ruby Hall Clinic , Pune , India . Dr L H Hiranandani Hospital , Mumbai, India .
Jayashree Todkar [1]

OBESITY---GLOBAL EPIDEMIC (WHO)

- Pro-atherogenic disease with Dysmetabolic state

South Asians around the globe have highest rate of Coronary Arterial Disease (CAD) .

- There would be around 62 million pts of CAD in India by 2015 and out of these 23 million would be pts lesser than 40 yrs of age.

DM BURDEN IN INDIA

- Approx. 43 million adults are Diabetics
- Estimated to increase to 57.2 million by 2025.

Asian Consensus

- Consensus Statement for Diagnosis of Obesity, Abdominal Obesity and the Metabolic Syndrome for Asian Indians and Recommendations for Physical Activity, Medical and Surgical Management:-

  Normal BMI: 18.0-22.9 kg/m2,
  Overweight: 23.0-24.9 kg/m2,
  Obesity: > 25 kg/m2 JAPI 2009.

More CVD ,DM risk at lower BMI in Asian population are due to : 1- BODY COMPOSITION , 2- INSULIN DIS-SENSITIVITY , 3- CENTRAL DISTRIBUTION OF FAT.

INDIAN EXPERIENCE OF SLEEVE GASTRECTOMY :

A . Effectiveness of laparoscopic sleeve gastrectomy on glycemic control in obese Indians with type 2 diabetes mellitus

B . Long-term effects of laparoscopic sleeve gastrectomy in morbidly obese subjects with type 2 diabetes mellitus

C . Impact of LSG on CVD risk reduction using Framingham score

Improvement in Type 2 Diabetes Mellitus following Bariatric Surgery in morbidly obese individuals

[1]Department of General Surgery, Singapore General Hospital [2]Department of Endocrinology, Singapore General Hospital

Shanker Pasupathy[1],Chin Hong Lim[1],Daniel Wai[2],Kwang Wei Tham[2]

BACKGROUND: Weight loss has been shown to improve the control of type 2 diabetes mellitus (T2DM). AIMS OF STUDY: To evaluate the impact of bariatric surgery on T2DM in morbidly obese individuals. METHODS: From August 2008 to November 2010, 47 consecutive patients underwent bariatric surgery at the Singapore General Hospital. All patients documented to have T2DM prior to surgery were included in the study.RESULTS: There were 16 patients suffering from T2DM (9 males). The median age was 43 years (range 32 - 54). 8 patients underwent laparoscopic sleeve gastrectomy (LSG) and 8 underwent laparoscopic gastric bypass (LGB). Median length of stay was 4 days (3-14). The median pre-operative weight was 116kg (85 -171) and body mass index (BMI) 40 kg/m2(33 - 70). Median follow-up was 5 months (1 - 26). Patients who underwent LSG had a median pre-operative HbA1c of 7.2% (6.4-8.2). All these patients were taking oral hypoglycaemic agents (OHAs). Median post-operative HbA1c levels were 5.8% (5.5-6.1), and all OHAs were discontinued. Patients who underwent LGB had a median pre-operative HbA1c of 8.2% (6.6-9.3). 5 patients were on subcutaneous insulin injections, in addition to oral hypoglycaemic agents (OHAs). Median post-operative HbA1c levels were 6.1% (5.2-8.0), and although insulin was discontinued in all, 2 patients were still taking OHAs. CONCLUSION: Bariatric surgery provided rapid and effective control of T2DM, allowing all patients to reduce or eliminate diabetic medication completely. Bariatric surgery may be considered as an adjuvant therapy for T2DM in morbidly obese individuals.

DUODENOJEJUNAL BYPASS IN DIABETIC GASTRIC CNACER PATIENTS

Department of Surgery
Hallym University Kangnam Sacred Heart Hospital, Seoul, Korea
Daehyun Yang, Jiwon Kim, Kyungsuk Jung

(Objective) Metabolic surgery in non-obese diabetics has been tried by various methods. Effect of duodenojejunal bypass on diabetes could be studied by the modification of reconstruction after curative gastrectomy for diabetic gastric cancer patients.

(Method) From June 2007 to December 2009 we performed our modified RY gastrojejunostomy procedure of duodenojejunal bypass with bypassed proximal jejunum over 100cm after curative distal gastrectomy for 18 diabetic gastric cancer patients. The bypassed proximal jejunum were 100-190cm (134.3cm in average) as the sum of Reux and Y limbs. The durations of diabetes were 6.4 years in average, and diabetes was managed by oral hypoglycemic agent in all of the patients.

(Result) Diabetes had been remitted in 7 patients among 18 patients (38.9%) at the 1 year or more follow up, with HbA1c level of 7.0% or less without medication. The serum ferritin and VB12 levels were within normal limt in most of patients.

(Conclusion) Bypass of duodenum and lengthened proximal jejunum with distal gastrectomy is acceptable in nutrition. Some portion of diabetic gastric cancer patients could be in remission of diabetes with bypass of duodenum and long proximal small bowel in gastric cancer surgery. Randomized prospective clinical trial of metabolic surgery for diabetic gastric cancer patients is necessary to evaluate the metabolic effect of duodenojejunal bypass on non-obese diabetics.

ONE YEAR RESULTS OF AN ENDOSCOPIC, DUODENAL-JEJUNAL EXCLUSION DEVICE FOR WEIGHT LOSS AND CONTROL OF TYPE 2 DIABETES

[1]Gastrointestinal Endoscopy Unit, Department of Gastroenterology, University of Sao Paulo Medical School, Sao Paulo, Brazil [2]Gastro Obeso Center, Sao Paulo, Brazil [3]Digestive Surgery, Department of Gastroenterology, University of Sao Paulo Medical School, Sao Paulo, Brazil [4]Endocrinology and Metabolism Department; University of Sao Paulo Medical School; Brazil

Eduardo G H de Moura[1],Bruno C Martins[1],Guilherme S Lopes[1],Ivan R B Orso[1],Suzana L Oliveira[1],Manoel P Galvao-Neto[2],Marco Aurelio Santo[3],Marcio C Mancini[4],Paulo Sakai[1],Almino C Ramos[2],Arthur B Garrido-Junior[3],Alfredo Halpern[4],Ivan Cecconello[3]

Background: The duodenal-jejunal bypass liner (DJBL, GI Dynamics, Inc., Lexington, MA) is an endoscopic implant that mimics the intestinal bypass component of the Roux-en-Y gastric bypass. Previously reported studies have shown promising improvements in type 2 diabetes (T2D) and weight loss for up to 6 months. This report describes improvements in T2D and metabolic changes in subjects with T2D who were implanted with the DJBL for one year. Methods: This is a prospective, non-randomized, open label study with 22 patients enrolled. Inclusion criteria: Age higher 18 years and less 65 years, BMI higher 35 kg/m; and type 2 diabetes with or without other co-morbidities, unsuccessful history with nonsurgical weight reduction methods, candidates to bariatric surgery. There were 9 early endoscopic removals due to device movement (3), nausea/vomiting (1), abdominal pain (1), GI hemorrhage (1), non-device related abdominal neoplasm (1) and Principal Investigator request (2).Results: At one year (n=13 patients), observed absolute weight loss of 20.4 kg (p less 0.0001), excess weight percentage loss of 35.3% (p less 0.0001), body mass index of 7.4 kg/m2 (p less 0.0001) and waist circumference of 10.1cm (p=0.0001) was observed. Likewise, glucose levels decreased from 175.6 to 126.7 mg/dL (p less 0.0001) and glycosilated hemoglobin from 8.8 to 6.4% (p less 0.0001). The use of diabetic medications, except metformin was reduced and 19.2% of patients no longer required any anti-diabetic drugs. Insulin (p=0.02) and C-peptide (p=0.015), cholesterol (p=0.001), LDL (p=0.01), and triglycerides (p=006) levels were normalized at 1 year. Conclusions: The endoscopic DJBL has a durable effect on glucose control, weight loss and metabolic function for one year, suggesting this new device is a suitable option for the treatment of T2D and obesity.

Enteropeptidase: a gene associated to a starvation human phenotype as a novel target for the treatment obesity and type II diabetes

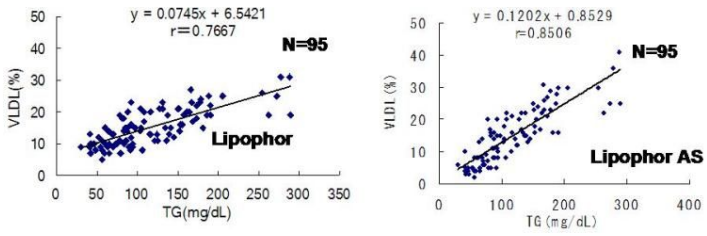
[1]ObeTherapy, Drug Discovery, Evry, France
Itzik Harosh[1],Sandrine Braud[1]

- Many obesity related genes have been proposed as targets for the treatment of obesity. However, these obesity genes did not provide efficient drug therapy for obesity treatment. This is mainly due to the redundancy of the biochemical pathway involved in obesity and the lack of specificity of the gene targets. It is therefore a challenge to identify crucial gene(s) targets involved in energy metabolism associated with lean or starvation phenotype. Congenital Enteropeptidase defficiency is an extremly rare pathology which answer to all these criteria. Enteropeptidase catalyzes the conversion of inactive trypsinogen into active trypsin via the cleavage of the acidic propeptide from trypsinogen We have generated knock out transgenic mice for enteropeptidase which shows the same phenotype like in human. These data and in vivo preclinical data using per os small molecule for long term treatment (9 weeks) will be presented.

Newly developed profiling of lipoproteins by PAGE to determine the heterogeneity of low-density lipoproteins (LDLs)

[1]Department of Rehabilitation,Kamagarya General Hospital, Chiba, Japan [2]Department of Diabetes and Endocrinology, Saitama Medical University, Saitama , Japan [3]Department of Biochemistry, Saitama Medical University, Saitama , Japan [4]ASKA Special Laboratory CO.,LTD., Kanagawa, Japan
Yuichi Shinoda[1], Ikuo Inoue[2], Takanari Nakano[3], Makoto Seo[3], Seiichiro Takahashi[4], Takuya Awata[2], Shigehiro Katayama[2]

Aim: To explore the potential of newly developed polyacrylamide-gel disc electrophoresis (PAGE) for lipoprotein profiling in clinical practice. **Design and Methods:** Blood samples were collected from 95 patients with metabolic syndrome. Lipid parameters were assayed by commercial (Lipophor) and newly developed PAGE (Lipophor AS), including small, dense low-density lipoprotein (LDL) (n = 41), and triglyceride-rich lipoprotein remnant cholesterol (n = 37). We also used a commercial kit to measure small, dense LDL (n = 41). **Resutts:** By PAGE, we obtained the percentage of the area under the curve (AUC %) of each peaks and calculated respective AUC% x total cholesterol (AUC%xTC) values. The calculated values of LDL-AUC%xTC, small LDL-AUC%xTC, and HDL-AUC%xTC values were correlated well with values from homogeneous assay for LDL-cholesterol, small, dense LDL-cholesterol, and HDL-cholesterol assays (r = 0.94, 0.81, and 0.89, respectively). Lipophor AS is better corelation between TG and VLDL than Lipophor(r = 0.77, and 0.85, respectively). **Conclusions:** PAGE combined with measurement of total cholesterol and triglycerides provides a rapid evaluation of anti- or pro-atherogenic lipoproteins and a simple profiling system for both the "quantity" and "quality" of lipoproteins, allowing a better assessment of the risk of coronary artery diseases.



leal interposition improves Glucose Tolerance and Insulin Resistance in Otsuka Long-Evans Tokushima Fatty rats.

[1]Division of Biological Regulation and Oncology, Department of Surgery, Tohoku University Graduate School of Medicine, Sendai,Japan [2]Department of Surgery, Sendai City Medical Center
Fumie Ikezawa[1],Chikashi Shibata[1],Hirofumi Imoto[1],Daisuke Kikuchi[1],Takeshi Naitoh[1],Takashi Tsuchiya[2],Iwao Sasaki[1]

Backgrounds: Ileal interposition (IT) is an operative procedure in which the distal ileum is transposed isoperistaltically into the proximal jejunum and considered as a procedure for metabolic or anti-diabetic surgery. Our aim was to study the effects of IT on glycemic control, fat metabolism, and hormonal changes in obese rats with spontaneous diabetes (OLETF rats).Methods: Animals were divided into either an IT or a sham (SH) group. They underwent oral glucose tolerance test (OGTT) before, 4, and 8 weeks after the operation. All animals were killed 10 weeks after operation for analyses of tissue weight (liver, pancreas, epididymal fat, brown fat) and fasting plasma levels of glucose, insulin, glucagon-like peptide (GLP)-1, peptide YY (PYY), glucose-dependent insulinotropic polypeptide (GIP), and leptin. Results: After operation, body weight increased in both groups compared to their preoperative weight, but it did not differ between IT and SH. A 8 weeks postoperatively, integrated blood glucose levels during the OGTT were decreased in IT compared to SH ($p<0.05$). Ten weeks after operation, fasting plasma levels of insulin, GLP-1, and GIP did not differ between the two groups, but PYY levels were greater in the IT group ($P<0.01$). Weight of epididymal and brown adipose tissues, homeostasis model assessment insulin resistance, and fasting plasma leptin levels were decreased in the IT group ($p<0.05$). Conclusions: These results suggest that IT improves glucose and lipid metabolism by decreasing blood glucose, insulin resistance, and epididymal fat, increases in plasma PYY might be one of the mechanisms of these changes.

