

LAPAROSCOPIC GASTRIC PLICATION IN MANGEMENT OF MORBID OBESITY

Essay

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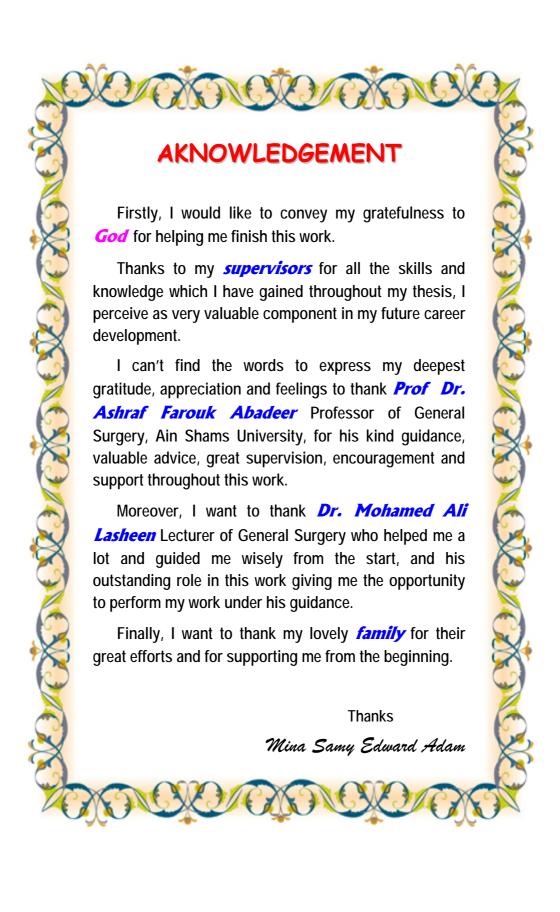
طى المعدة عن طريق المنظار الجراحى لعلاج السمنة المفرطة

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LIST OF ABBREVIATIONS

AGB	Adjustable gastric banding
AgRP	agouti-related peptide
AMA	American medical association
ARC	Arcuate nucleus (of hypothalamus)
ATP	Adenosine triphosphates
BMI	body mass index
BPD/DS	Biliopancreatic diversion/duodenal switch
CCK	Cholecystokinin
DVT	Deep venous thrombosis
EWS	Excess weight loss
GLP-1	Glucagon-like peptide 1
GRP	Gastrin-releasing-peptide
LGCP	Laparoscopic greater curvature placation
LMWH	low molecular weight heparin
NPY	Neuropeptide Y
POMC	pro-opiomelanocortin
PYY	Peptide YY
RYBG	Reux-en-Y gastric bypass
THC	Tetrahydrocannabinol

List of abbreviations

TWL	Total weight loss
VBG	Vertical banded gastroplasty
VSG	Vertical sleeve gastrectomy

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INTRODUCTION

Obesity:

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to reduced life expectancy and/or increased health problems. Body mass index (BMI), a measurement which compares weight and height, defines people as overweight (preobese) if their BMI is between 25 and 30 kg/m², and obese when it is greater than 30 kg/m².

The Greeks were the first to recognize obesity as a medical disorder. Hippocrates wrote that "Corpulence is not only a disease itself, but the harbinger of others" The Indian surgeon Sushruta (6th century BCE) related obesity to diabetes and heart disorders. He recommended physical work to help cure it and its side effects. For most of human history mankind struggled with food scarcity. Obesity has thus historically been viewed as a sign of wealth and prosperity. It was common among high officials in Europe in the Middle Ages and the Renaissance as well as in Ancient East Asian civilizations.

Obesity increases the likelihood of various diseases, particularly heart disease, type 2 diabetes, breathing difficulties during sleep, certain types of cancer, and osteoarthritis. Obesity is most commonly caused by a combination of excessive food energy intake, lack of physical activity, and genetic susceptibility, although a few cases are caused primarily by

genes, endocrine disorders, medications or psychiatric illness. Evidence to support the view that some obese people eat little yet gain weight due to a slow metabolism is limited; on average obese people have a greater energy expenditure than their thin counterparts due to the energy required to maintain an increased body mass.⁽¹⁾

Obesity is one of the leading preventable causes of death worldwide. Large-scale American and European studies have found that mortality risk is lowest at a BMI of 20-25 kg/m² in non-smokers and at 24-27 kg/m² in current smokers, with risk increasing along with changes in either direction. A BMI above 32 has been associated with a doubled mortality rate among women over a 16-year period. In the United States obesity is estimated to cause an excess 111,909 to 365,000 deaths per year, while 1 million (7.7%) of deaths in the European Union are attributed to excess weight. On average, obesity reduces life expectancy by six to seven years: a BMI of 30-35 reduces life expectancy by two to four years. While obesity (BMI > 40) also known as (Morbid Obesity) reduces life expectancy by 10 years. (2)

Medical (nonsurgical) weight loss therapies include combinations of diet, exercise, behavioral therapies, and medications. In 1998, an NIH (National Institutes of Health) expert panel, upon critical review of the literature, concluded that these modalities, either alone or in combination, can induce modest weight loss that confers health benefits to the patients. However, the weight loss induced by these therapies is often short lived. Furthermore, medical management must continue

indefinitely to be effective, or weight regain is common. Such medical therapies have not been shown to be effective in maintaining long-term weight loss in a morbidly obese patient population. Thus, most physicians realize that surgery remains the best option for many morbidly obese patients. Because severe obesity is associated with increased risk for premature death, the 1991 NIH consensus panel set out guidelines for surgical therapies in patients with extreme obesity (BMI 40 kg/m² or 35-40 kg/m² with co morbidities). To clear, morbidly obese people may be eligible for bariatric surgery. Bariatric surgery for morbid obesity is considered an intervention of last resort for patients who have attempted first-line forms of medical management, such as diet, increased physical activity, behavioral modification, and drugs.⁽³⁾

Bariatric Surgeries:

Men and women with morbid obesity may be eligible for surgical intervention. There are numerous different surgical procedures, with several different variations. The procedures can be divided into 2 general types: malabsorptive (bypassing parts of the gastrointestinal tract to limit the absorption of food) and restrictive (decreasing the size of the stomach in order for the patient to feel satiated with a smaller amount food). All can be performed either as open surgery or laparoscopically. (4)

Malabsorptive interventions include:

- 1- Biliopancreatic diversion which involves removing a large part of the stomach to control oral intake, followed by reconstructing the small intestine to divert the bile and pancreatic juices so they meet the ingested food closer to the middle or the end of the small intestine. (4)
- 2- Roux-en-Y gastric bypass (RYGB) which combines restriction and malabsorption techniques and creates a small gastric pouch and an intestinal bypass (4)

While restrictive interventions include:

Vertical banded gastroplasty (VBG), which involves dividing the stomach into 2 parts. The aim is to cause the patient to feel satiated from a limited intake of food, owing to the reduced capacity of the small upper section of the stomach and the slow emptying through a small gap into the rest of the digestive system. (4) Adjustable gastric banding (ABG) that limits food intake by placing a constricting ring completely around the stomach below the junction of the stomach and esophagus. Early bands were nonadjustable, but bands now have an inflatable balloon in their lining to allow the size of the hole to be adjusted to regulate food intake. (4)

- 3- Vertical sleeve gastrectomy (VSG) that gained popularity, and has become widely accepted as a primary bariatric operation. It includes creating a staple line along the stomach. (5)
- 4- Laparoscopic gastric plication.