Surgical Procedures in Mangment of Metabolic Syndrome

Essay

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general surgery

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Contents

List of Abbreviations

BAE	**:**	Bariatric Arterial Embolization
BPD-DS	**:**	Biliopancreatic Diversion with Duodenal Switch
CVD	**:**	Cardiovascular Diseases
CRP	**:**	C-Reactive Protein
EBWL	**:**	Excess Body Weight Loss
EEA	**:**	End to End Anastomosis
EGIR	**:**	European Group for the Study of Insulin Resistance
IDF	**:**	International Diabetes Federation
IGT	**:**	Impaired Glucose Tolerance
LAGB	**:**	Laparoscopic Adjustable Gastric Banding
LRYBG	**:**	Laparoscopic Roux-en-Y Gastric Bypass
LSG	**:**	Laparoscopic Sleeve Gastrectomy
MGB	**:**	Mini Gastric Bypass
NCEP	**:**	National Cholesterol Education Program
PPARg	**:**	Peroximase Proliferation Activated Receptor Gamma gene

SADI-S	**:**	Single Anastomosis Duodeno Ileal Bypass with Sleeve
SASI	**:**	Single Anastomosis Sleeve Ileal
SMOB	**:**	Swiss Study Group for Morbid Obesity
WHO	**:**	World Health Organization

List of Tables

List of Figures

Abstract

Bariatric surgery is currently the only method that provides weight loss for morbidly obese patients, with a resulting improvement in the accompanying diseases associated with obesity.

In addition metabolic surgery has become safer and less dangerous.

Kye words

Metabolic syndrome, Baritric surgery, Anastomosis, Laparoscopic

Introduction

The metabolic syndrome is a combination of disorders that include: obesity, insulin resistance, impaired regulation of body fat and high blood pressure. The two most significant risk factors for development of the metabolic syndrome are visceral obesity and insulin resistence ***(Haffner, 2006).***

Due to sedentary lifestyles and excessive calorie intake, metabolic syndrome is becoming increasingly common health problem in the world ***(Grundy, 2008)***. Complications related to the metabolic syndrome significantly reduce quality of life of the patients, and represents a huge socio-economic burden.

Bariatric surgery is currently the only modality that provides a significant, sustained weight loss for morbidly obese patients, with resultant improvement in obesity-related comorbidities ***(Sjöström, 2012)*.**

Classification of surgical procedures:

1. Malabsorptive procedures
2. Restrictive procedures
3. Mixed procedures ***(Abell and Minocha, 2006)***

Aim of the work

Is to review an important surgical procedures for treatment of metabolic syndrome, and to assess outcomes, weight loss and complications.

Pathophysiology and diagnosis of metabolic syndrome

It is common to be a development of visceral fat, after which the adipocytes (fat cells) of the visceral fat increase plasma levels of TNF-α and alter levels of a number of other substances (e.g., adiponectin, resistin, and PAI-1). TNF-α has been shown not only to cause the production of inflammatory cytokines, but also possibly to trigger cell signaling by interaction with a TNF-α receptor that may lead to insulin resistance ***(Hotamisligil, 1999).***

The progression from visceral fat to increased TNF-α to insulin resistance has some parallels to human development of metabolic syndrome. The increase in adipose tissue also increases the number of immune cells present within, which play a role in inflammation. Chronic inflammation contributes to an increased risk of hypertension, atherosclerosis and diabetes ***(Whitney et al., 2011).***