The effects of duodeno-jejunal bypass on glucose metabolism in obese type2 diabetic rat model.

[1]Department of surgery, Division of biological-regulation and oncology, Tohoku university graduate school of medicine, Sendai, Japan
Hirofumi Imoto[1], Shibata Chikasi[1], Takeshi Naitoh[1], Fumie Ikesawa[1], Masayuki Kakyo[1], Makoto Kinouchi[1], Naoki Tanaka[1], Koh Miura[1], Hitoshi Ogawa[1], Iwao Sasaki[1]

BACKGROUNDS: Bariatric surgery, especially gastric bypass or duodenal switch, has been shown to improve type 2 diabetes. However, its detail mechanisms are not well comprehended yet. There are two hypotheses that are advocated to explain effects of bariatric surgery on glucose metabolism: the foregut hypothesis and the hindgut hypothesis. The former theory is considered to depend on exclusion of duodenum and proximal jejunum from the nutrients transit, possibly enhancing secretion of anti-incretin factors, while the latter one is thought to be results from more rapid delivery of nutrients to the ileum, thereby enhancing the release of hormones such as glucagon-like peptide-1 (GLP-1). Duodeno-jejunal bypass (DJB) might include both theories, but it is still controversial which theory is dominant.METHODS: Male 20-week-old OLETF rats were divided into 3 groups and they underwent sham operation or two types of DJB, which are defined as DJB-J and DJB-I. These are differentiated by the length of alimentary limb (AL). In DJB-J, the biliopancreatic limb (BPL) was anastomosed to the side of distal limb to make 2.5cm AL and it can be considered as pure foregut model. In DJB-I, the BPL was anastomosed to the distal limb 25cm proximal to the ileum-end, and it can be thought as foregut plus hindgut model. All rats underwent OGTT at baseline, 4 and 8 weeks after surgery.RESULTS: There was some weight controlling effect in DJB-I group, but not in other groups. Regarding OGTT, DJB-I group demonstrated lower plasma glucose curve at 4 and 8weeks after surgery comparing to other groups, but there were no significant difference between DJB-J and sham group. CONCLUSION: The improvement of glucose metabolism in DJB mainly depends on an inflow of bile and pancreatic juice to the ileum, and the exclusion of the duodenum may not contribute to the anti-diabetic effect.

Differential increase in HDL-c post bariatric surgery for Singaporean Patients according to Glucose Status.

[1]Department of Endocrinology, Singapore General Hospital, Singapore [2]Department of Surgery, Singapore General Hospital

Daniel C. Wai[1],Shanker Pasupathy[2],Sonali Ganguly[1],Kwang W. Tham[1]

Background: HDL-c is negatively correlated with cardiovascular risk. Patients with diabetes and pre-diabetes or abnormal glucose tolerance (AGT) have low HDL-c. Few studies have compared the change of HDL-c post bariatric surgery between patients with normal glucose tolerance (NGT) and AGT.Aims of Study: To compare the change of HDL-c post bariatric surgery between patients with NGT and AGT. Methods: HDL-c levels at 0, 3 and 6 months were transformed using the multivariate repeated measures model, with glucose tolerance being the between-subject factor.Results: 46 patients (61% females) underwent laparoscopic bariatric surgery from September 2008 to November 2010. 78% had sleeve gastrectomy, 20% gastric bypass, and 2% bilio-pancreatic diversion. The mean age was 39 years (+/-10.6) with a mean BMI of 43.6kg/m2 (+/-9.8). 54% had NGT versus 46% with AGT. Only 1 patient (4%) in the NGT group was on a fibrate pre-op but none in the AGT group. Average weight loss at 6 months was 25.5kg and 22.2kg for NGT and AGT respectively. HDL-c rose significantly in both groups (mean HDL-c for NGT were 1.06, 1.49 and 1.68 mmol/L at 0, 3 and 6 months; mean HDL-c for AGT were 0.89, 0.92 and 1.08 mmol/L; within-subject p=0.006). Thus HDL-c increased 58% in the NGT but only 21% in the AGT. HDL-c in the NGT was significantly higher than in the AGT group throughout the 6 months (between-subject p=0.009).

EARLY EXPERIENCE WITH A NOVEL PROCEDURE FOR OBESITY: LAPAROSCOPIC SLEEVE GASTRECTOMY

[1]Department of General Surgery, Singapore General Hospital [2]Department of Endocrinology, Singapore General Hospital, Singapore

Ser Yee Lee[1,2], Shanker Pasupathy [1], Kwang Wei Tham[2], Sonali Ganguly[2], Wai Keong Wong [1]

BACKGROUND:Bariatric surgery offers the morbidly obese substantial and sustainable weight loss and reduction in obesity- related co-morbidities when other conservative treatments have failed. Laparoscopic sleeve gastrectomy is a new restrictive procedure in bariatric surgery.

AIMS: To evaluate our experience with laparoscopic sleeve gastrectomy (LSG), a new bariatric surgical procedure, with regards to safety and feasibility of the procedure and early weight loss.

METHODS: All patients who underwent LSG were studied in terms of their complications and early clinical results. Patients' clinical data were retrieved from a prospective database.

RESULTS: Twenty-three patients underwent laparoscopic sleeve gastrectomy between the period of December 2008 and June 2010 with a mean age of 38 years (Range: 23 - 64). The mean pre-operative weight was 112kg (range 78-170) and body mass index (BMI) 42.1kg/m2(33 - 60). Diabetes mellitus was present in 39%, hypertension in 43% and hyperlipidemia in 35% of the patients. Majority of patients had two or more obesity-related co-morbidities (52%). The stomach was tubularised over a 38French calibration tube using endoscopic staplers. Mean operative time was 142 mins (80 - 220). There were no conversions. 1 patient required re-laparoscopy on the 1st post-operative day for bleeding from the gastric staple line. She subsequently recovered well but developed a wound infection from one of the laparoscopic port sites. There were no other morbidities. Median postoperative stay was 3 days (1-9). Mean weight 1, 3 and 6 months post-operatively was 102, 90 and 79kg, a loss of 9, 20 and 30% respectively.

CONCULSION: Laparoscopic sleeve gastrectomy is a promising procedure for surgical treatment of obesity with good early weight loss and low morbidity.

Introduction of laparoscopic vertical sleeve gastrectomy into bariatric practice

[1]John Flynn Private Hospital [2]Bond University Medical School
William V. Braun[1], Maree Kekeff[2], Donna Tanchev[2], Candice Silverman[1], Laurent Layani[1]

Aim: LVSG has recently become popular as bariatric procedure, not only as first step in high risk or superobese patients or in cases of failed restrictive operations, but mainly as a stand alone operation in morbidly obese. Our aim is to investigate safety, efficacy and consistency of LVSG in both weight loss and remission of patients comorbiditiesMethods: Retrospective and prospective analysis of all LVSG performed at John Flynn private in Gold Coast from January 2008 until August 2010 was performed. Patients telephone interviews were conducted to establish overall satisfaction with procedure and service Results: 106 LVSG were performed from January 2008 to August 2010. Male to female ratio to 1:1.1. Median age and BMI were 47 (22 to 70), and 52 (35.5 to 81) respectively. 43 procedures were staged operations following failed LGB (40) and open stapling gastroplasty (3). Mean operative time was 79 min (38 to 133 min). There was no mortality. Postoperative complications included gastric leak (1), minor wound infection (4) and prolonged nausea (1). Median LOS was 2 (1 to 61 days). Follow-up was achieved in 97 patients (92%). Mean EWL was 69.1% (23 to 100%) at 6 to 12 months for primary VLSG and 38.5% (16.7 to 76.6) for staged operations. Major comorbidities subsided. 93 (88%) patients provided their feed back over telephone with overall satisfaction rate 100%Conclusions: LVSG is safe and efficacious procedure. It achieves excellent results in weight loss and sustainable short and midterm improvement of overall patients health. Serious complications do however occur and pose high demands on care providers as well as patients and their families

Comparison Between the Results of Laparoscopic Sleeve Gastrectomy and Laparoscopic Roux-en-Y Gastric Bypass for Morbid Versus Super Morbid Obesity

Yotsuya Medical Cube
Hideharu Shimizu, Yosuke Seki, Eri Kikkawa, Kazuko Sonoda, Tetsuya Nakazato, Kazunori Kasama

Background
Data on the effectiveness of laparoscopic sleeve gastrectomy (LSG) for super morbid obesity in patients with body mass index (BMI) ≧50 are scarce. Whether LSG alone can replace laparoscopic Roux-en-Y Gastric Bypass (LRYGB) as a standard bariatric procedure is questionable.

Methods
For this study, 129 morbidly obese patients who underwent LSG (68 patients) or LRYGB (61 patients) between 2006 and 2009 were retrospectively analyzed. We compared the weight loss effect of LSG to that of LRYGB according to BMI.

Results
The percentage of excess weight loss (EWL) at the 1-, 3-, 6-, 12-, 24-month follow up points of the patients who underwent LSG and LRYGB were comparable. According to BMI, The percentage of EWL of the patients with an initial BMI≦35 in LSG (n=14) and LRYGB (n=11) group at 1-, 3-, 6-, 12-month follow up points were 36.1 and 31.2, 74.2 and 70.8, 78.8 and 99.0, 92.7 and 89.1%, respectively. As for 35<BMI≦40, the percentage in LSG (n=20) and LRYGB (n=25) group at the same follow up points were 40.7 and 23.7, 50.0 and 47.2, 64.7 and 69.0, 76.9 and 78.3, 83.6 and 85.6%, respectively. As for 40<BMI≦50, the percentage in LSG (n=20) and LRYGB (n=27) at the same follow up points were 22.6 and 20.4, 43.8 and 40.9, 72.5 and 59.6, 80.5 and 75.2, 72.0 and 80.7%, respectively. There was no significant difference between both groups. However, the percentage of EWL of the patients with 50< initial BMI<60 in LSG (n=7) and LRYGB (n=5) group were 14.7 and 20.9 (P=0.21), 27.9 and 35.3 (P=0.14), 36.3 and 56.1%(P=0.04), 35.5 and 69.7% (P=0.01), 32.5 and 60.9% (P=0.02) at 1-, 3-, 6-, 12-, 24-month after operation. Compared with LSG, LRYGB obtained better weight loss outcomes for super morbid obesity (50<BMI≦60).

Conclusions
LSG can be a standalone procedure for morbidly obese patients with BMI<50 as well as LRYGB, but LSG is not expected to be performed as a solo procedure for the patients with BMI over 50.

Early results from a specialized Metabolic and Bariatric Surgery service

[1]Department of General Surgery, Singapore General Hospital [2]Department of Anaesthesia and Surgical Intensive Care, Singapore General Hospital [3]Department of Endocrinology, Singapore General Hospital

Shanker Pasupathy[1],Ruban Poopalalingam[2],Daniel Wai[3],Kwang Wei Tham[3]

BACKGROUND: Bariatric surgery is one of the most effective weight loss interventions for morbidly obese individuals. However, surgery in morbidly obese patients involves potentially significant risk and should be undertaken by specially trained teams.AIMS OF STUDY: The experience of a specialised metabolic and bariatric surgery service is described.METHODS: In 2008, a dedicated metabolic and bariatric surgery service was set up at the Singapore General Hospital. Patients were managed according to a clinical pathway which included pre-surgical evaluation, surgical admission and post-surgical follow-up.RESULTS: From August 2008 to November 2010, 47 patients underwent bariatric surgery. The mean pre-operative weight was 119 kg (range 78- 209) and body mass index (BMI) 44 kg/m2 (32.5-74). 21 patients had impaired glucose tolerance or type 2 diabetes mellitus. 91% of patients had at least 1 major comorbidity (diabetes mellitus, hypertension, dyslipidaemia, obstructive sleep apnoea) . 37 patients underwent laparoscopic sleeve gastrectomy, 9 laparoscopic gastric bypass and 1 laparoscopic bilio-pancreatic diversion. 3 patients required re-operation for haemorrhage (two) and anastomotic leak (one) on the 1st post-operative day, and then recovered uneventfully. 1 patient with post-operative haemorrhage was managed conservatively with blood transfusion only. There were no mortalities. Median length of stay was 4 days (3-14). The mean absolute weight loss at 6 months was 27% (12-34). CONCLUSION: A multi-disciplinary approach improves patient selection and optimization, resulting in improved clinical outcomes after bariatric surgery.

