UPDATE IN MANAGEMENT OF COMPLICATIONS AFTER LAPAROSCOPIC GASTRIC BYPASS

An Essay

Submitted for partial fulfillment of master degree in general surgery

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٢٠١٢

الوسائل الحديثة في علاج المضاعفات الناتجة عن عملية تحويل مسار المعدة بالمنظار

دراسة

توطئة للحصول على درجة الماجيستير فى الجراحة العامة

مقدمة من

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٢٠١٢


بسم الله الرحمن الرحيم
وَأَنْزَلَ اللهُ
عَلَيْكَ الْكِتَابَ
والْحِكْمَةَ
وَعَلَّمَكَ مَا لَمْ
تَكُنْ تَعْلَمُ
وَكَانَ فَضْلُ
اللهِ عَلَيْكَ
عَظِيمًا
صدق الله العظيم
سورة النساء آية
(١١٣)

*First and before all, thanks to **Allah** for his care and passion.*

*I would like to express my deep gratitude and appreciation to **Prof. Khaled Ali Gawdet** for his kind supervision, support and encouragement.*

*I am also grateful to **Dr. Waleed Ibraheim Abdelhameed** for his great effort, precious advice and assistance throughout this work*

I am also indebted to everyone who assisted me in this work.

*I am deeply grateful to **my mother and father** who directed and encouraged me during the preparation of this work.*

*Lastly, Words fail to express my love, respect and appreciation to **my wife** for her unlimited help, support and faith.*

Abdelrahman Elghandour

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INTRODUCTION

Obesity is a leading preventable cause of death with high prevalence in adults and children and one of the most serious worldwide problems ***(Buchwald et al., ٢٠٠٧).***

Obesity is now considered to be the second leading cause of preventable death behind cigarette smoking ***(Schauer and Schirmer, ٢٠٠٥).***

BMI is the commonly used measure of obesity, represents weight in Kilograms divided by height in meters squared (kg/m٢). It is easy to identify patients who are underweight (BMI <١٨,٥kg/m٢) normal weight (BMI ١٨,٥ to ٢٤,٩ kg/m٢), overweight (BMI ٢٥ to ٢٩,٩ kg/m٢), obese (BMI ≥ ٣٠ kg/m٢), or extremely obese (BMI ≥ ٤٠ kg/m٢), BMI ٦٠ kg/m٢ are considered morbidly super-obese persons ***(U.S. Preventive Services Task Force, ٢٠٠٣).***

WHO estimates that a billion people worldwide are overweight (BMI greater than ٢٥), and ٣٠٠ million people are obese (BMI greater than ٣٠) ***(Lenz and Diamond, ٢٠٠٨).***

Although medical management of morbid obesity patients made some progress, however, a persistent weight reduction can hardly be achieved in these patients. For

extreme cases of obesity, only surgical intervention can produce substantial weight loss ***(Weber, ٢٠٠٣).***

Roux-en-Y gastric bypass is the current gold standard procedure for weight loss surgery. It is one of the most frequently performed weight loss procedures in the United States ***(Escalona et al., ٢٠٠٦).***

Laparoscopic gastric bypass combines a restrictive and malabsorptive mechanism that has long-term efficacy in the reduction of excess weight. A laparoscopic technique for Roux-en-Y gastric bypass was first described by Wittgrove and Clark in ١٩٩٤ ***(Wittgrove and Clark, ٢٠٠٠).***

In the gastric bypass procedure a surgeon directly connects the upper portion of the stomach to a lower segment of the small intestine, bypassing some of the stomach, the duodenum and some of the jejunum by creating a path for food that goes around part of the stomach and the small bowel, the operation causes food to be poorly digested and absorbed (food malabsorption) ***(Schauer et al., ٢٠٠١).***

Laparoscopic Roux-en-Y gastric bypass (RYGBP) has the advantages of earlier mobilization with less pain in the postoperative period, shorter postoperative hospital stay and sick leave and a lower risk of incisional hernia than the open procedure ***(Higa et al., ٢٠٠١).***

Laparoscopic RYGB results in more weight loss than restrictive operations, including the LAP-BAND System. Patients who have this operation generally loses about two-thirds of their excess weight in ٢ years and within ٣ years they lose ٦٨-٧٢٪ of excess weight. At ten years,most patients continue to keep off at least ٥٠٪ of the excess weight ***(Demaria et al., ٢٠٠٥)***.

Gastrointestinal complications after gastric bypass surgery are classified into major complications that are life-threatening or that require intervention and minor complications that resolve spontaneously. Major complications include small-bowel obstruction, large anastomotic leaks and strictures, and gastrogastric and gastroenteric fistulas. Minor complications include small leaks, marginal ulcers, pancreatitis, esophagitis, and cholelithiasis ***(Michael et al., ٢٠٠٢).***

Morbidity (complications) in the early post-operative Period from wound infection, leaks from staple-line breakdowns, stomal stenosis (a narrowing of the small opening from the pouch to the intestine created by the operation), marginal ulcers, various pulmonary problems and deep thrombophlebitis (clots) may be as high as ٢٠٪ ***(Oliak et al., ٢٠٠٣).***

Long-term complications include pouch stretching, and breakdown of staple lines. Because gastric bypass operations

cause food to skip the duodenum, risks for nutritional deficiencies are higher than for restrictive procedures. Anemia may result from malabsorption of vitamin B^{12} and iron in menstruating women, and decreased absorption of calcium may bring on osteoporosis and bone disease. Long-term complications may also include deficiencies in vitamins A, D, E, B^{1}, B^{6}, and folic acid. Patients must take nutritional supplements daily to manage these side effects ***(Angrisani et al., ٢٠٠٣).***

AIM OF THE WORK

To discuss the complications of laparoscopic gastric bypass, which is the gold standard operation for treatment of morbid obesity; and the methods for management of such complications.

PATHOPHYSIOLOGY OF OBESITY

Obesity is a very serious health problem. The excess morbidity or mortality attributable to obesity or obesity-related diseases exceeds that of tobacco and alcohol ***(Farooqi et al., ٢٠٠٧).***

Obesity is simply defined as "excessive amount of body fat"; it is considered a great problem in both developed & developing nations ***(National Center for Health Statistics, ٢٠٠٢).***

The Most widely accepted measure of obesity is the body mass index (BMI) which equals patient weight in Kilograms divided by the square of his or her height in meters. A normal BMI ranges from ١٨,٥ – ٢٤,٥ Kg /$m^{٢,}$ overweight equals BMI between ٢٥- ٢٩,٥ Kg/ $m^{٢}$, obesity equals BMI ٣٠ Kg/ $m^{٢}$ or higher; this is further subdivided into:

- Class I with BMI between ٣٠- ٣٤. ٩ Kg / $m^{٢}$ with high risk.
- Class II obesity with BMI between ٣٥ – ٣٩,٩ Kg / $m^{٢}$ with very high risk.
- Class III with BMI more than ٤٠ Kg / $m^{٢}$ with extremely high risk.

(Herron, ٢٠٠٤)