

Laparoscopic gastric bypass

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Abstract

Obesity is considered to be the epidemic of the 21st century. Until now there are no known medical or pharmacological methods to manage obesity in ways that control it and significantly reduce the comorbidities associated with it. Bariatric surgery has become the best alternative for management of obesity. Management of patients undergoing bariatric surgery requires referral centers with multidisciplinary medical groups committed to choice and long term follow-up of these patients. Bariatric surgery continues to be the gold standard for surgical management of morbid obesity.

Key words

Morbid obesity, gastric bypass, laproscopic surgery, metabolic syndrome, diabetes type 2.

In both developed and developing countries obesity has increased in an epidemic manner in the last 20 years: and the prognosis for the next 30 years is not optimistic (1). The poor results of medical management and the excellent results with low levels of complications of bariatric surgery have transformed this branch of surgery into the specialty which has developed most of all the surgical specialties in the last decade (2). This development is primarily due to the minimally invasive techniques which have been developed since 1990 (3).

Since 1977 gastric bypass procedures (GBP) have been the gold standard for surgical management of morbid obesity. This is mostly because of the good results obtained in terms of weight loss and correction of comorbidities proven over a period of more than 30 years (4). By 2002, sleeve gastrectomy had become the most frequently used of all bariatric techniques the world over, accounting for 75% of the procedures performed according to the American Society of Bariatric and Metabolic Surgery (ASMBs) (5).

In simple terms sleeve gastrectomies mix restriction, with a gastric pouch of 30 cc, with reduced absorption

through gastrojejunal derivation Roux-en-Y gastric bypass. This produces functional exclusion of the duodenum and the first portions of the intestine, resulting in decreased food intake and causing varying degrees of malabsorption. Possible variations include different sizes of reservoirs, the option of using restrictive rings along the length of the excluded intestinal loops and the choice of methods for performing the gastrojejunal anastomosis. In addition, the choice of whether to make the ascent in front of or behind the colon is difficult to standardize internationally which makes it difficult to compare results obtained in different institutions.

Sleeve gastrectomy is a complex technique which requires referral centers with well coordinated specialized surgical teams, surgical inputs and operating rooms which are appropriate for obese patients in order to achieve rates of complications lower than 10% and perioperative mortality rates below 1% (6).

Indications for performance of sleeve gastrectomy continue to be those set out by the National Institutes of Health in the United States in 1991 (7).

1. Patients over 18 years of age and younger than 65 years of age
2. Body mass index over 40kg/m²
3. Body mass index between 30 and 40 with associated comorbidities
4. Multidisciplinary evaluation which determines
 - Low possibility of weight loss through non-surgical methods
 - Patient understands short and long term risks of surgery
 - Patients is highly motivated to lose weight through surgery
 - Patient is prepared to have lifetime medical follow-up

Counter indications to surgery (8) include:

- Medical counter indications
 - Unacceptable operating risk due to severe comorbidities
 - Incurable diseases such as HIV, cancer and cirrhosis
 - Gastrointestinal disorders such as Crohn's Disease and dysmotilities
 - Poor quality of life which will not improve with reduced weight.
- Psychiatric counter indications
 - Significant psychiatric illness or major depression
 - Severe mental retardation
 - Self-destructive life style
 - Active bulimia
 - Drug or alcohol abuse
 - Inability of patient to understand behavioral changes required following surgery

The majority of patients who undergo sleeve gastrectomies experience similar patterns of weight loss following surgery. During the first three months after surgery they lose between 25% and 50% of their excess weight. From that point on they lose weight more slowly until they have lost 60% of their excess weight at the end of a year. Maximum loss of 72% of excess weight is reached on average by the end of 18 months.

It is well known that between 3% and 5% of patients who undergo properly performed sleeve gastrectomies do not have good results. This may be due to excessive consumption of carbohydrates by gluttonous patients which underlines the need for appropriate selection of candidates for this procedure.

Sleeve gastrectomies have better results in resolution of type 2 diabetes, hypertension, sleep apnea and musculoskeletal manifestations compared than do purely restrictive operations (9). Nevertheless, potential disadvantages include increased risk of malnutrition, vitamin deficiencies, anemia, peripheral neuropathy, development of postoperative chole-

lithiasis and impossibility of endoscopic access to the ampulla of Vater for management of choledocholithiasis.

The primary advantages of laparoscopic techniques include reduced postoperative pain, shorter convalescence periods, smaller incisions and reduced trauma to the abdominal wall. Also there is less accumulation of fluid in third space and reduced physiological response to stress.

Evaluating the results of surgical treatment of obesity is complicated by the scarcity of data from large series of patients with adequate long-term monitoring, the high percentage of patients lost in follow-up, absence of standards for comparing results, inappropriate statistical reports and the need for precise definitions of success and failure.

The primary goal of bariatric surgery is to improve the quality of life of the obese patient by decreasing or resolving comorbidities and returning them to adequate social, family, and sexual lives. This can be achieved through a multidisciplinary approach including long term changes in dietary habits and sedentary lifestyles.

In summary, gastric bypass procedures and laparoscopic sleeve gastrectomies in particular are the most commonly used techniques today for surgical management of morbid obesity. Laparoscopic sleeve gastrectomies are better for patients under 30 years of age who do not have diabetes and do not consume large quantities of simple sugars. Gastric bypass surgery would be recommended for patients over 30 years of age who have diabetes or dyslipidemia and who eat sweets, but who do not have inflammatory bowel disease or intra-abdominal adhesions from previous surgical procedures and who have not had risky hernia surgery. In our service we have performed gastric surgery on more than 1,400 patients since 2001 with about 10 gastric bypass operations for each laparoscopic sleeve gastrectomy (9, 10).

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