Laparoscopic Sleeve Gastrectomy with a BIB in situ for 14 months

[1]Al Taie center for laparoscopic and Obesity surgery,Dubai,UAE
Abdulsalam S. Al taie[1]

Introduction: Bioenteric Intragastric Balloon BIB is used to stay in the stomach for approximately 6 months.its benefit as a sole procedure is questionable.It could be useful if used in a staged procedure as a first step followed by a definitive bariatric surgery for high risk patients.patient and method: In this video am presenting to you a 24 years old gentleman 210 KG with a BMI of 72 who had a BIB in his stomach 14 months prior to our surgery.He had a trial of endoscopic removal of the balloon but was unsuccessful as the balloon was digested. We planned to remove the balloon in a novel technique,along with laparoscopic sleeve gastrectomy(LSG). we started by dividing the omentum on the greater curvature,then dividing the stomach 3 cm from the doudenum along 36 Fr. calibration tube. Approaching the mid stomach after firing the 3rd 60 mm endo cartridge ,the balloon deflated and pulled into the resected stomach through a gastrostomy made on that part, LSG completed as usual. then the resected part removed along with the BIB inside.results: the aim is to show a novel technique of removal of BIB that left for long time and was not possible to be taken out endoscopically.He did excellent post operative recovery and was dismissed home on the second post operative day . At the end of year one following the surgery he lost a bout 75 KGs and his BMi dropped to 46 .conclusion: LSG can safely be performed in patients with failed BIB , especially when they are left for longer than 6 months which would be difficult to be removed endoscopically, it can be retrieved in such away that the resected stomach would be used as a retrieval bag for that purpose.

Removal of stomach remnant after laparoscopic sleeve gastrectomy

[1]Luton & Dunstable NHS Foundation Trust, Luton, UK
Kirsty R. Cattle[1],Periyathambi S. Jambulingam[1],Ravindra Date[1]

Removal of the remnant stomach after laparoscopic sleeve gastrectomy for obesity can be tricky without enlarging the port site incision. We therefore present a simple technique to facilitate the removal of the remnant stomach which does not involve additional equipment or expense.

Early Experience with Laparoscopic Roux-en-Y Gastric Bypass for Morbidly Obese patients

[1]Department of General Surgery, Singapore General Hospital, Singapore [2]Department of Endocrinology, Singapore General Hospital, Singapore

CH Lim[1],S Pasupathy[1],KW Tham[2],S Ganguly[2],WK Wong[1]

Objective: To evaluate the early outcome for laparoscopic Roux-en-Y gastric bypass in a new bariatric surgical program in SingaporeMethods: A prospective pilot study of 9 patients who underwent laparoscopic Roux-en-Y gastric bypass for obesity by a single surgeon at Singapore General Hospital between September 2008 to October 2010. The study endpoint included operative time, complications and hospital length of stay. At one month post surgery, weight loss and HbA1c levels were recorded. Results: Five males and 4 females with median age of 39 years (range 30 to 60) were included in the study. Mean pre-operative weight was 125.5kg (range 74kg to 170.7kg) with a mean pre-operative BMI of 45.9 (range 35.4 to 70). All our patients had diabetes. In addition to diabetes, 8 out of 9 patients had at least one other significant medical co-morbidity related to obesity. The median operative time was 325 minutes (mean of 438 minutes for first 4 cases and 246 minutes for last 4 cases). There was no conversion. One patient required a re-operation for anastomotic leak. Median hospital stay was 4 days (range 1 to 13) and the average weight loss was 13.3% at one month. The median pre-operative HbA1c was 8.6% (range 6.5 to 12.3) and at one month, HbA1c levels reduced to 6.1% (range 5.2 to 8).Conclusions: Laparoscopic Roux-en-Y gastric bypass is a technically challenging procedure that can be safely integrated into a bariatric treatment program with early weight loss and improved diabetic control. With more experience, operative time and length of stay decreased.

Anesthetic Management of 186 morbidly obese patients for Bariatric Surgery

[1]Minimally Invasive Surgery Center, Yotsuya Medical Cube, Tokyo, Japan [2]Department of Weight Loss Sugery, Yotsuya Medical Cube, Tokyo, Japan
Toshie Shiraishi[1], Kazuko Sonoda[1], Eri Kikkawa[2], Tetsuya Nakazato[2], Hideharu Shimizu[2], Yosuke Seki[2], Yoshimochi Kurokawa[1], Kazunori Kasama[2]

BackgroundWe have experience of anesthetizing 186 morbidly obese patients for Bariatric Surgery of which 50 patients had Laparoscopic Roux-en-Y Gastric Bypass (LRYGB), 41 patients had Laparoscopic Sleeve Gastrectomy with Duodenojejunal Bypass (LSG/DJB), 78 patients had Laparoscopic Sleeve Gastrectomy (LSG), and 17 patients had Laparoscopic Gastric Banding (LAGB) between June 2006 and October 2010. We retrospectively evaluated the background of patients, pre-operative complications (such as airway difficulties, intra-operative events, duration of anesthesia and the operation) and some other points.ResultMean age and body mass index of the patients were 38 years±10 years and 44 kg/m2±9 kg/m2. As for pre-operative complications, there were 83 patients (44%) with hypertension, 83 patients (44%) with Diabetes Mellitus, 88 patients (47%) with Sleep Apnea Syndrome (Apnea Hypopnea Index>20), 26 patients (14%) with asthma, 34 patients (18%) with a mental disorder such as depression. Using the Mallampati Classification (evaluation for difficult laryngoscopy), 29 patients (16%) were class III or IV which predicted difficult laryngoscopy. We performed conscious endotracheal tube intubation on 7 patients (5%). Anesthetic agents used were basically O2-Air-Sevoflurane with added propofol, fentanyl, and remifentanyl. During the operations, a severe decrease in SpO2 or blood pressure and deadly arrhythmias did not occur in any patient. Delayed wakening was also not found and all extubations were performed in the operating room. There was one patient that just after the extubation, experienced a very low level decrease in SpO2 but recovered immediately. There were no re-intubation patients after the surgery.ConclusionThere were no anesthetic problems or complications in any patients. There are many important risks or caring points concerning anesthesia for morbidly obese patients, but the biggest issue seems to be the respiratory management. In addition, there are some unclear issues which we should discuss more such as fluid therapy and drug dosing.

The Role of Proton Pump Inhibitor in Quality of Nursing Care in Sleeve Gastrectomy

[1]E-Da Bariatric & Metabolic International Surgery Center,Taiwan
Li-Chun Lin[1],Chi-Hsien Lo[1],Chih-Kun Huang[1]

AbstractBackground: Recent a few years, laparoscopic sleeve gastrectomy (LSG) is gaining ground as a new option for the treatment of morbid obesity in Asia-Pacific area. But postoperative reflux symptoms bothered the patient and caring nurse. The aim of this study is to evaluate whether proton pump inhibitors (PPI) prior to the surgery can improve the quality of nursing care.Methods: From February 2009 to October of 2010, 34 morbid obese patients underwent laparoscopic sleeve gastrectomy. Preoperatively intravenous PPI was prescribed to 16 patients (group A) and no PPI was given to 18 patients (group B). Both groups were compared in the length of hospital stay, operation time, Visual analogue scale (VAS) pain score and medications frequency (analgesic and anti-emetic). Results: All of 34 patients (15 men and 19 women) underwent laparoscopic sleeve gastrectomy with Fr 38 bougie. No difference of sex, age, comorbidity and BMI was noted in these two groups. Operation time was 53.5 minutes for group A and 59.89 minutes for group B without statistic difference. No differences were found in frequency of morphine injection and VAS pain score in early postoperative and discharge time. Two complications happened, one postoperative bleeding in group A and one staple leakage in group B. The frequency of additional antiemic use (Prochlorperazine) was higher in group B (38.9% vs.6.3%) (p = 0.025). The length of hospital stay was shorter in group A (3.19 vs. 4.00) (p= 0.025). Conclusion: Laparoscopic sleeve gastrectomy is a safe procedure with low morbidity. After surgery, the reflux and vomiting can lead to discomfort, increased use of anti-emetic and prolonged the hospital stay. Preoperative PPI use demonstrated an effective method to contour this problematic and improved the quality of nursing care for sleeve gastrectomy perioperatively.

Economic evaluation of bariatric surgery

[1]Health management research center, Ritsumeikan Univ., Shiga, Japan [2]Shiga medical univ. [3]Yotsuya medical cube

Hiroaki Kakihara[1], Hiroshi Yamamoto[2], Toru Tani[2], Kazunori Kasama[3], Tetsuya Nakazato[3]

Purpose: Economic evaluation of bariatric surgery Methods: 31 bariatric surgery patients of Yotsuya Medical Cube, who had follow-up appointments after May 2008, were surveyed. The surveys included questions pertaining to their expenditures before and after their surgeries. Results: The average medical expenditure for preoperative patients is 12,597 yen per month. There were seven patients who reported to have no medical expenditures before their operation. Without them, the average becomes 16,270 yen per month. Post operation, the number of patients who reported to have no medical expenditures increased to 11. The average medical expenditure for postoperative patients was found to be 3,286 yen per month. This means that an average of 9,311 yen decrease per patient, totaling 111,732 yen per year. Furthermore, the social medical cost was decreased by 372,440 yen. In addition, medical related financial expenditures for food, transportation, supplements, entertainment, and utilities decreased. On the other hand, expenditures for items such as clothing, and beauty/hairdressing costs increased. Overall, there was a decrease of 40,546 yen per patient. Analysis: It is thought that the annual medical cost reduction effect lasts and even increases with the age of the patient. If a patient was 30 years old at the time of operation, and it was assumed that they lived to be 80, a medical expenditure decrease of 18,622,000 yen is expected according to the data collected from the survey. This means that the present value after 3% discount from the interest would be 9,870,277 yen. From the patient's point of view, the medical cost (not including what is covered by insurance) is 2,300,000 yen, which could be collected in less than five years (57 months). It can be said that it is a very advantageous investment of 10 times of long-term national bond interest rate of 2.1% for 20 years.

Measuring our success: how well do we follow our patients?

[1]Australian Institue of Weight Control, Perth, Western Australia
Susan F. Taylor[1], Jeff M. Hamdorf[1], Jeremy Tan[1]

The importance of developing protocols for patient care in many fields, including Bariatric Surgery, has been emphasised by many authors. Prospective data collection is essential in a successful clinical service to enable robust self-audit and promote the opportunity to compare clinical services and critically evaluate outcomes against external metrics. As part of the Perth Circle of Care Bariatric program, our surgeons and physicians are committed to thorough and regular follow up. In preparation for protocol improvement, we conducted an audit of our compliance with existing follow up protocols and data entry over three years spanning the introduction of electronic health records. In 2008, before the electronic system was in place, 114 (62%) of 183 postoperative patients were seen within 4 weeks of the six months post operative review point, yet 142 (78%) attended within 4 weeks of the scheduled 12 month review. The new system was implemented at the beginning of 2009, and appointments were more consistently adherent to the followup protocol. In 2010, we have demonstrated continued satisfactory adherence to the 6 month followup protocol. 10% of visits recorded changes in co-morbidities, which reflects our practice of thorough enquiry at initial assessment. This review of our collected data provides opportunity to improve our assessment of the patients at these sentinel reviews.

IS ROUTINE PREOPERATIVE POLYSOMNOGRAPHY NECESSARY IN PATIENTS HAVING BARIATRIC SURGERY?

[1]DIVISION OF BARIATRIC/MINIMALLY INVASIVE SURGERY, STATEN ISLAND UNIVERSITY HOSPITAL, STATEN ISLAND NEW YORK.

KAREN E. GIBBS[1],ABDUL S. BANGURA[1],STELIN JOHNSON[1]

Background: Obstructive sleep apnea (OSA) is recognized in obese patients.It maybe associated with significant perioperative morbidity and mortality.Polysomnography remains the gold standard for the diagnosis and assessment of the severity of OSA. Some Bariatric centers adopt a selective screening approach based on clinical suspicion; others, screen every patient. The aim of our study is to determine the prevalence of OSA , and whether BMI correlates with OSA prevalence. These results will form the basis for making a case for or against routine preoperative polysomnography in patients having bariatric surgery. Methods: A five year(2005- 2010) retrospective chart review was performed.Patients demographic and sleep study data was collected and analyzed. The severity of OSA was divided into mild, moderate or severe according to the American Sleep Disorders Association guidelines. Mild OSA is defined as an apnea/hypopnea index of 5-15, moderate as 15-30 and severe as &gt30 . Results were analyzed using statistical software.Results: 555 patient charts were reviewed. Of these, 359(65%) had polysomnography. 309(86%) of the 359 patients had OSA , 50(14%) had no OSA. The overall prevalence of sleep apnea was 86%, mild OSA 18%(63/359), moderate OSA 17%(62/359), severe OSA 51%(184/359). The prevalence of OSA by BMI category was as follows: BMI(35-39.9 kg/m2): 92%(34/37). BMI(40-49.9 kg/m2): 82%(178/218). BMI(50-59.9 kg/m2): 92%(78/85). BMI(&gt60 kg/m2): 100%(19/19).Conclusion: OSA is highly prevalent(86%) in our patient population, with most of them(51%) having severe OSA.OSA is highly prevalent in all BMI categories. However,a BMI &gt60 kg/m2 correlates with a 100% prevalence of OSA.Based on these results,routine polysomnography is necessary as part of the pre operative work up for all bariatric patients .

