

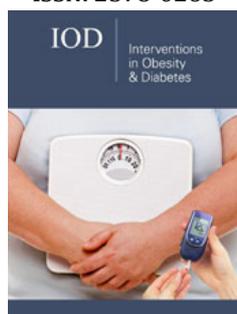
Why has Laparoscopic Sleeve Gastrectomy become the Most Accomplished Bariatric Procedure?

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Abstract

Laparoscopic Sleeve Gastrectomy has experienced exponential growth in the last decade, now becoming the most common bariatric procedure worldwide. In my point of view, the prime reason for this current popularity may be the excellent results regarding weight loss, control of obesity-related comorbidities and quality of life achieved through a faster, technically less demanding surgical procedure.

Abbreviations: LSG: Laparoscopic Sleeve Gastrectomy; IFSO: International Federation for the Surgery of Obesity; RYGB: Roux-en-Y Gastric Bypass;

Opinion

Sleeve Gastrectomy (SG), then called “parietal gastrectomy”, was originally described in 1993 as part of open biliopancreatic diversion with duodenal switch (BPD- DS) [1] and subsequently reported by laparoscopic approach, also as part of BPD-DS technique [2]. A few years later, already known as Laparoscopic Sleeve Gastrectomy (LSG), this technique was employed as the first step of staged-surgery in morbidly obese patients at high surgical risk [3]. Due to unexpected (at that time) satisfactory results regarding weight loss and comorbidities control, the LSG has begun to be studied as a stand-alone bariatric procedure [4,5]. Today, this technique is recognized both as primary bariatric procedure and as first-step practice in high-risk patients as part of a planned staged surgical strategy [6].

The evolution of LSG percentage numbers, clearly evidenced in a sequence of the publications in *Obesity Surgery* journal, faithfully expresses how this technique has seduced both morbidly obese patients and bariatric surgeons around the world. In the first assessment of the state of bariatric surgery worldwide involving national bariatric societies affiliated with the International Federation for the Surgery of Obesity (IFSO), presented in 8th World Congress of the IFSO, in Spain-2003, and published in 2004, SG did not even appear as a stand-alone bariatric procedure available to the surgeon [7]. Five years later, in 2008, this survey was again carried out. In this new data tabulation, published in 2009, the SG was already responsible for 4.5% of the bariatric procedures performed in the world [8]. A few years later, in 2013, a new report on data obtained 2 years earlier revealed that SG already accounted for 27.8% of all bariatric procedures, only behind the Roux-en-Y Gastric Bypass (RYGB) and already surpassing the Adjustable Gastric Band indications [9].

In the sequence, data acquired in 2013 and published 2 years later kept on showing the exponential growth of LSG indications. In that publication, the Sleeve was accounting for 37% of bariatric surgeries but still remained behind the RYGB [10]. Finally, the most recent data survey published in 2018 with data obtained in 2016 have already shown the LSG accounting for 53.6% of all primary procedures adopted in the interventional treatment of morbid obesity and, for the first time, surpassing the RYGB [11]. Thus, in just over 10 years, the LSG went from “zero percent” to the top of the list of bariatric procedures.

Some reasons can be listed in attempting to explain this phenomenon. First, the LSG has emphatically shown sustained weight loss coupled with significant improvement in

obesity-related comorbidities, as well as providing an excellent long-term quality of life [12-16]. In addition, recent data from large comparative trials addressing both bariatric and metabolic outcomes have noted an overall similarity between LSG and RYGB over long-term efficacy, with some slight and occasional differences on specific endpoints [17-21]. Moreover, the complication rate seems to be as low as in RYGB, even in less experienced hands.

However, the balance sheet ends up hanging to the side of the LSG when comparing the technical demanding, since the LSG is a simpler, faster procedure, approaching only one organ in one surgical field without requirement of advanced endosuture skills. In addition, the absence of intestinal bypass preserves the finely-tuned digestive and absorptive functions of the small bowel, making very unlikely macro- and micronutrients malabsorption in postoperative, an unremitting concern linked to the bariatric surgery. In summary, by adding less technical complexity to encouraging results, we can easily understand why the LSG has gained more and more popularity both among bariatric surgeons and morbidly obese patient.

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