Comparison between Early Results of Laparoscopic Mini Gastric Bypass and Sleeve Gastrectomy Regarding Weight loss, Remission of Type II Diabetes Mellitus and Hypertension

Retrospective Study

Thesis

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List of Abbreviations

Abb.	Full term
A	*Artery*
BMI	*Body mass index*
CCK	*Cholecystokinin hormones*
CT	*Computed tomography scan*
DS	*Dumping syndrome*
DVT	*Deep venous thrombosis*
EC	*Eneterochromaffin cells*
ECL	*Enterochromaffin like cells*
EWL	*Excess weight loss*
GB	*Gall bladder*
GERD	*Gastroesophageal reflux disease*
GI	*Gastrointestinal*
GIF	*Gastric intrinsic factor*
GIP	*Glucose dependent Insulin tropic peptide*
GIQL	*Gastrointestinal quality of life index*
GLP-1	*Glucagon-like peptide 1*
GRP	*Gastrin releasing peptide*
HCL	*Hydrochloric acid*
IF	*Intrinsic factor*
KG	*Kilograms*
LMGB	*Laparoscopic minigastric bypass*
LRYGB	*Laparoscopic Roux-en-Y gastric bypass surgery*
LSG	*Laparoscopic sleeve gastrectomy*
MGB	*Minigastric bypass*
NAC	*Nucleus accumbens*
NICE	*National Institute for Health & Care Excellence*

List of Abbreviations cont...

Abb.	Full term

OT .....*Operative time*
PO .....*Per oral*
PODs .....*Postoperative days*
PYY .....*Peptide-YY*
QID .....*Quarter-in-die (four times a day)*
RYGB .....*Roux-en-Y gastric bypass surgery*
SG .....*Sleeve gastrectomy*
T2DM .....*Type II diabetes mellitus*
UGI .....*Upper gastrointestinal endoscopy*
VIP .....*Vasoactive intestinal peptide*
VTA .....*Ventral tegmental area*

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INTRODUCTION

Bariatric surgery has long been introduced for weight control in conservative treatment failed individuals ***(Yingjun et al., 2015)***. Compared with nonsurgical strategies, bariatric surgery proves more effective for moderately to severely obese people to lose weight ***(Picot et al., 2009).*** Patients vary in their responses to bariatric operations. Most patients change their diets ***(Sarwer et al., 2008).*** Other factors that influence weight loss include age, gender, race, body composition, education, emotional status, and level of activity ***(Schauer et al., 2003).***

The most remarkable effects of bariatric surgery is the full and rapid remission of type 2 diabetes mellitus ***(Walter, 2008)*** and improvement of metabolic/cardiovascular risk factors in severely obese patients ***(Ricardo et al., 2013).*** The short-term (decreased caloric intake) and long-term results (decreased fat mass and body weight) of bariatric surgery complementarily lead to improvement in glucose metabolism, insulin resistance, change in adipocytokines release and quality of life ***(Andrew et al., 2005).***

The sleeve gastrectomy is a laparoscopic procedure. This involves making four or five small incisions in the abdomen and performing the procedure using a video camera (laparoscope) and long instruments that are placed through these small incisions ***(D'Hondt et al., 2011).***

During the laparoscopic sleeve gastrectomy (LSG), about 75% of the stomach is removed leaving a narrow gastric “tube” or “sleeve”. No intestines are removed or bypassed during the sleeve gastrectomy. The LSG takes one to two hours to complete.

Sleeve gastrectomy is a restrictive procedure. It greatly reduces the size of your stomach and limits the amount of food that can be eaten at one time. It does not cause decreased absorption of nutrients or bypass your intestines. After eating a small amount of food, you will feel full very quickly and continue to feel full for several hours.

Sleeve gastrectomy may also cause a decrease in appetite ***Kansou et al. (2016),*** this procedure is primarily used as part of a staged approach to surgical weight loss. Patients who have a very high body mass index (BMI) or who are at risk for undergoing anesthesia or a longer procedure due to heart or lung problems may benefit from this staged approach. Sometimes the decision to proceed with a two-stage approach is made before surgery due to these known risk factors. In other patients, the decision to perform sleeve gastrectomy (instead of gastric bypass) is made during the operation. Reasons for making this decision intraoperatively include an excessively large liver or extensive scar tissue that would make the gastric bypass procedure too long or unsafe.

In patients who undergo LSG as a first stage procedure, the second stage (gastric bypass) is performed 12 to 18 months later after significant weight loss has occurred and the risk of anesthesia is much lower (and the liver has decreased in size). Though this approach involves two procedures, we believe it is safe and effective for selected patients.

Laparoscopic sleeve gastrectomy can also be used as a primary procedure.

Depending on their pre-operative weight, patients can expect to lose between 40% to 70% of their excess body weight in the first year after surgery.

Many obesity-related comorbidities improve or resolve after bariatric surgery. Diabetes, hypertension, obstructive sleep apnea and abnormal cholesterol levels are improved or cured in more than 75% of patients undergoing LSG. The weight loss that occurs after LSG results in dramatic improvement in these medical conditions in the first year after surgery.

Gastric bypass surgery is an operation that creates a small pouch to restrict food intake and bypasses a segment of the small intestine. In the gastric bypass procedure, a surgeon makes a direct connection from the stomach pouch to a lower segment of the small intestine, bypassing the duodenum (the first part of the small intestine) and some of the jejunum (the

second part of the small intestine), delaying the mixing of ingested food and the digestive enzymes ***(Kim et al., 2014).***

Laporoscopic mini gastric bypass is the most common type of bariatric surgery. The surgeon begins by creating a small pouch by dividing the upper end of the stomach. This restricts the food intake. Next, a section of the small intestine is attached to the pouch to allow food to bypass the duodenum, as well as the first portion of the jejunum. The small intestine is re-connected 150 centimeters from the pouch to allow ingested food and digestive enzymes to mix ***(Kansou et al., 2016).***