IS ROUTINE PREOPERATIVE VENOUS DUPLEX SCREENING NECESSARY FOR PATIENTS HAVING BARIATRIC SURGERY?

[1]DIVISION OF BARIATRIC/MINIMALLY INVASIVE SURGERY, STATEN ISLAND UNIVERSITY HOSPITAL, STATEN ISLAND , NEW YORK.

KAREN E. GIBBS[1],ABDUL S. BANGURA[1],STELIN JOHNSON[1]

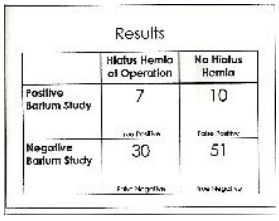
Background:Morbidly obese patients are perceived to be at high risk for perioperative deep vein thrombosis(DVT). Routine preoperative bilateral lower extremity venous duplex screening for DVT is a part of their preoperative work up in many Bariatric centers. The purpose of our study is to determine the prevalence of preoperative DVT in our patient population,and form a basis to make a case for or against routine preoperative venous duplex screening in bariatric patients.Methods: A five year (2005-2010) retrospective chart review was performed, of our prospectively maintained bariatric database. Demographic data and the incidence of preoperative DVT was analyzed using statistical software.Results: 555 patients underwent bariatric surgery during this five year period. 402 (72%) were females, and 153(28 %) were males. The age range was 18- 67 (median age 43). 454 (82 %) of patients were Caucasians, 46(8%) were Hispanics, 45(8%) were black and 10(2%)other race. The mean BMI was 47.1(SD 6.8).177 (32%) patients underwent the Roux-en-y gastric bypass procedure, while 378(68%) had the lap band procedure. Only one patient with a history of chronic DVT was found to have a positive preoperative venous duplex. The incidence of preoperative DVT was 0.2%Conclusion: The incidence of preoperative DVT is very low in these patients. Routine preoperative venous duplex screening is therefore unnecessary. We would suggest preoperative duplex screening in those patients with a previous history of DVT or evidence of significant venous insufficiency

Routine Preoperative Barium Swallow to detect Hiatus Hernia in Bariatric Surgery Patients: Is it Worthwhile?

[1]North Queensland Obesity Surgery Centre, Mater Hospital, Townsville, Australia

John Avramovic[1], Laura Craig[1], Sam Baker[1], Christopher Aubrey[1]

Routine Preoperative Barium Swallow to detect Hiatus Hernia in Bariatric Surgery Patients: Is it Worthwhile?PurposeTo determine if routine preoperative barium swallow before laparoscopic bariatric surgery can predict those patients who require crural repair for hiatus hernia.Method100 consecutive patients undergoing bariatric surgery underwent preoperative barium swallow to detect hiatus hernia. The radiological results were compared to the operative findings.Results98 patients underwent a complete radiological study. 17 patients were reported to have a hiatus hernia radiologically. 37 patients were found to have a hiatus hernia at operation, and had a sutured anterior crural repair as per our unit protocol. Operative Finding Hiatus hernia No Hiatus HerniaRadiological Hiatus Hernia - 7 10 Finding No Hiatus Hernia - 30 51 The true positive rate was 7%. The calculated sensitivity for barium swallow in detecting a hiatus hernia prior to surgery was 21%. A positive barium swallow had a 41% probability of detecting a hiatus hernia subsequently confirmed at surgery.ConclusionPreoperative barium swallow in morbidly obese patients undergoing laparoscopic bariatric surgery was poor at predicting the presence of hiatus hernia. Routine barium swallow prior to bariatric surgery for the detection of hiatus hernia was unreliable and not warranted.



IS ROUTINE PREOPERATIVE UPPER ENDOSCOPY NECESSARY FOR PATIENTS HAVING BARIATRIC SURGERY?

[1]DIVISION OF BARITRIC/ MINIMALLY INVASIVE SURGERY, STATEN ISLAND UNIVERSITY HOSPITAL, STATEN ISLAND, NEW YORK.

KAREN E. GIBBS[1],ABDUL S. BANGURA[1],STELIN JOHNSON[1]

Background: Upper endoscopy is a routine preoperative investigation in patients undergoing bariatric operations in most bariatric centers.However,the level of evidence supporting this recommendation is rather not strong.The rationale for performing upper endoscopy is to detect and treat lesions that might potentially affect the type of surgery performed. The aim of our study is to analyze the prevalalence of the various findings on preoperative upper endoscopy in our patient population, and to evaluate how these findings impacted the choice of surgery.Methods: A five year(2005-2010)retrospective chart review was performed,of our prospectively maintained bariatric database. Patient demographics,and endoscopy findings were collated. The prevalence of endoscopic findings was analyzed using statistical soft ware.Results: 555 patient charts were reviewed, 389(70%) of these had preoperative upper endoscopy. 381(98%) of the 389 patients that had endoscopy show positive findings, 8(2%)patients had normal findings. More than 90% of patients had a combination of at least two findings. The prevalence of individual findings are as follows: GASTRITIS: 92%(359/389), HIATAL HERNIA: 35 %(137/389). ESOPHAGITIS: 24%(94/389), HELICOBACTER PYLORI: 13%(50/389), DUODENITIS: 5%(20/389), POLYPS: 2%(8/389),ULCERS:0.2% (1/389), TUMORS(LIPOMA):0.2%(1/389), BARRETTS 0.2%(1/389). Conclusion: Upper endoscopy has a high incidence of positive findings (98%) in bariatric patients, the most common being gastritis and hiatal hernia. The findings did not change the operative management for these patients. Given that patients are evaluated for hiatal hernias at the time of surgery, preoperative endoscopy is not necessary to make this diagnosis. Thus, routine preoperative upper endoscopy is unnecessary in the work-up of bariatric patients.

Outcomes and options in the management of leak and gastric fistula after sleeve gastrectomy.

[1]Mercy Bariatrics, Perth Australia
Leon Cohen[1]

Leak and gastric fistula after sleeve gastrectomy remains one of the most feared and difficult complications to deal with after sleeve gastrectomy. The incidence in the published literature ranges from 2-5% and is increased in revisional surgery.Over the last 6 years we have performed over 850 sleeve gastrectomies and have had leaks in 24 patients, (3%) in addition there have been 19 infected perigastric haematomas in which no leak was demonstrated.Management of these patients can be divided into early, middle and late. All patients required early laparoscopic lavage and drainage. Immediate control of leak by oversew or restapling was possible in only two patients .Twenty two patients went on to develop chronic gastric fistulas with spontaneous resolution in 14. Eight patient have required delayed open gastrectomy or Roux en y internal fistula drainage as a salvage procedure for Chronic leaks. There has been one late death in this group during surgery at 6 months post leak. Weight loss in the leak group is comparable to uncomplicated patients.Use of additional manouveres including stenting, gluing , feeding jejunostomy, percutaneous drainage, Botox and plugging will be discussed.
Conclusion: Leak after sleeve gastrectomy is a devastating complication that can be difficult to manage. Using a sequential and logical approach the situation can be successfully managed with resolution of the leak and good outcomes.

Superior mesenteric venous thrombosis after revisional open sleeve gastrectomy

[1]Toho University Sakura Medical Center, Chiba, Japan
Takashi Oshiro[1], Yutaka Yoshida[1], Daisuke Horibe[1], Mitsuru Oshiro[1], Makoto Nagashima[1], Atsuto Saiki[1], Shinichi Okazumi[1], Ryouji Kato[1], Kohji Shirai[1], Isao Kawamura[1]

A 44 year-old man with morbid obesity (BMI49), hypertension, obstructive sleep apnoea-hypopnea and stasis phlebitis visited our hospital for revisional bariatric surgery for inadequate weight loss. He had had vertical banded gastroplasty (VBG) 20 years ago at other hospital. However he regained weight 7 years after the surgery probably due to staple line disruption and has been lost to follow-up. Preoperative gastroscopy confirmed staple line breakdown. Open sleeve gastrectomy as revisional surgery was successfully carried out. The patients underwent thromboprophylaxis using subcutaneous heparin calcium injection (5000 IU preoperatively, followed by 10000 IU daily postoperatively for 3 days). He developed fever and vague abdominal pain 14 days after the operation. His C-reactive protein and D-dimer were elevated to 20.4 mg/dl and 18.8 μg/ml, respectively. Computed tomography (CT) revealed superior mesenteric venous thrombosis and mesenteric panniculitis. Intravenous heparin and oral warfarin were immediately started. The patient's symptom and laboratory data were improved thereafter. Follow-up CT showed no further development of thrombosis. He continues on oral warfarin (5mg per day). At three months after the operation, he achieved 30 kg weight loss and did well. Mesenteric venous thrombosis is a rare condition that should remain in the differential diagnosis for patients presenting with abdominal pain after the bariatric surgery. The prompt diagnosis and anticoagulant therapy can produce favorable outcomes.

Staple line complications during bariatric surgery

[1]Department of General Surgery, Singapore General Hospital, Singapore
Shanker Pasupathy[1],Wai Keong Wong[1]

Background:Bariatric surgery is accepted as the most effective treatment for morbidly obese individuals. In current practice, the majority of procedures are performed by laparoscopy. Hence surgeons are highly dependent on modern laparoscopic instrumentation, in particular endoscopic staplers.Aims:To investigate the incidence and impact of staple line failures during bariatric surgery.Methods:Retrospective review of all bariatric surgical procedures performed at the Singapore General Hospital. The use of staplers, and occurrence of intra-operative and post-operative complications related to stapling was noted.Results:From January 2003 to November 2010, 70 bariatric procedures were performed: 23 laparoscopic adjustable gastric bands (AGB) and 47 laparoscopic stapled procedures comprising 37 sleeve gastrectomies (LSG), 9 gastric bypass (LGB) and 1 bilio-pancreatic diversion (BPD). Re-inforcement with buttress materials or suture inversion of staple lines was not performed routinely. There were 3 intra-operative staple line failures (6%) resulting in haemorrhage (1 case) and gaping of the staple line (2 cases). All 3 failures were rescued by suturing and did not affect the surgical outcome. There were 3 post-operative staple line-related complications (6%) requiring re-operation within 24 - 48 hours. 2 patients had haemorrhage from the gastric staple line and 1 patient had an anastomotic leak from a jejuno-jejunostomy (which was preceded by intra-luminal bleeding and bowel obstruction by blood clots). All staple lines were repaired by suturing during re-operation and the patients did well post-operatively with no further incidents.Conclusion:Staple line complications are relatively common and may be due to instrument failures or technical failures by the surgical team. It is essential to thoroughly inspect all staple lines and have an effective rescue strategy at hand to manage failures before complications develop.

Drains are not necessary in laparoscopic gastric bypass

[1]Surgery Department, Riyadh Military Hospital, Riyadh, Saudi Arabia
Haider Alshurafa[1]

Objective: To prove that the surgical drains are not necessary in routine laparoscopic gastric bypassMethod: This is a retrospective review for the files of all patients who have underwent laparoscopic gastric bypass over one year with no surgical drains.Results: There were 104 patients who have laparoscopic gastric bypass in the period between April 2009 and the end of the July 2010. All these patients have primary laparoscopic gastric bypass. They are 78 female and 26 males patients and the age range between 15 and 62 years with average age of 38.2 years. The BMI range between 34 to 53.8 kg/m2, the mean is 44kg/m2. All those patients have no surgical drain. There were no mortality, and one patient needed laparoscopic drainage of infected collection at left sub-phrenic region after 7 days from the operations. There is one patient needed needle aspiration of left pleural reactive effusion with conservative management of left sub-phrenic small hematoma. No other immediate post operative complications.Conclusion: None use of surgical drain post laparoscopic gastric bypass has no major side effects and surgical drain should only used in selected cases and when there is indications.

Is the long staple line reinforcement needed or not during laparoscopic sleeve gastrectomy?

[1]Department of Surgery, Soonchunhyang University School of Medicine
Yong Jin Kim[1],Kyung Yul Hur[1]

Purpose: To evaluate the effect of staple line reinforcement during laparoscopic sleeve gastrectomy(LSG). Method: Between April 2009 and September 2010, we did LSG for morbidly obese 81 patients. Staple line reinforcement was not done for early 30 patients(group 1) and was done late 51 patients(group 2). We compared the outcomes according to bleeding, leak, stricture or obstruction. Result: There were no differences in age, sex, preoperative weight and body mass index. Mean operation time was 129 minutes(group 1) & 103minutes(group 2).(p=0.027) Staple line related complication was observed in 3 cases(1, leak/2, obstruction due to kinking) only in group 1.(p=0.048) There was no complication in group 2. Re-operation was done in a leak case and there were no in-hospital mortality. Conclusion: Although there are some limitation for retrospective analysis and learning curve, we conclude that long staple line reinforcement was effective to prevent staple line related complications.

