

Metabolic Surgery in Asia

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Type 2 diabetes mellitus (T2DM) is now a global health priority. It was estimated that more than 240 million people in the world are affected 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 debilitating 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 ($BMI > 35 \text{ Kg/m}^2$). 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

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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.

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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

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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 7 women was 51 years (range, 35-65 years); mean BMI, 23.6 (range, 22.9-24.7 kg/m²); 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

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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, Ca²⁺, 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/m²

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/m² 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/m² 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/m²

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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 LMGB in non-obese T2DM patients (BMI < 30 kg/m²).

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/m², 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 in 13 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/m²). 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

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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

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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

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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 obesity has 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 or drug therapy available to treat the morbidly obese. On the other hand, bariatric surgery has been proven to be effective, providing marked and lasting weight loss, ranging from 47.5% to 70.1% of excess body weight. These results are achieved in relative safety, with operative mortality equal or less than that for other major operative procedures (about 0.5%). The weight loss outcome, results in dramatic improvement on the co-morbid conditions of morbid obesity.

The major medical co-morbid conditions can be divided into those where reversal or improvement has been proven such as type 2 diabetes, hyperlipidaemia, hypertension, obstructive sleep apnea, etc and those where reversal or improvement are 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 an increase in longevity.

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

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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 bile 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

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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

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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-1 α and PPAR γ 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

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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

Consensus of Diabetic Surgery Summit (DSS)

Impact on Asian population

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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 $>35\text{kg/m}^2$ 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/m^2). 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.

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

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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 and 17.5 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.

References:-

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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 morbidly 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.

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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, worldwide 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.