Role of Surgical Laparoscopy in the Management of Morbid Obesity

Essay

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{ وقل اعملوا فسيري الله عملكم و رسوله و المؤمنون }

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Amr Afifi Saif.

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LIST OF ABBREVIATIONS

AL	Alimentary limb
BMI	Body mass index
BPD	Biliopancreatic diversion
CHO	carbohydrate
CL	Common limb
CPAP	continuous positive airway pressure
CHD	Coronary heart disease
DVT	Deep venous thrombosis
DS	Duodenal switch operation
EWL	Efficient weight loss
GBP	gastric bypass
GERD	Gastro esophageal reflux disease
GI	Gastrointestinal
HDL	High density lipoprotein
HIV	Human Immunodeficiency Virus
IAP	Intra abdominal pressure
JIB	Jejunoileal bypass
LAGB	laparoscopic adjustable gastric banding
LAGB	Laparoscopic adjustable silicon gastric banding
LMGB	Laparoscopic mini gastric bypass

LRYGB	Laparoscopic Roux - en- Y gastric bypass
LSG	Laparoscopic sleeve gastrectomy
LDL	Low density lipoprotein
MO	Morbid obese
NAFLD	Non alcoholic fatty liver disease
NIDDM	Non insulin dependent diabetes mellitus
NSAID	non steroidal anti-inflammatory drug
PE	Pulmonary Embolism
RYGB	Roux-en-Y gastric bypass
SAD	seasonal affective disorder
SSRIs	Selective serotonin reuptake inhibitors
SR	Sustained release
T2DM	Type 2 diabetes mellitus
TSH	Thyroid stimulating hormone
USPSTF	United states Preventive Services Task Force
VBG	Vertical banded gastroplasty
VLDL	Very Low density lipoprotein
WLS	Weight loss surgery

AIM OF THE WORK

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The main goal of this review is to emphasize the role of laparoscopic procedures in management of morbid obesity and to assess its advantages and disadvantages.

INTRODUCTION

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Overweight has been defined by body mass index (the weight in kilograms divided by the square of the height in meters) of 25 or higher; obesity by an index of 30 or higher and extreme or "morbid" obesity by an index of 40 or higher representing at least 100 pounds for man and 80 pounds for woman **(Flegal et al., 2002).**

Obesity was identified as a disease thirty years ago when the WHO listed obesity as a disease condition in its International Classification of Diseases in 1979. The prevalence of obesity, and especially of morbid obesity, is increasing worldwide and it is today becoming a significant health hazard **(Buchwald, 2005).**

Obesity is a major public health and economic problem of global significance. Prevalence rates are increasing in all parts of the world, both in affluent Western countries and in poorer nations. Men, women and children are affected. Indeed, over- weight, obesity and health problems associated with them are now so common that they are replacing the more traditional public health concerns such as under- nutrition and infectious disease as the most significant contributors to global ill health. In 1995, the excess adult mortality attributable to over-nutrition was estimated to be about 1 million deaths, double the0.5million attributable to under- nutrition **(Antipatis, and Gill, 2001).**

Obesity is associated with an increased risk for type 2 diabetes, hypertension, dyslipidaemia, cardiovascular diseases, musculoskeletal disorders (such as osteoarthritis), certain types of cancer, and mortality **(Picot et al., 2009).**

Unfortunately, diet therapy, with and without support organizations, is relatively ineffective in treating obesity in the long term. There are currently no truly effective pharmaceutical agents to treat obesity, especially morbid obesity **(Buchwald, 2004).**

Bariatric surgery for obesity is a major surgical intervention with a risk of significant early and late morbidity and of perioperative mortality. Contraindications for bariatric surgery include poor myocardial reserve, Significant chronic obstructive airways disease or respiratory dysfunction, non-compliance of medical treatment and psychological disorders of a significant degree. Many types of bariatric surgery require long-term supplementation with vitamins and iron, and patients often have a very restricted liquid diet in the immediate weeks after surgery. Hospital stay is generally between two to seven days for most procedures, typically one to two days for sleeve gastrectomy, and zero to one day for gastric banding Surgery aims to reduce weight and maintain any loss through restriction of intake or mal-absorption of food, or a combination of these **(Colquitt, 2014).**

Minimally invasive approaches have been used in bariatric surgery since 1993 when Balechew reported first laparoscopic adjustable gastric Banding **(Kriplani, 2009)**.

Witgrove and Clark reported first laparoscopic gastric bypass from the USA in 1994. The benefits of a laparoscopic approach appear to be similar to those realized with laparoscopic cholecystectomy, including but not limited to minimal incisional scars, less postoperative pain, increased mobility shortened hospital stay and shorter convalescent time. In addition, wound complications such as infection abdominal wall hernia, seroma and hematoma are significantly

reduced. Open bariatric operation had certain advantages over laparoscopic procedures. But in the present era of advanced laparoscopy, greater ease and speed for lysis of adhesions, freedom to use fine suture technique and materials, greater facility to perform ancillary procedures possibly a lower incidence of certain peri-operative complications (e.g., leaks, hemorrhage), and decreased risk of specific long term complications (e.g., anastomotic strictures, internal hernias, bowel obstructions) make laparoscopy a preferred option. By 2003, nearly two-thirds of bariatric procedures worldwide were performed laparoscopically **(Kriplani, 2009).**

Bariatric surgical procedures can be classified as primarily malabsorptive or primarily restrictive. The latter are defined based on mechanical restriction or limitation of the size of the stomach and include surgical procedures such as laparoscopic adjustable gastric banding and laparoscopic sleeve gastrectomy, this procedure is irreversible, primarily malabsorptive bariatric surgical procedures such as Roux-en-Y gastric bypass **(Picot et al., 2009).**

Outcomes of bariatric surgery are getting better all the time, as surgeons gain experience in performing these technically demanding procedures laparoscopically. The risks are not trivial, but they are acceptably low, The benefits not only do patients lose weight and keep it off, now there are convincing data that many patients are cured of obesity-related diseases, notably type 2 diabetes. In fact, the procedure may pay for itself within a few years by reducing medical costs due to obesity-related illness, Best of all; the long term mortality rate seems to be lower for morbidly obese patients who undergo this surgery than for those who do not **(Brethauer et al., 2006).**

Chapter 1

ANATOMY

- **Anatomy of stomach**
- **Anatomy of small intestine**