The safety and advantages of applying clips in sleeve gasterectomy

[1]Department of Surgery,King Saud University,King Saud University,Riyadh,Saudi ARABIA
Abdullah Aldohayan[1],Fahad Bamehriz[2],Mohhamad Alnaami[3],Alanezy Naif[4]

Since the introduction of sleeve gastrectomy gained widespread popularity. However the complication of bleeding and leakage may limit its advantage. Leakage and bleeding are usually managed by suturing or other method. We study the efficacy and safety by using the clips on the staple line on 74 patients with BMI in more 40 over 2 years. The clips were applied on staple gastric line. There was leak or heamatoma need to be spiraled.More over applying the clips is shorter in time and easier than using suture.The usage of clips is safe, easy and decrease the bleeding may prevent leakage further extension of work may prove its metros

Laparoscopic Duodeno-jejunal Bypass with Sleeve: How we do it and management of a possible complication

[1]Department of Bariatric and Metabolic Surgery,Gem Hospital and Research Centre,Coimbatore,India
Praveen Raj[1],Palanivelu Chinnusamy[1]

Background:A few reports of Laparoscopic Duodenojejunal bypass with Sleeve has demonstrated it as a good alternative to Roux and Y gastric bypass in weight control and resolution of comorbidities .Such a procedure specially important in Asian countries where the incidence of Gastric cancer is high. DJB with sleeve gastrectomy is proposed as an ideal alternative to RYBG with the stated advantages -1. Presence of difficult to access gastric remnant in RYGB is at risk of cancer development in high endemic regions. Endoscopic surveillance is easy in sleeve gastrectomy.2. Preservation of pyloric mechanism prevents dumping syndrome.3. Reduced alimentary limb tension.With very few reports, the technique of this procedure is yet to be standardized.Video:In this High Definition video we demonstrate our technique of Laparoscopic Duodeno jejunal bypass with Sleeve, Sleeve being performed 5 cm from the pylorus on a 36F bougie, wherein the duodenojejunal anastamosis is done in a retrocolic fashion in end-end hand sewn method. The biliopancreatic limb length is 75 cms and that of the Roux limb is 100cm, similar to a standard Roux en Y gastric bypass.In the second part of the video, we show a case of internal herniation in the retrocolic window 1 month post-op in a patient operated with Duodenojejunal bypass and how we managed the same.

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS USING 3 PORTS TECHNIQUE FOR TREATMENT OF MORBID OBESITY

[1]Surgery Department, Riyadh Military Hospital, Riyadh, Saudi Arabia
Haider Alshurafa[1]

LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS USING 3 PORTS TECHNIQUE FOR TREATMENT OF MORBID OBESITY Haider A Al-Shurafa , Riyadh Military Hospital, Riyadh, Saudi ArabiaObjectives:To present the technique and the results of laparoscopic Roux-en-Y gastric bypass (LRYGBP) using 3 ports technique for the treatment of the morbid obesity.Method and Materials:This is a retrospective review of the medical records for the patients who have underwent LRYGBP using 3 ports technique and were operated by the first author in Riyadh Military Hospital, Riyadh, Saudi Arabia.Results:In the period from April 2004 to December 2008, 37 patients, out of 343 patients have LRYGBP, have underwent LRYGBP using 3 ports technique. They were 26 females and 11 males. The age was 28 years (15-52 years). The body mass index was 42.4 kg/m2 (35 - 54 kg/m2). The average time of the operation was 70 minutes. The hospital stay was 1-3 days. There was one patient who had immediate postoperative hematemesis which was stopped spontaneously. One patient needs abdominal drain for 24 hours. There was no other major complications and no mortality. All of these patients were primary LRYGBP without history of previous abdominal surgeries.ConclusionLRYGBP using 3 ports technique is feasible and safe procedure for treatment of morbid obesity although it needs extensive experience in laparoscopic and bariatric surgeries.

Single Incision Laparoscopic Adjustable Gastric Band: Early Results Incorporating New Techniques

[1]Castle Medical Center
Steven Fowler[1]

Background: Single Incision Laparoscopic Surgery (SILS) is rapidly being developed in the use of bariatric procedures, such as the Adjustable Gastric Band (GB).
Methods: In November 2009, SILS GB was initiated in a single surgeon practice, United States Centers of Excellence Bariatric Surgery Program. One year of data was collected. A comparative group of standard 5 port laparoscopic GB from the year prior was used as a benchmark.
Results: 58 SILS GB were performed from November 2009 to November 2010. 75 standard GB were performed the year prior. Average operating time was 70 versus 43 minutes. Complication rate for SILS GB was 5.2% versus 4%, consisting of two early band slips and one port infection. 1 month, 3 month, and 6 month %Excess Weight Loss was 13.5% versus 14.1%, 24.4% versus 23.7%, and 29.2% versus 30.4%. With the SILS GB, adding an extra port occurred 41% and adding improved liver retraction occurred 33%.
Conclusions: SILS GB requires greater operating time. Early weight loss appears comparable to standard GB. This type of surgery allows for easy adjustments in technique by adding ports or liver retractors to account for limitations in instrument design and body habitus.

SILS Bariatric Surgery for animal model

[1] Department of Gastrointestinal surgery, Nagoya City University, Nagoya, Japan

Satoru Takayama[1],Masaki Sakamoto[1],Hiromitsu Takeyama[1]

Laparoscopic metabolic surgery was developed through the application and experienced mainly in western countries. And it is also spreading in Asian countries. Meanwhile Single-incision laparoscopic surgery is aimed at improving the cosmetic outcome following surgery appears now a day. Much of this knowledge from the procedures comes from the study of animal models, where they have revealed technical feasibility. This time we have experienced three kinds of SILS bariatric surgeries for animal models. The first one was the gastric banding, the second one was the sleeve gastrectomy and the third one is ρ-Y bypass. All of these cases, we placed SILS port near umbilicus at the beginning of surgery and used flexible forceps. In case of gastric banding, we used flexible SILS Stitch, and in case of sleeve gastrectomy we used Duet which is also flexible to avoid interference of forceps. And the bypass case, we used V-Loc suture to free from the stress of knotting. Using such new methods, we have successfully performed these bariatric surgeries. It is true that this methodology need experienced technique and need more time than conventional multi incisional surgery. But we believe we can make the operative time shorter and improves cosmetic outcome without additional risk even for human SILS bariatric surgery. This methodology may be applied widely for human as the option for new bariatric surgeries in near future. Thereby we would like to introduce these experiences.

Single-incision laparoscopic gastric bypass for morbid obesity-Using conventional trocars and instruments

[1]Department of Baritric and Metabolic Surgery,Gem Hospital and Research Centre,
Praveen Raj[1],c Palanivelu[1]

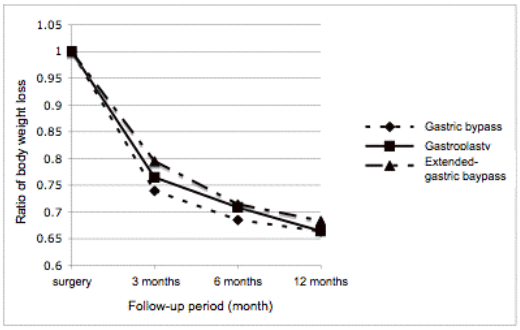
Abstract:Conventional laparoscopic Roux-en-Y gastric bypass (LRYGB) is gold standard for bariatric surgery, but the procedure requires five to seven incisions for placement of multiple trocars and thus may produce less-than-ideal cosmetic results. Recently, single-incision laparoscopic surgery (SILS) has been used for bariatric procedures, and this surgery is considered a type of minimally invasive surgery. When SILS is performed via the transumbilical route, the resultant abdominal wound is hidden and the cosmetic outcome is better.Here we present one of our cases of Single Incision transumbilical Roux en Y gastric bypass Surgery without usage of any commercially available single port systemsVideo:In this high Definition video, we show a single incision Laparoscopic Roux en Y gastric bypass.-Step 1 involves creating a transverse umbilical scar and raising umbilical flaps on either side-Four trocars (12mm, two 5mm and one 10mm) are inserted directly through the fascia at different sites after creating the pneumoperitoneum-the liver was retracted using a novel liver suspension technique of passing prolene suture through the liver and suspending the liver using gauze -The gastric pouch of 50ml is created in standard fashion using blue cartridges-the gastrocolic omentum is divided in the midline-the jejunum was divided at 75 cm and the jejuno-jejunostomy was done with 100cm Roux limb using linear staplers and intracorporeal sutures-The gastrojejunostomy was performed using 35mm liner staplers and the defect closed with 2-0 PDS with intracorporeal suturing

Retrospective analysis from 99 Japanese cases of bariatric surgery at Chiba University Hospital.

[1]Research Center for Frontier Medical Engineering, Chiba University, Chiba, Japan [2]Frontier Surgery, Chiba University Graduate School of Medicine, Chiba, Japan [3]Department of Surgery, Shimotsuga General Hospital, Tochigi, Japan
Hiroshi Kawahira[1], Isao Kawamura[2], Masaaki Kodama[3], Hideki Hayashi[1], Toshiyuki Natsume[2], Takashi Akai[2], Mikito Mori[2], Yukimasa Miyazawa[2], Hisahiro Matsubara[2]

Background: Since "classical-style" gastric bypass for morbid obesity has been performed in 1982, the first bariatric surgery in Japan, the number of obesity patients has been gradually increased. This is the retrospective analysis of the patient outcome at Chiba University Hospital, Japan. Patients & Methods: 99 patients have been operated for bariatric surgery in our department and our related hospital from 1982 though 2006. 31 males and 68 females were applied. The average age was 30.7 ± 9.8 years. 11 classical style gastric bypass, 69 gastroplasty (50 vertical banded gastroplasty, 8 horizontal banded gastroplasty, 11 other types), 17 Roux-Y gastric bypass, 1 sleeve gastrectomy and 1 sleeve gastrectomy with duodenal switch were performed in this study. Results: The body weight of each patients has been decreased favorably (figure). Among all surgery, no postoperative death has been observed. Conclusion: Our results indicated that bariatric surgery is safe and effective for Japanese. Although the higher disease rate of gastric cancer than western patients, we expect that more clinical trials will be designed and performed for more effective and suitable surgical procedures for Japanese obesity patients.

Figure



Similar resolution of weight and biochemical aberrations in the first 24 months despite different bariatric procedures

[1]Nutrition Course, N.S.Fatima Faculty and University of Sao Paulo, Brazil [2]Nutrition Course, N.S.Fatima Faculty, Caxias do Sul, RS, Brazil
Joel Faintuch[2], Daniela Giesch[2], Camile Boscaini[2], Lovaine Rodrigues[2], Fernanda Pezzi[2], Rafael M Soares[2], Francisco J Karkow[2]

Introduction: Malabsorptive operations (Scopinaro/SCOP and duodenal switch/DS) are considered more effective than Roux-en-Y gastric bypass (RYGB) for weight reduction and biochemical normalization, but comparative studies are not common . Objective: In a single-center prospective study, outcome in the first two years was comparatively monitored. Methods: Patients (N=41) were submitted to three interventions (SCOP, DS and RYGB) according to clinical criteria. There were no differences regarding age (44 &plusmn 11 years), gender (83% females) or preoperative BMI or body weight (BMI 46 &plusmn 5 kg/m2). Measurements included hematologic counts, iron, ferritin, triglycerides, total cholesterol and fractions, and glucose., which were documented preoperatively and 1, 3, 6, 12 and 24 months after surgery.Results: Patients submitted to the Scopinaro modality exhibited higher preoperative BMI (not statistically significant), but difference leveled off after 12 months. By the same token most biochemical variables normalized between 6 and 12 months, so that after two years the three populations displayed similar numbers for all documented variables. Conclusions: All three techniques were followed by adequate clinical and biochemical response. Scopinaro candidates were somewhat heavier but reached comparable BMI at the end of the study. Differences between the operations were not obvious during 24 months, and should probably require longer follow-up and superobese participants to be detected.

Intragastric balloon treatment for morbid obesity in Japanese patients.

1: Department of Gastrointestinal Surgery, Graduated School of Medicine, The University of Tokyo
2: Department of Gastrointestinal Surgery, Toranomon Hospital
Fumihiko Hatao[1], Masako Ogawa[1,2], Yumie Wada[1], Nobuyuki Shimizu[1], Yasuyuki Seto[1]

Background; Recently, also in Japan, bariatric surgery is a growing trend. We concern that Japanese patients undergoing bariatric surgery are at risk of developing gastric cancer, which is the most common malignancy in Japanese. Therefore, we expect that the temporary placement of intragastric balloon is suitable for Japanese.
Methods; We started the clinical trial of intragastric balloon treatment from 2007. We picked up patients according to the inclusion criteria of our institution which was “morbid obesity (BMI ≧ 35) after conservative treatments including admission of more than one week duration and outpatient visit for 6 months.” The balloon was removed within 6 months according to the manufacturer's suggestions.
Results; Six patients who met this criteria underwent the placement of intragastric balloon. No complications occurred. The average duration of procedure was 20.8 min. The average length of the hospital stay was 6.0 days. No one needed to remove ahead of schedule. The average weight loss and percent excess weight loss at the time the balloon was removed were 10.4 kg and 19.8%, respectively. Four patients had kept more than 20% of percent excess weight loss 6 months after the balloon removal. However, 2 patients already regained their weight during the placement of intragastric balloon.
Conclusion; Intragastric balloon treatment for morbid obesity in Japanese patients is safety and have some efficacy.

Intragastric balloon treatment for morbid obesity in Japanese patients.

