

Surgical Treatment of Obesity and Diabetes



Zubaidah Nor Hanipah, MD^{a,b}, Philip R. Schauer, MD^{a,*}

KEYWORDS

• Bariatric surgery • Metabolic surgery • Obesity • Weight loss • Diabetes

KEY POINTS

- Sleeve gastrectomy, gastric bypass, gastric banding, and duodenal switch are the most common bariatric procedures performed worldwide.
- Ninety-five percent of bariatric operations are performed with minimally invasive laparoscopic technique.
- Perioperative morbidities and mortalities average around 5% and 0.2%, respectively.
- Long-term weight loss averages around 15% to 25% or about 80 to 100 lbs (40–50 kg).
- Comorbidities, including type 2 diabetes, hypertension, dyslipidemia, sleep apnea, arthritis, gastroesophageal reflux disease, and nonalcoholic fatty liver disease, improve or resolve after bariatric surgery.

INTRODUCTION

Bariatric surgery has evolved since the 1950s and has proven to be the most effective long-term treatment for the chronic disease known as obesity. Furthermore, it also has been shown to resolve or significantly improve many of the metabolic disorders related to obesity, especially type 2 diabetes (T2D). These gastrointestinal procedures have resulted in resolution of obesity-related comorbidities through weight loss, neuroendocrine, or hormonal mechanisms. Thus, the term bariatric surgery is now frequently replaced with metabolic surgery. A complete understanding of all the mechanisms of metabolic surgery is yet to be determined. It is known, however, that the alteration of the gastrointestinal tract by reducing stomach capacity and nutrient absorption in the small intestine alters the satiety, calorie absorption, and neuroendocrine pathways, leading to sustained weight loss and resolution of T2D.¹

Disclosure Statement: The authors have nothing to disclose.

^a Bariatric and Metabolic Institute, Digestive Disease and Surgical Institute, Cleveland Clinic, 9500 Euclid Avenue, Cleveland, OH 44022, USA; ^b Department of Surgery, Faculty of Medicine and Health Sciences, University Putra Malaysia, UPM-Serdang, 43400 Serdang, Selangor, Malaysia

* Corresponding author. Cleveland Clinic, 9500 Euclid Avenue, M61, Cleveland, OH 44022.

E-mail address: schauep@ccf.org

Gastrointest Endoscopy Clin N Am 27 (2017) 191–211

<http://dx.doi.org/10.1016/j.giec.2016.12.005>

1052-5157/17/© 2016 Elsevier Inc. All rights reserved.

giendo.theclinics.com

The laparoscopic technique of bariatric/metabolic surgery was started in the early 1990s, and currently, almost 95% of these metabolic procedures are performed laparoscopically worldwide. The laparoscopic approach significantly reduces perioperative morbidity, mortality, recovery time, and cost.² In 2015, a total of 196,000 bariatric/metabolic procedures were performed in the United States, and sleeve gastrectomy (SG) was the commonest metabolic procedure (53.8%). Other metabolic procedures were Roux-en-Y gastric bypass (RYGB), 23.1%; laparoscopic adjustable gastric band (LAGB), 5.7%; biliopancreatic diversion with or without duodenal switch (BPD ± DS), 0.6%; and revisional and other procedures, 16.8%.³

Bariatric surgery was initially introduced as weight-loss surgery for the treatment of severe obesity. Obesity is most commonly measured based on body mass index (BMI), which has been used as the primary indication for bariatric surgery. The 1991 National Institutes of Health (NIH),⁴ 2013 American College of Cardiology/American Heart Association Task Force, and The Obesity Society (TOS)⁵ have similar guidelines for bariatric surgery referral: BMI greater than or equal to 40 kg/m² or BMI greater than or equal to 35 kg/m² with obesity-related comorbidities. It is becoming increasingly evident that BMI itself is not necessarily a strong marker for obesity-related illness or future cardiovascular risk. It appears that fat distribution and quantity of visceral fat rather than BMI alone convey the major risk factors for obesity.⁶ Metabolic surgery in patients with T2D should be tailored based on the class of obesity and inadequate glycemic control despite optimal medical treatment. Based on strong evidence from randomized trials, metabolic surgery was recently recommended in the treatment algorithm for T2D in the 2nd Diabetes Surgery Summit (DSS-II).⁷

PATIENT SELECTION FOR METABOLIC SURGERY

Indications for bariatric surgery are based on the historic 1991 NIH Consensus Guidelines.⁴ These guidelines focused primarily on surgery as treatment of severe obesity, but not necessarily for those with T2D and obesity-related metabolic diseases. In general, patients with chronic obesity and BMI greater than or equal to 40 or BMI greater than or equal to 35 with comorbidity are candidates for surgery if they are psychologically stable and have no active substance abuse. Recently, the DSS-II in collaboration with 6 International Diabetes Organizations published a joint statement on the treatment algorithm for T2D using metabolic surgery.⁷ This joint statement was endorsed by 45 leading professional societies worldwide (including both medical and surgical organizations). The indications and contraindications for metabolic surgery are shown in [Table 1](#).

Metabolic surgery should be performed in high-volume centers with a multidisciplinary team (including the surgeon, endocrinologist/diabetologist, and dietician with expertise in diabetes care). Other relevant specialists should be considered depending on the patients' circumstances.

Preoperative evaluation of these patients includes a complete medical history, psychological history, nutritional assessment, physical examination, and investigations to assess surgical risk for metabolic surgery (endocrine, metabolic, nutritional, and psychological assessments). In 2008, American Association of Clinical Endocrinologists (AACE), TOS, and American Society for Metabolic and Bariatric Surgery (ASMBS) published clinical practice guidelines (CPG) for perioperative nutritional, metabolic, and nonsurgical support of the bariatric surgery patients,⁸ which was recently updated in 2013.⁹ Patients should have a comprehensive preoperative assessment of all comorbid conditions. For patients with diabetes, they should be counseled regarding frequent postoperative monitoring of glycemic control, diabetic complications

Download English Version:

<https://daneshyari.com/en/article/5659970>

Download Persian Version:

<https://daneshyari.com/article/5659970>

[Daneshyari.com](https://daneshyari.com)