

Introduction

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Obesity is a significant public health challenge as well as an economic burden because obese patients are at increased risk of illness from coronary heart disease, hypertension, type II diabetes, respiratory insufficiency, venous stasis or thromboembolic disease, debilitating arthritis of weight bearing joints, depression as well as from uterine, ovarian, colonic, prostatic cancers (*Charles, 2001*).

The prevalence of obesity is increasing at an alarming rate in many parts of the world. In west and north of Europe, Australia, and the United States the prevalence of obesity is similarly high in men and women. In countries with relatively low gross national product, such as those in central and Eastern Europe, Asia, Latin – America and Africa the prevalence is 1.5 to 2 times higher among women than among men. In conclusion obesity is particularly common in women living in relatively poor condition (*Seidell, 2005*).

There are many methods for assessment of obesity but the most accurate is the body mass index (BMI) which correlate body weight to frame size of body and equal patient weight in kilogram divided by patient height in meter squared.

$$\text{BMI} = \frac{\text{Wt in kg}}{(\text{height in m})^2} \text{ (Harvey \& Ric, 1997).}$$

Ideal body weight tables are based on actuarial studies performed by the metropolitan life insurance company, where as

Table (1): Ideal body weight table

| Type of wt | Body mass index (BMI) |
|---------------------------------|------------------------------|
| Under weight | $< 18.5 \text{ kg/m}^2$ |
| Normal | $18.5 : 24.9 \text{ kg/m}^2$ |
| Over weight | $25 : 29.9 \text{ kg/m}^2$ |
| Obesity class (I) | $30 : 34.9 \text{ kg/m}^2$ |
| Class (II) | $35 : 39.9 \text{ kg/m}^2$ |
| Class (III) (Morbid obesity) | $40 : 49.9 \text{ kg/m}^2$ |
| Class (IV) (Super obesity) | $> 50 \text{ kg/m}^2$ |

(Micheal & Jensen, 2004)

So morbid obesity is defined to has $\text{BMI} > 40 \text{ kg/m}^2$ which correlates with an actual weight exceeding ideal body weight by 100 pounds (45.35kg) or BMI greater than 35 kg/m^2 with concomitant obesity related morbidity . The aetiology of obesity simply defined as a condition of caloric intake exceeding energy expenditure, obesity has come to be known as a complex disease influenced by the interaction of genetic, endocrine metabolic and enviromental factors *(Micheal, Jensen, 2004)*

Evidence from family studies and studies of twins strongly supports the concept that within a given environment, a significant portion of the

variation in weight is genetic, however, the marked increase in prevalence of obesity in United States over the last several decades can hardly be ascribed to mass change in human DNA (*Michael & Jensen, 2004*).

Over weight and obese individual should be treated with diet, exercise, and behavioral therapy. The failure of this approach is an indication for pharmacological therapy (*Neligan & Williams, 2005*).

There are tremendous number and variety of dietary programs for weight reduction which include hospital supervised programs, psychiatric behavioral modification programs,. For morbidly obese conservative therapy result almost always in failure as no dietary approach has achieved uniform long term success (*Harvey & Ric, 1997*).

Many individuals can lose weight successfully through dietary manipulation but the incidence of recidivism in morbidly obese approach 95%. Bariatric surgery is currently the only treatment associated with sufficient and sustained weight loss (*Suter & Giustiy, 2005*).

Typical indication for surgical procedure includes BMI > 40 kg/m² or BMI > 35 kg/m² in patient with at least two obesity related diseases, and ineffective conservative treatment. The main contraindications are intestinal tract disease (esophagitis, peptic ulcer), severe cardiovascular insufficiency, alcohol, and drug abuse and mental disorder (*Suter & Giustiy, 2005*).

There are three types of operative procedures currently performed ; Restrictive and Malabsorptive and mixed .

I - Restrictive procedures : Results in weight loss only by limiting the size of the proximal receptive chamber of the stomach as Gastric banding

II- Mal absorptive Procedures : Result in weight loss by shortening the length of the intestine available for digestion and absorption as Jejuno ileal bypass.

III- Mixed restrictive and malabsorptive Procedures : Result in weight loss by limiting intake and shortening the intestinal length available for absorption as bilio pancreatic diversion.

(Pasnik et al., 2004)

Preoperative evaluation might detect suitable patient and reduce both non surgical and surgical complications. Post operative follow up including specialists in surgery, internal medicine, radiology, and nutritional surveillance are mandatory in treatment of patient after obesity surgery. Bariatric surgery result in a major weight loss with amelioration of most obesity associated conditions. The most serious side effect of some surgical procedure is malnutrition *(Hanusch et al., 2004)*.

The rising popularity of bariatric surgery over the past several years is attributable in part to the development of laparoscopic bariatric surgery. Morbidly obese patient have associated comorbid conditions that may predispose them to post operative morbidity. The laparoscopic approach to bariatric surgery offer a minimally invasive option that reduces the physiologic stress and provides clinical benefits as compared with the open approach *(Cottam et al., 2005)*.