Fumihiko Hatao[1], Masako Ogawa[1,2], Yumie Wada[1], Nobuyuki Shimizu[1], Yasuyuki Seto[1]

1: Department of Gastrointestinal Surgery, Graduated School of Medicine, The University of Tokyo

2: Department of Gastrointestinal Surgery, Toranomon Hospital

Background; Recently, also in Japan, bariatric surgery is a growing trend. We concern that Japanese patients undergoing bariatric surgery are at risk of developing gastric cancer, which is the most common malignancy in Japanese. Therefore, we expect that the temporary placement of intragastric balloon is suitable for Japanese.

Methods; We started the clinical trial of intragastric balloon treatment from 2007. We picked up patients according to the inclusion criteria of our institution which was “morbid obesity (BMI ≧ 35) after conservative treatments including admission of more than one week duration and outpatient visit for 6 months.” The balloon was removed within 6 months according to the manufacturer's suggestions.

Results; Six patients who met this criteria underwent the placement of intragastric balloon. No complications occurred. The average duration of procedure was 20.8 min. The average length of the hospital stay was 6.0 days. No one needed to remove ahead of schedule. The average weight loss and percent excess weight loss at the time the balloon was removed were 10.4 kg and 19.8%, respectively. Four patients had kept more than 20% of percent excess weight loss 6 months after the balloon removal. However, 2 patients already regained their weight during the placement of intragastric balloon.

Conclusion; Intragastric balloon treatment for morbid obesity in Japanese patients is safety and have some efficacy.

Gastric Sleeve is a single restrictive procedure?

[1]Clinica Universitaria de Cirurgia 2, Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Lisboa, Portugal

Joao M. Coutinho[1], Fatima M. Carepa[1], Jose S. Girao[1], Carlos M. Ferreira[1], Helena P. Proenca[1], Carla M. Melo[1], Guilhermina C. Cantinho[1], Henrique B. Castelo[1]

The authors present in their 221 gastric sleeve patients the criteria in which they consider gastric sleeve is both a metabolic and restrictive procedure. The improvement of the associated diseases, visceral fat, BMI and EWL, the levels of grelin, obstatin, grelin/obstatin ratio, PP-YY, the gastric emptying before and after surgery, are evaluated in this series two years after surgery to demonstrate both metabolic and restrictive features of this procedure.

GASTRIC SLEEVE AS TREATMENT FOR MORBID OBESITY: ANALYSIS OF 3 YEARS

[1]Clinica Universitaria de Cirurgia 2, Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Lisboa, Portugal

Joao M. Coutinho[1],Fatima M. Carepa[1],Jose S. Girao[1],Carlos M. Ferreira[1],Dulce A. Antunes[1],Mariana M. Machado[1],Filipa A. Andrade[1],Helena P. Proenca[1],Antonio F. Fernandes[1],Henrique B. Castelo[1]

The authors analyze the results of their series of GASTRIC SLEEVES as treatment of patients with morbid obesity.The study includes 221 patients evaluated at outpatient follow-up during two years of post-op, according to the following protocol:Clinical Assessment, % of weight loss, decreased BMI and% EWL;-Evolution of co-morbidities;Determination of ghrelin pre-and post-operative, as well as the relationship ghrelin / obestatin;Changes in gastric emptying, compared to pre-operative, 3, 6, 12 and 24 months.The Authors also examine morbidity and mortality in the series.

Laparoscopic Adjustable Gastric Banding: 7-year results in Taiwan

[1]Department of Surgery, Min-Sheng General Hospital
YEN HAO SU[1],WEE JEI LEE[1],KUANG HAN SER[1],JUNG CHIE CHEN[1],SHU CHUN CHEN[1],YI CHIH LEE[1]

Objectives: Laparoscopic adjustable gastric banding (LAGB) is a pure restrictive bariatric surgery. We had reported our short-term results of LAGB in Taiwan. In this study, we report the long-term results of LAGB in Taiwan. Materials and Methods: From January 2002 to June 2010, 246 consecutive patients with morbid obesity underwent LAGB in our department. Mean age was 32.1 years and mean BMI 39.8 Kg/m2. The demographic data and post-operative results were recorded . Results: All procedures were performed laparoscopically with no conversion to open surgery.The major and minor complication-rate was 0% and 3% respectively. Mean BMI from 39.8 Kg/m2 to 35.4, 36.3, 34, 33 ,31 ,30.7 and 32.6 at 1, 2, 3, 4,5,6 and 7 years respectively, with 80% follow-up. Revision rate was 13% (33/246). The most common cause of revision bariatric surgery was failed to lose adequate weight (20/32, 62.5%), poor quality of life (5/32, 15.6%), and band slippage (3/32, 9.3%).Conclusion: LAGB is safe and effective in weight reduction and improvement of quality of life. However, a late surgical re-intervention rate of 13% was observed with conversion to another bariatric procedure was 8%.

The experience of laparoscopic mini-gastric bypass surgery in single institute of sunthern Taiwan.

[1]Department of Surgery, National Cheng Kung University Hospita, Tainan, Taiwanl [2]Min-Sheng General Hospital

Kuo-Ting Lee[1],Wei-Jei Lee[2]

Introduction: Gastric bypass surgery is an effective treatment for morbidly obese patients. In Taiwan, the incidence of morbid obesity increases. More obese patients would have bariatric surgery. We presented the clinical results of laparoscopic mini-gastric bypass surgery in our hospital. Method and Material: From 14,Jan,2009 to 17,Nov,2010, there were thirty patients underwent bariatric surgery in National Cheng Kung University Hopital. Twenty-three patients (12 women,11 men) underwent mini-gastric bypass surgery. Mean Body mass index (BMI) was 39.8 (30.7-55.7). All the procedures were completed laparoscopically . No conversion procedure occured. We retrospectively analyze the patients' clinical data and outcomes.Results: All patients had weight loss after surgery. Two patients had post-operative complications. One female patient had pituitary tumor hemorrhage 4 days after surgery. Later she had craniotomy, and recovered. She had the hospitsal stay 25 days. Two months later, she totally recovered. Another female patient had post-operative upper gastrointestinal hemorrhage imediately after surgery. She had the conservative treatment. The bleeding stopped one day later. One female was dead 25 days after surgery because of acute respiratory distress syndrome. The mean hospital stay was 6.4 days. All the patients had regular follow-up visit in our hospital. Conclusion: The laparoscopic mini-gastric bypass surgery could have an ideal body weight reduction, and it is a feasible surgery for morbidly obese patients in southern Taiwan.

The introduction of laparoscopic sleeve gastrecotmy: initial three clinical experiences

[1]The Department of Gastroenterological Surgery, University of Osaka, Osaka, Japan
Yasuhiro Miyazaki[1],Shuji Takiguchi[1],Kiyokazu Nakajima[1],Yukinori Kurokawa[1],Hiroshi Miyata[1],Makoto Yamasaki[1],Yoshiyuki Fujiwara[1],Masaki Mori[1],Yuichiro Doki[1]

Introduction: Recently, Sleeve gastrectomy(SG) has been proposed as potential single restrictive baratric procedure. In fact, clinical outcome in terms of weight loss and resolution of comorbidities encouraged and stimulated the diffusion of SG as a primary bariatric procedure. Based on the above, laparoscopic sleeve gastrectomy (LSG) was introduced for primary procedure for morbid obesity in our institution. The objective of this study was to evaluate the feasibility and safety of LSG at the time of introduction for initial three cases. Objectives: LSG was introduced in our institution in March 2010 and performed in 3 patients (1 male, 2 females). Case 1: 26 year-old male, BMI48.1kg/m2, his comorbidities with obesity were insulin dependent diabetes mellitus (DM), hyperlipemia, fatty liver, insomnia, and sleep apnea syndrome, Case2: 24 year-old woman, BMI44.1kg/m2, with slight mental retardation, and her comorbidities were right cardiac failure and pulmonary hypertension, Case 3: 43 year-old woman, BMI44.3 kg/m2, with psychiatric disorder, and her comorbidities were the same as case 1.Results: LSG was completed in 3 patients without conversion to laparotmy. Each operating time(minutes) was 150, 250, 176 and estimated blood loss(ml) was 20, 540,30, respectively. No major postoperative complications directly related to LSG were noted. All patients showed uneventful postoperative recovery, with their oral intake resumed in 2 days and median hospital stay of 15days. They showed expected effect on body weight loss, and remarkable improvement of DM in case 1 and 3 resulted in no need for insulin injection. Conclusion: LSG was safely introduced as primary procedure for morbid obesity in our institution.

Sleeve Gastrectomy in combination with Duodeno-Jejunal Bypass. Three year Period Results.

[1]State Hospital, Ufa, Russia [2]Bashkirian University of Medecine
Evgeny E Semenov[1]

Background: A new surgical procedure - Sleeve gastrectomy with Roux-en-Y Duodeno-Jejunal bypass (SG-DJBP) is being performed in the world since 2007. They generally brought to successful results but some certain indications to the operation might be developed.
Material and methods: We present results of four SG-DJBP procedures performed since July 2007 to September 2010. The mean age of patients was 38,1±7,3 (29-48) years, mean BMI-47.4±7,8kg/m2(38,9-59,8), initial weight-130,6±22,6kg (111-159). A Roux-en-Y procedure was performed with a biliopancreatic loop 60 cm and alimentary loop-100 or 150 cm depending on initial BMI (less or more 50 kg/m2 respectively) four operations within a period of follow up control for 3 years and ±6 months. Two operation were performed with alimentary loop-180 with the follow up control up to 1 year. A bandage was placed on the gastric tube intersurgically to two patients.
Results: All the patients tolerated the procedure well. During 6 months the percentage of %EWL was 45,7 ±5,1%. Up to 1 year all the patients could lose more than 53,2 %EWL (47,0 - 64,4%). Up to 3 years 4 patients could lose more than 60,7% EWL (52,6 - 68,6%). The patient with a bandage had the best result - 68,6%. All the patients have a tendency to further weight gaining up to 3-8kg.
Conclusion: The positive influence on the carbohydrate and lipid metabolism is noticed, all the patients have a slight weight gaining, but there is a less weight gaining with a bandage. It is connected with the stomach extension and lesser malabsorption in contrast to BPD, a bandage gives additional restriction. SG-DJBP is an effective and safe surgery with the slightest metabolic disturbances. It might be offered to patients with BMI>50kg/m2. However, it is necessary to control a follow up period and compare it with those of SG and BPD.

A case of migration of gastric band

[1]Clinica Universitaria de Cirurgia 2, Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Lisboa, Portugal

Joao M. Coutinho[1], Andreia C. Barao[1], Jose S. Girao[1], Fatima M. Carepa[1], Ines L. Leite[1], Graciela M. Matias[1], Antonio F. Fernandes[1], Antonio S. Ruivo[1], Henrique B. Castelo[1]

Bariatric operations produce weight loss as a result of two factors. One is restriction of oral intake. The other is malabsorption of ingested food. All bands work on the principle of restriction of oral intake by limiting the volume of the proximal part of the stomach. Their major advantage is adjustability. Their most common complications include acute obstruction of the stoma, infection, prolapse of the band, attached to the trocar ports and erosion / migration of the band, which is a rare complication (3%).The AA present a case of migration of gastric band, four years after his placement in a patient with morbid obesity, which starts with dyspepsia, nausea and fever and whose imaging and endoscopic study revealed migration of the band with gastric fistula.

Endoluminal Surgery (StomaphyX device). An alternative to the revision surgery?

[1]Clinica Universitaria de Cirurgia 2, Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Lisboa, Portugal

Joao M. Coutinho[1], Jose S. Girao[1], Fatima M. Carepa[1], Adreia C. Barao[1], Elisabete S. Ferreira[1], Carlos S. Silva[1], Graciela M. Matias[1], Antonio S. Fernandes[1], Henrique B. Castelo[1]

The Authors analyze the results of Endoluminal Gastroplasty "StomaphyX" obese patients already receiving prior to bariatric surgery. The 15 patients in whom technique was used, 4 had previously undergone gastric Sleeve, 10 gastric bypass and 1 placement of a gastric band. All patients remained liquid diet / paste for 3 months postoperatively and were evaluated by Esophagogastroduodenoscopy at 6 months, confirming the maintenance of fasteners. We evaluated the weight loss at 1, 3 and 6 months of surgery as well as the improvement the feeling of satiety reported by all patients pre-application of the technique. The Authors conclude the benefits of endoluminal gastroplasty and advantages of this technique which can be used repeatedly in the same patient.

