

Gastroesophageal Reflux Disease and Bariatric Surgery

Luca Pau and Dr. Sorin Cimpean*

Saint Pierre University Hospital, Brussels, Belgium

***Corresponding Author:** Dr. Sorin Cimpean, Saint Pierre University Hospital, Brussels, Belgium.

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Gastroesophageal reflux disease (GERD) is a common disease linked to obesity. Several studies found a positive relation between the increase of the BMI and the severity of the De Meester score, the acid reflux time exposure, the erosive esophagitis and the incidence of adenocarcinoma of the esophagus [1]. Different anatomical and functional factors could explain the importance of the GERD in the obese population because of an overall decrease of the effectiveness of the low esophageal sphincter function [2].

On the other hand, bariatric surgery is widely proposed to patients in order to treat obesity and its comorbidities and laparoscopic sleeve gastrectomy (LSG) and laparoscopic Roux-en-Y Gastric Bypass (LRYGB) are the most common bariatric procedures worldwide. Surprisingly one of the most frequent complication after bariatric surgery is the new onset of GERD or increasing GERD symptoms and this is particularly important for LSG [3]. GERD after bariatric surgery could require life-long antireflux medications or even the need for a new operation (usually conversion of a LSG to a LRYGB). For this reason LSG is contraindicated in the obese patients with pre-existing GERD or erosive esophagitis as well as Barrett's esophagus and all patients going through an evaluation for bariatric procedure should be thoroughly screened in order to evaluate GERD [4].

LSG leads to GERD through a mechanism of altering the function of the LES with a widening of the angle of His, a loss in the fibers of sling fibers, an intra-thoracic migration of the proximal part of the stomach and an increase in the intragastric pressure due to the new gastric configuration [5,6]. Another challenge is represented by the presence of a hiatal hernia in the patient undergoing a LSG: in this cases literature is not clear as for the effects of a posterior cruroplasty associated with the bariatric procedure. Moreover, worsening of GERD symptoms after LSG is an important determinant of satisfaction in the bariatric population [7].

On the contrary, LRYGB is associated with an improving of the GERD symptoms in the majority of patients and there are multiple reasons including the diversion of the bile from the stomach, the size of the gastric pouch, the reduction of the acid secretion and the time of the gastric emptying [8,9]. LRYGB is though recommended for the treatment of GERD in the obese population and can be used as a salvage procedure in cases of failed anti-reflux surgery [10]. LRYGB is also linked with an improvement in Barrett's esophagus though the evidence in the literature is scarce and the topic need further developments [11].

In conclusion, given the evidence in the literature, GERD is both a frequent comorbidity in the obese population and a complication of the bariatric procedures. LSG has a major impact in the worsening of a pre-existing GERD and it may lead to a new onset GERD. For this reason patients undergoing the bariatric surgery pre-operative assessment should be carefully evaluated for GERD. LRYGB is the procedure of choice in the obese patient with GERD whilst LSG should be avoided or patients should be well informed about the risk of

life-long anti-reflux medical treatment or the need of a revisional procedure in case of refractory GERD. LRYGB is also the treatment of choice for GERD in patients with a recurrence after anti-reflux surgery [12,13].

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