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Editorial

Sleeve Gastrectomy: Globalization and Its Controversies[☆]



Gastrectomía vertical: globalización y sus controversias

Currently, sleeve gastrectomy (SG) is a surgical technique of choice within the therapeutic algorithm of morbid obesity. In its beginnings, it represented the restrictive component within the technique of biliopancreatic diversion with duodenal switch, gaining prominence as the first surgical step in high-risk patients.¹ Thanks to the good results of successive series, it is currently in first place in the global calculation of the almost 600,000 annual bariatric surgeries performed in the world (46%), surpassing Roux-en-Y gastrojejunal bypass (RYGB) according to the latest survey of the International Federation of Surgery of Obesity.² In spite of everything, it is a technique that is not free of controversies due to the anatomical and functional changes it implies. Even its nomenclature underwent variations before arriving at the current “SG”. Currently, the scientific community is making an effort to standardize the ideal SG technique, which should respond to optimal weight loss results, the resolution of comorbidities and the reduction of complications. The latest consensus includes details, such as the preference to reinforce the staple line, or not making very narrow sleeves.³ But, it is analytical, randomized studies and systematic reviews that determine the degree of evidence for a technical option. Recently, prognostic factors have been identified for weight loss after SG; meanwhile preoperative BMI > 50 kg/m², the presence of comorbidities, age >50 years, and distance >5 cm from the pylorus negatively influence the results.⁴

A publication titled 2014: *The year of sleeve supremacy*,⁵ which arose from the latest survey of the International Federation of Surgery of Obesity, praises the enormous versatility of this technique: in addition to being performed in only one surgery, it can also function as the initial step for almost all surgical bariatric options, including RYGB, gastric banding, vertical regastrectomy or SADI, as recent studies⁶ have shown, as well as biliopancreatic diversion with duodenal switch. It can be done in extreme ages, is less expensive and does not need

long-term supplementation. But, with the “globalization” of SG, we are in danger of making erroneous indications and falling into the false myth that SG is the solution to all our problems (bariatric, at least). Therefore, comparing SG and RYGB results is a required exercise. In the short- and midterm, the evidence indicates that weight results are similar between both procedures⁷; but, after 5 years, the percentage of excess weight lost is significantly higher in RYGB, although not systematically in all series, with an average of 58% (included in an overly broad range [40–86%]).⁸ Regarding the resolution of comorbidities, the same pattern occurs: recent publications do not find differences between the two procedures, although others report their remission at lower percentages.^{9,10}

From the functional standpoint, SG modulates the physiology through changes in gastric emptying. Several studies describe an increase in emptying speed afterwards, which seems to be linked to the distance between the beginning of the division and the pylorus.¹¹ In this scenario, the gastric antrum becomes partly responsible for this response. Although the relationship between emptying and early incretin stimulation has not yet been demonstrated, improvements in plasma insulin levels have been determined in diabetic patients with an antrum resection 3 cm from the pylorus compared to patients with resections at 8 cm, suggesting that other factors may intervene in this change beyond the incretin profile.¹² In addition, this distance can influence weight loss, especially in the short term, with a higher percentage of suboptimal results reported in distances >5 cm, regardless of the remaining gastric volume.^{4,13} Beyond the antrum, recent studies determine that pyloric preservation can also be a determining factor in long-term glycemic control.¹⁴

SG also causes the physical loss of the main producer of ghrelin, which is classically attributed to the gastric fundus. However, the cellular distribution is not uniform, varies between sexes, does not correlate with plasma levels and

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there are other gastric and extragastric production areas whose role can influence the surgical strategy.¹⁵ Undoubtedly, more studies are needed in this regard.

While there is agreement on the advantages of the technique, issues remain that keep it from being used universally. Gastroesophageal reflux disease represents a real controversy and limitation for its surgical indication. After SG, the increase in pressure in the new sleeve leads to worsening of the existing GERD, but it can also favor its appearance de novo in previously asymptomatic patients.¹⁶ The evidence situates the incidence of de novo GERD between 0% and 34.9%, making it the most frequent complication of the technique. However, there are mechanisms that justify an improvement in symptoms thanks to the aforementioned increase in gastric emptying velocity, with a 20–56% decrease in prevalence.¹⁷ When faced with such contradictory results, it should be noted that clinical symptoms are not a reliable method of evaluation. Diagnostic and therapeutic algorithms (including a functional study of the lower esophageal sphincter) are essential, such as those recently proposed to correctly identify GERD and indicate the appropriate technique.¹⁶ Other frequent complications are staple-line leaks, staple-line bleeding, stenosis of the sleeve or volvulus. The latest data report the mean incidence of surgery-related complications at $8.7 \pm 7.5\%$, although if we exclude GERD, the leaks are $1.85 \pm 2.47\%$ and bleeding $1.34 \pm 1.6\%$. Overall mortality is $0.32 \pm 1.13\%$ ¹⁰; recent analyses correlate greater mortality with distances <5 cm from the pylorus.¹⁸

Questions still remain with uncertain answers, such as, which option is best for revision surgery? Or, what will the long-term results be? Only critical study, constant updating, the surgeon's criteria and treatment based on the particular dimension of each patient are the principles to ensure success of the surgery, regardless of imposed globalization.

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