A successful case of safety weight loss using formula diet in alcoholic cardiomyopathy with obesity

[1]Internal medicine, Toho University Sakura Medical Center, Chiba, Japan
Hiroshi Mikamo[1],Kazuhiro Shimizu[1],Keiichi Hirano[1],Kakahiro Nakagami[1],Masayo Suzuki[1],Mao Takahashi[1],Takuo Iiduka[1],Yuukou Sugiyama[1],Hirohumi Noike[1],Kouji Shirai[1]

Introduction: We often experiences weight loss improve cardiac function in obesity with heart failure (HF). Recent study shows obesity may lead to left ventricular hypertrophy and systolic dysfunction. On the other hand, alcoholic cardiomyopathy is a common cause of DCM-like change. Alcohol effect on cardiac function can usually be reversible by abstinence from alcohol. Since alcohol addict often are complicated with metabolic syndrome, they should be treated comprehensively. Therefore, it is important to reduce weight of these patients. So, modern formula diet has been recommended as dietotherapy. However there are few reports on the use of formula diet for them. Previous report showed healthy obese patients died suddenly during use of the liquid-protein-modified-fast diet 30years ago. The cardiac accident appears to depend on diet duration and on whether protein and mineral nutritional status are maintained. Pronounced weight loss causing lack of these nutrients has been thought to produce a decrease in myocardial fiber size. However, the moderate caloric restriction could be performed enough safely by the modern formula diet including protein, vitamins, a mineral. We report a case of weight loss using formula diet after acute heart failure (AHF) treatment. Case report: 36-year-old obese male was hospitalized with dyspnea. On admission, his weight was 103.3kg, BMI 32.6kg/m2. Blood pressure was extremely high. Examinations revealed severe cardiac dysfunction, enlarged heart and pulmonary congestion. He had a ten-year history of alcohol abuse. As above, AHF due to alcoholic cardiomyopathy with obesity and hypertension was diagnosed according to the absence of coronary disease. After AHF therapy, weight loss using formula diet and cardiac rehabilitation were started. After these therapies, weight was reduced to 82kg. The cardiac function was improved without any cardiac accident during the hospital days. Conclusion: Weight loss using the formula diet for obese patient with HF was safe and useful.

Gastric Sleeve and Metabolic Syndrome

[1]Clinica Universitaria de Cirurgia 2, Hospital de Santa Maria / Faculdade de Medicina de Lisboa, Lisboa, Portugal

Joao M. Coutinho[1], Fatima M. Carepa[1], Jose S. Girao[1], Carlos M. Ferreira[1], Helena C. Pinto[1], Henrique B. Castelo[1]

The Metabolic Syndrome (MS) is a complex disease, associated with an increased cardiovascular risk, due to central fat distribution and insulin resistance. Today there are several treatments for MS, including bariatric surgery, that improve that cardiovascular risk. The authors present a group of 48 patients with MS, submitted to gastric sleeve procedure, and evaluate their BMI, body weight and MS at 6, 9 and 12 months after surgery. The MS improved with weight loss in all the patients, sometimes with full remission. The authors conclude that gastric sleeve surgery is a good option for the treatment of MS in obese patients.

Our experience in treatment of metabolic syndrome

[1]Faculty Surgery Clinic, State Medical University n.a. Pavlov, Saint-Petersburg , Russia
Michael B. Fishman[1],Valery Sedov[1]

Methods. A total of 439 patients underwent various bariatric procedures for 9 years were investigated. In 391 cases laparoscopic operations were done. LAGB was performed in 307 patients. Median age was 37. There were 253 (82,4%) women and 54 (17,6%) men. Average preoperative BMI was 42 kg/m2 (35 to 54). Beginning from 2007 we had performed 45 patients underwent LSG, 11 - LDS, 28 - LRYGB. Median age for the patients was 36 years, of them 63 (75%) were females and 21 (25%) males. BMI was in limits of 41-90 kg/m2. In the cohort of patients who underwent LAGB 68 (22,4%) suffered from metabolic syndrome (MS), LSG - 12 (26,6%), LDS - 100%, LRYGB - 16 (57,1%) respectively.Results. At North-West Russia obesity was found in 41,4%. After LAGB during first two years of follow up sugar level in blood became normal in 156 (52,3%) patients. Blood pressure became normal in 103 (34,5%). BMI was in limits of 26 - 38 kg/m2 with the same tendency in the following years. We managed best weight reduction mainly in women younger then 39 y. o., with BMI lower then 45 kg/m2. In 46 (15,4%) patients there were complications, among them 38 (12,7%) cases of bandage slippage. 17% of the patients were reoperated. Symptom-complex, that different MS was lost after LDS in 100 % and in 75% after LRYGB. No complications were identified after LSG, LDS and LRYGB. Conclusion. LAGB is an effective method of treatment for the patients with BMI lower then 45 kg/m2 in younger age cohort. LSG can be an alternative for LAGB.LDS and LRYGB are most effective operations in treatment of MS.

Irregular CPAP use induced visceral fat accumulation in obstructive sleep apnea regardless of daily sleepiness

[1]Department of Cardiovascular Center, Sakura Hospital, Medical Center, Toho University, Chiba, Japan
[2]Department of internal medicine, Sakura Hospital, Medical Center, Toho University Chiba, Japan
[3]Department of ophthalmology, Sakura Hospital, Medical Center, Toho University Chiba
mao takahashi[1],takashi hitsumoto[2],tomoaki shiba[3],kohji shirai[2]

Background: Obstructive sleep apnea syndrome (OSAS) is a common disorder in obese subjects. Occasionally OSAS causes excessive daily sleepiness (EDS) and resulted in adipose tissue accumulation. The other hand, there were many people who do not have daily sleepiness despite of sever OSAS. But the effect of continuous positive airway pressure (CPAP) treatment on visceral fat accumulation (VFA) in OSAS without sleepiness has not been known.

Material and Methods:VFA and subcutaneous fat accumulation (SFA) were assessed by CT before and 1 year after CPAP treatment in 47 OSAS patients(mean apnea and hypopnea index/Epworth sleepiness scale;40.7 times/h/5.4±4.5).The sample was divided according to CPAP therapy, with regular users defined as a minimum nightly use of(≥4 h /day≥75%/month);27 subjects were regular and 20 were irregular CPAP users.

Results: Neither the regular CPAP use group nor irregular CPAP use group showed any change in body mass index or subcutaneous fat area levels.VFA increased significantly after 1year of CPAP treatment in irregular user(171.3±68.5 to 161.2±72.4cm2 (-3.4±5.1%) vs 170.0±75.3 to 192.5±66.7cm2 (+13.4±14.6%), P<0.0061)

ConclusionsThese data suggested that irregular CPAP use induce visceral fat accumulation in patients with severe OSAS regardless of EDS. OSAS may have significant effects on the visceral fat accumulation without EDS.

Individualized intervention with Metabolic Stem Cell system after bariatric surgery

[1]Department of Complementary & Alternative Medicine, Osaka University Graduate School of Medicine [2]Department of Metabolic Medicine, Osaka University Graduate School of Medicine [3]Department of Gastroenterological Surgery, Osaka University Graduate School of Medicine
Miki Sakaue[1],Kazuhisa Maeda[1,2],Kei Hirai[1],Yasuhiro Miyazaki[3],Shuji Takiguchi[3],Yuichiro Doki[3],Toshinori Ito[1,3]

(Background) In addition to reducing body weight, ameliorating fat dysfunction by improving hypoadiponectinemia is crucial in protection against the development of metabolic syndrome. We recently started a Weight Management Clinic in order to perform integrated and individualized intervention for obese patients. Here we report 3 cases whose metabolic stem (MSC) cell as adipocyte precursors were obtained during bariatric surgery that can be used as a novel screening system for selecting patient-suitable drugs or supplements to enhance adiponectin secretion. (Method) MSC were prepared from fat tissues collected from 3 patients during bariatric surgery. Case1: 24yo male BMI 52 adiponectin 3.5ug/ml Case2: 24yo female BMI 46 adiponectin 5.3ug/mlCase3: 40yo female BMI 40 adiponectin 1.7ug/mlMSCs were differentiated in cultures into mature adipocytes and treated with drug or supplementation medium every 48 hours. Levels of adiponectin were measured in the culture medium. Dividing the adiponectin secretion on day 12 by that on day 10 provided an estimate of adiponectin-producing activity in culture. (Result) Using this score, we assessed 80 candidate agents in a 96-well plate. Moreover, we identified some novel adiponectin up-regulatory effects for several substances, including Turmeric and Ryukyu herb. Even after weight reduction achieved by surgery, additional enhancement of adiponectin was observed in all cases with suitable supplementation. (Case1: adiponectin 7.4 ug/ml, Case2: adiponectin 10.1 ug/ml, Case3: adiponectin 2.1ug/ml)(Conclusion) MSC system is able to identify potential responders to specific agents. This can be applied to post-operative individualized intervention for morbid obese patients.

Diabetic complications stratified by past maximum body mass index

[1]Center of Diabetes, Endocrine and Metabolism, Toho University Sakura Medical Center [2]Department of Internal Medicine, Toho University Sakura Medical Center
Takashi Yamaguchi[1], Atsuhito Saiki[1], Noriko Ban[1], Hidetoshi Kawana[1], Daiji Nagayama[1], Ayako Nagumo[1], Masahiro Ohira[1], Kei Endo[1], Tomokazu Oyama[1], Yoh Miyashita[1], Kohji Shirai[2]

Background: In Japan, prevalence of obesity (especially high degree obesity values 35<BMI) is relatively low. Therefore, relationship between degree of obesity and development of diabetic complications has not been fully understood.Objective: To investigate the impact of past maximum BMI on the subsequent development of diabetic complications.Methods: One hundred inpatients with type 2 diabetes were divided into 3 groups according to each patient's past maximum BMI; Group A: 25<BMI<30, Group B: 30<BMI<35 and Group C: 35<BMI. There were no significant differences in mean age, duration of diabetes and HbA1C among all groups. And we compared the prevalence of diabetic complications as well as other obesity-related complications among groups retrospectively.Results: Mean past maximum BMI of each group (Group A, B and C) were 28.4, 32.1 and 37.3 respectively. In group C, the difference between past maximum BMI and mean current BMI (30.2) was greater than in other groups. A rate of Insulin use was significantly higher in Group C than in Group A (Odd ratio: 6.3). With increase in past maximum BMI, the prevalence of diabetic retinopathy, nephropathy and neuropathy became higher (Odd ratio; retinopathy: 3.4, 7.6, nephropathy: 3.9, 12.3 and neuropathy: 6.9, 14.8). The prevalence of diabetic macro angiopathy (includes coronary artery disease, cerebral infarction and peripheral artery disease) also tended to be higher in Group C than in other groups (Odd ratio: 2.1, 2.7). Arterial stiffness (evaluated by cardio-ankle vascular index) was significantly higher in Group C than in Group A (7.7vs9.8). The prevalence of the other obesity-related complications (sleep apnea syndrome, osteoarthritis, liver dysfunction) showed similar results.Conclusion: Degree of obesity may associate with future development of obesity-related complications, especially with diabetic complications.

Background: The impact of a degree of obesity on the development of diabetic and other obesity-related complications is not fully understood.Objective: To investigate the impact of a maximum BMI in the past history on the development of diabetic and other obesity-related complications.Methods: One hundred inpatients with type 2 diabetes were divided into 3 groups according to each patients maximum BMI in the past history (max BMI); Group A: 25<BMI<30, Group B: 30<BMI<35 and Group C: 35<BMI. And we compared the prevalence of diabetic complications as well as other obesity-related complications among groups.Results: Mean max BMI (Group A, B and C) were 28.4, 32.1 and 37.3 respectively. In all groups, mean present BMI (25.8, 27.4 and 30.2) were significantly lower than those of max BMI. There were no significant differences in mean age, duration of diabetes and HbA_{1C} among all groups. A rate of Insulin use was significantly higher in Group C than Group A (Odd ratio: 6.3). The prevalence of diabetic retinopathy, nephropathy and neuropathy became higher accompanied with increased max BMI (Odd ratio; retinopathy: 3.4, 7.6, nephropathy: 3.9, 12.3 and neuropathy: 6.9, 14.8). The prevalence of diabetic macro angiopathy (includes coronary artery disease, cerebral infarction and peripheral artery disease) tended to be higher in Group C than the other groups (Odd ratio: 2.1, 2.7). Arterial stiffness (evaluated by cardio-ankle vascular index) was significantly higher in Group C than Group A (7.7 vs 9.8). The prevalence of the other obesity-related complications (sleep apnea syndrome, osteoarthritis, liver dysfunction) showed similar results.Conclusion: A degree of obesity in the past history might be associated with the development of obesity-related complications, especially with diabetic complications.

Psychosocial Assessments of Japanese Severe Obese Patients before Intragastric Balloon Placement Therapy.

[1]Department of Stress Sciences and Psychosomatic Medicine, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan [2]Depertment of Gastrointestinal Surgery, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan [3]Department of Diabetes and Metabolic Diseases, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

Shuji Inada[1], Yoshiyuki Takimoto[1], Kazuhiro Yoshiuchi[1], Fumihiko Hatao[2], Yusuke Hada[3], Sumie Okahata[3], Toshimasa Yamauchi[3], Takashi Kadowaki[3], Akira Akabayashi[1]

Bariatric surgery was not so popular in Japan as in other countries. Instead, intragastric balloon placement therapy has been performed in our hospital since 2007. The results of bariatric surgery and intragastric balloon placement therapy could be influenced by patient's psychosocial factors, and vice versa. Therefore it is important to assess psychosocial factors before procedures. The purpose of the present preliminary study is to explore characteristics of psychosocial factors of Japanese obese candidates for intragastric balloon placement therapy. Eligible patients for this study were adult obese ones classified to class II or higher (body mass index [BMI] was over 35kg/m^2) who applied to receive intragastric balloon placement therapy. Thirteen male (44.8±8.7 years) and 14 female patients (51.4 ±9.6 years) were candidates for the therapy and received an initial psychosocial assessment between 2007 and 2010. Mean BMI was 42.6kg/m^2 in the male patients and 43.2kg/m^2 in the females. Five patients had psychiatric comorbidity. The psychosocial assessment included an interview about weight history, lifestyle, and psychiatric history, and questionnaires about mood states, coping skills, self-esteem, and social support. We evaluated correlations between initial BMI and the psychosocial factors. There was a significant negative correlation between initial BMI and problem-focused coping ($r = -0.485$, $p = 0.012$). In the subscales of the problem-focused coping, planful problem solving ($r = -0.393$, $p = 0.047$) and confrontive coping ($r = -0.473$, $p = 0.015$) had negative correlations with BMI. In conclusion, heavier patients might have poorer ability to solve their own problems including their weight and diet. Because this study was cross-sectional, it is necessary to assess prospectively the influence of preoperative psychosocial factors on outcomes of intragastric balloon placement therapy and vice versa.

First experience of laparoscopic sleeve gastrectomy for morbid obesity in our OR

[1]Chiba University Hospital, Nursing [2]Research Center for Frontier Medical Engineering, Chiba University
[3]Department of Frontier Surgery, Graduate School of Medicine, Chiba University
Megumi Kanoh[1],Norihiro Kameda[1],Yuki Miyake[1],Mami Yoshida[1],Sizue Komoda[1],Hiroshi Kawahira[2],Toshiyuki Natsume[3],Hideki Hayashi[2],Hisahiro Matsubara[3]

Introduction: Laparoscopic approach to bariatric surgeries has been penetrating into our country and first case of laparoscopic restrictive surgery for morbid obesity has been performed until 2010 in our hospital. Perioperative nursing experience of the case will be reported.*Patient and Methods:* A 39-year-old, 132 kg man (height 170cm, BMI 45.7) was planned to undergo laparoscopic sleeve gastrectomy for weight reduction under general anesthesia. His medical background included hypertension, sleep apnea and gall stone. Setting in operating theatre was designed on the basis of that for laparoscopic gastrectomy for gastric cancer in our OR. The patient was positioned supine with thighs abducted and 30 degrees reverse Trendelenburg. Lithotomy positioning device (Levitator™), which was routinely used for the operating position of laparoscopic gastrectomy, were revealed to be too small for the patient, thus, leg section of electric operating table was switched between right and left part to obtain wide area for abducted thighs. Intermittent pneumatic compression devices were also equipped during surgery.*Results:* Operative procedures were completed within 3 hours with little blood loss. However, the patient noted numbness and mild foot drop of right leg right after surgery. Examination by a neurologist on the second postoperative day revealed right peroneal palsy. Slow, but complete recovery occurred over three month. *Discussions:* Photographical review of the OR setting could not reveal any mechanical compression of the site. However, repeated checkup of the whole body of patient during operation was suggested to be important to this type of surgery.

The effects of regular advice-messages via to internet with cell phone on diet using formula diet supplements.

[1]Graduate School of Medicine, Study of Medical System Management, Nagoya University [2]Clinical Pharmacy, Department of Pharmacy, Kinjo Gakuin University [3]Information Culture, Kinjo Gakuin University

Hiroshi Gohma[1], Mika Asano[2], Yuko Aoyama[1], Rina Fujii[2], Konatsu Hayashi[2], Chihiro inoue[2], Tomomi Kawanishi[2], Katsuo Amioka[2], Makoto Nakao[2], Sin-ichi Sugiura[1]

Since WHO has proposed the criteria of metabolic syndrome in 1998, obesity is focused as a risk factor of life-style related diseases. In the result, many formula diet supplements which aimed weight loss have been market in the world. Although the formula diet supplements have nutritional availability, some users fail to loss their weight due to their lack of knowledge, or gain weight due to the rebound phenomenon. Therefore it is thought that the formula diet supplements are not effective to weight loss, despite their price. However we propose that the users might be able to be loss their weight by giving advice-messages regularly. In this study, we evaluated whether the regular advice-messages via to internet with cell phone were effective to the subjects who intake formula diet supplements. A total 20 subjects with BMI more than 23 were recruited. They were divided into two groups by an advice group or no advice group. Each group received formula diet supplements for 12weeks, and was provided consecutive 12 weeks as follow up. The advice group was provided an advice-messages everyday during trial, while the no advice group was provided nothing during same period. We evaluated weight and BMI as parameter in this study.Each group lost their weight compared to their initial value. No significant difference was indicated between both groups in their weight and BMI. This study was finished the period that each group intake the formula diet supplements. Follow up for 12 weeks is performed at present. We hypothesize that the deference is indicated between both group in their weight and BMI during follow up period. We will report the effect of advice-messages during follow up period in the congress.

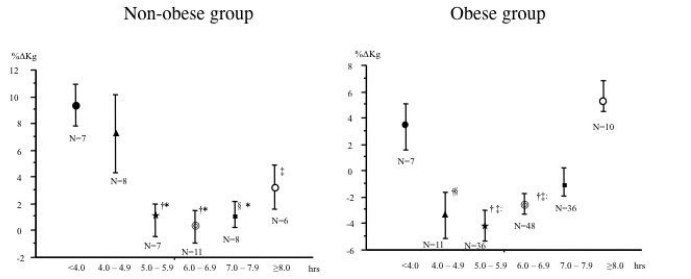
Hours of nightly nasal continuous positive airway pressure use is associated with weight change in patients with obstructive sleep apnea-hypopnea syndrome

[1]Department of Laboratory Medicine, Iwate Medical University School of Medicine, Devision of Behavioral Sleep Medicine [2]Department of Laboratory Sleep Medicine, Iwate Medical University School of Medicine [3]Department of Respirology, Hachinohe Red Cross Hospital

Tsuguo Nishijima[1], Keisuke Hosokawa[1], Sayaka Ishidoya[3], Susumu Takahashi[1], Hiroshi Kagami[3], Keijiro Suzuki[1], Akira Suwabe[1], Shigeru Sakurai[2]

Nasal continuous positive airway pressure (nCPAP) is known to alleviate sleep-related disturbances and may reduce the risk of hypertension and cardiovascular disease. Using an electronic database of number of hours of nightly CPAP use, we estimated the habitual sleep time of patients during nCPAP and examined its relationship to association with changes in body weight. In obese patients with obstructive sleep apnea-hypopnea syndrome (OSAHS), percent weight gain over 9 years displayed a U-shaped relationship with the minimal weight gain in patients with 5 to 6 hours of habitual sleep. In contrast, weight gain was the largest in patients with sleep time of less than 4 hours per night or more than 8 hours per night. These results suggest that changes in body weight in patients with OSAHS are associated more with habitual sleep time.

Fig. 1: Hours of CPAP use and change in body weight



Hours of CPAP use and change in body weight in the non-obese group
Significance of differences in percent change in body weight relative to the group with sleep time less than 4 hours (‡: p<0.05, †: p<0.005, §: p<0.001). Comparison of each group with the 4.0 ≤ Sleep time <5.0 group (✱: p<0.05).

Hours of CPAP use and change in body weight in the obese group
Significance of differences in body weight changes relative to the group with sleep time less than 4 hours(†: p<0.05). Significance of differences in body weight changes relative to the group with sleep time less than 8 hours(§ : p<0.05, ‡: p<0.01).

Sleep time: Each patient was interviewed as to the time from nCPAP application until falling asleep on a representative day during the therapy (A) and the time from waking in the morning until removal of the nCPAP device (B). A+B was subtracted from average device usage time (C, hereinafter simply called "average usage") to yield the sleep time on CPAP per day (hereinafter called "sleep time"). Subjects were also asked about daily exercise time during the interview. **Sleep time on CPAP (ST-CPAP)** ＝C－(A＋B). **%ΔKg**: Change in body weight by the time of measurement (body weight at a given time point - baseline body weight) ÷ baseline body weight x 100

Title: Successful application of a new stapler with reinforcement installed to sleeve gastrectomy in bariatric surgery

Hiroko TORII MD*, Yuhki OZAMOTO MD*#, Takeshi TOGAWA MD, PhD*#, Isao KAWAMURA MD, PhD+, Akeo HAGIWARA MD, PhD#
*Kusatu General Hospital, #Doshisha University, +Kamagaya General Hospital

In patients undergoing sleeve gastrectomy, the gastric wall is often thick and readily breakable due to adipose tissue accumulating in the submucosa and the musclularis. When sleeve gastrectomy is performed on such patients, conventional staplers often break or fail to suture the thick and fragile gastric wall, sometimes resulting in serious post-operative complications such as bleeding and/or anastomotic leakage. As a countermeasure for this problem, we have used a newly available type of stapler, which sandwiches a strip of reinforcement between the staples and the tissue. By stapling the gastric wall from the reinforcement layered atop, the stapler prevents breaking of the tissue and ineffective stapling. The layer of the reinforcement and the gastric wall seems to have a proper physical strength for stapling. Since the introduction of the device, we have experienced no post-operative complications stemming from suture errors. This new stapler can be useful in sleeve gastrectomy.

Enhanced glucagon-like peptide (GLP-1) secretion leads to rapid improvement of glucose tolerance and insulin secretion after laparoscopic sleeve gastrectomy (LSG)

Satoshi Ugi[1], Hiroshi Yamamoto[2], Chisato Kusunoki[1], Azusa Kamo[1], Tetsuya Hashimoto[1], Yoshihiko Nishio[1], Kazunori Kasama[3], Toru Tani[2], Atsunori Kashiwagi[1], and Hiroshi Maegawa[1]
Departments of [1]Medicine and [2]Surgery, Shiga University of Medical Science, and [3]Yotsuya Medicalcube Hospital

【Objective】 Bariatric surgery, especially Roux-en-Y gastric bypass (RYGP), has been shown to resolve T2DM. Although the mechanism by which RYGP improves T2DM have yet to be fully determined, the most possible mechanism of this is assumed to be increment of GLP-1 secretion. LSG has been designed as the first of a two-stage procedure for the high-risk, super-obese patient. Recently LSG has been studied as a single-stage procedure because of excellent weight loss and low incidence of complications. However, little is known about the impact of LSG on glucose homeostasis. We performed LSG in two diabetic patients and both showed rapid and profound improvement of glucose tolerance after LSG.

【Methods】 We performed glucose tolerance test (GTT) before and twenty days after surgery and analyzed area under the curve of plasma glucose, insulin and GLP-1 ; $AUC_{glucose}$ (mg/dl·hr), $AUC_{insulin}$ (μU/ml·hr), AUC_{GLP-1} (pmol/l·hr), and fasting ghrelin levels.

【Results】 The first case had received metoformin 750mg/day for three years. HbA1c was 6.3%. Twenty days after surgery, BMI decreased from 38.0 to 36.4 (-4.1kg). Although $AUC_{glucose}$ slightly decreased (510 to 457), both $AUC_{insulin}$ and AUC_{GLP-1} dramatically increased (122 to 216 and 6.4 to 68.5, respectively). Three months after surgery, HbA1c was 5.5% without medication. Second case also showed great improvement of glucose tolerance with enhancement of insulin and GLP-1 secretion. Ghrelin levels were significantly decreased in both cases. Enhanced GLP-1 secretion is specific to bariatric surgery, because weight reduction by diet therapy did not enhance GLP-1 secretion.

【Conclusion】 These results suggest that LSG can lead to rapid improvement of glucose tolerance and insulin secretion along with GLP-1 secretion. Reduction in ghrelin levels may also contribute to improvement of glucose tolerance. Thus, LSG will be ideal procedure for obesity with T2DM.

Duodenal switch for failed gastric banding

Dr Daniel KRAWCZYKOWSKI, Dr Youssef El SOUKI

Centre Hospitalier Regional de Metz 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). Each of the two components can be performed separately.

Method

Between May 2003 and July 2008, 38 patients with an uncomplicated and well tolerated adjustable gastric banding (AGB) sustained an additional DS for an inadequate initial excess BMI loss (IEBMIL) (BMI >30) or for persisting curable co-morbid condition. Most of the bands were kept deflated.

Results

So far, 16 patients remained with the band associated to the DS while 22 patients had a later band removal for convenience, intolerance or IEWL (6 patients had a conversion to SG and 16 patients are free of any restriction). All glycemic and high cholesterol problems were resolved.

BMI before AGB	BMI before DS	Type of restriction	Differential evolution of BMI		% IEBMIL	
			At 1 Y	At 2 Y	At 1 Y	At 2 Y
46.9 (35.4 - 61.7)	40.9 ± 6.9	AGB	32.3±5	30.6±4.5	67.5±22.8	65.9±18.9
		SG	29.9±7.6	28.6±3.8	77.2±16.2	81.9±11.9
		Without restriction	33.7±5.5	32.9±6.0	61.8±24.8	64.9±29.5

Conclusion:

Additional DS is feasible. With or without any restriction, it contributes to patients weight loss and to resolve curable co-morbid condition. Although AGB + DS, isolated DS or debanding and SG and are options for failure AGB further studies are needed.