



## Vertical Gastric Plication: Is It Ready for Prime-Time?

Noah Switzer<sup>1</sup>, Kourosh Sarkhosh<sup>1</sup>, Shahzeer Karmali<sup>1\*</sup>

<sup>1</sup>Center for the Advancement of Minimally Invasive Surgery, Department of Surgery, Division of General Surgery, University of Alberta, Edmonton, Canada

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### Dear Editor,

The incidence of obesity has been increasing steadily, with approximately 10% of the world's population meeting the criteria (1). The limited success of lifestyle and pharmaceutical interventions has resulted in an increased interest in bariatric surgery, as it is the only proven modality for achieving sustainable weight loss, and impacting survival in the clinically severe obese (BMI  $\geq$  40 or  $\geq$  35 with severe co-morbid disease) (2). In general, bariatric surgical intervention involves either a restrictive or mal-absorptive mechanism, to achieve weight loss. The two most renowned and successful procedures are; the Roux-en-Y gastric bypass and the biliopancreatic diversion with duodenal switch, and these use both routes. However, both of these procedures have potentially life threatening post-operative complications, mainly entailing leakage at anastomoses sites, thus making them less than ideal interventions.

Gastric banding, sleeve gastrectomy and now recently gastric plication, are other bariatric surgeries that are

essentially restrictive procedures, which are becoming more popular (3). Of the restrictive procedures, Laparoscopic Sleeve Gastrectomy (LSG) and Laparoscopic Total Gastric Vertical Plication (LTGVP) are relatively similar. Both involve decreasing the greater curvature of the stomach, and creating a gastric reservoir resembling a vertical tube (3). In general, LSG accomplishes this goal with staple lines and removal of a gastric section, while LTGVP achieves it with suture lines, without the need for a gastric section. The advantages of both procedures consist of; not introducing a foreign object into the body, preserving the stomach's pylorus, and avoiding dumping syndrome (2). However, there are some advantages enjoyed only by plication. Since LTGVP does not involve the removal of gastric material, it has the ability to be reversible, which could make it a more ideal surgical procedure for some patients (4). Another reported benefit of LTGVP is that it decreases the risk of fistula formation at the gastroesophageal junction. It is important to recognize that these stated surgical advantages of LTGVP rely on the operator's competency at minimally invasive techniques, in this case to perform manual laparoscopic suturing (4).

This article highlights the promise that LTGVP has shown in achieving significant weight loss and reduction of comorbid conditions. Golpaie *et al.* have produced a well-organized study design that involved a multidisciplinary team. The drawbacks of this study were that; only

\* Corresponding author: Shahzeer Karmali, Center for the Advancement of Minimally Invasive Surgery, Department of Surgery, Division of General Surgery, University of Alberta, Room 405 CSC, 10240 Kingsway Ave., AB T5H 3V9, Edmonton, Canada, Tel: +1-7807356650, Fax: +1-7807356652, E-mail: shahzeer@ualberta.ca

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15 patients underwent LTGVP, which is a relatively small sample size, and the patients were only monitored for 6 weeks of follow-up. It will be interesting to see the long-term outcomes as they become available over time. The lack of life threatening complications seen in this study is in keeping with the current literature (4). Two recent studies at our institution have shown a significant long-term relationship between LSG and the resolution or improvement of both Type II diabetes mellitus and hypertension (1, 5). With the similarity between these two surgeries and the preliminary results of LDL and fasting glucose that were reported in this article, the future appears bright for LTGVP.

### Authors' Contribution

Noah Switzer, Kourosh Sarkhosh and Shahzeer Karmali contributed to the concept, draft and final revision of this manuscript.

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### References

1. Gill RS, Birch DW, Shi X, Sharma AM, Karmali S. Sleeve gastrectomy and type 2 diabetes mellitus: a systematic review. *Surg Obes Relat Dis.* 2010;**6**(6):707-13.
2. Shi X, Karmali S, Sharma AM, Birch DW. A review of laparoscopic sleeve gastrectomy for morbid obesity. *Obes Surg.* 2010;**20**(8):1171-7.
3. Karmali S, Schauer P, Birch DW, Sharma AM, Sherman V. Laparoscopic sleeve gastrectomy: an innovative new tool in the battle against the obesity epidemic in Canada. *J Can chir.* 2008;**53**(2):126-32.
4. Pujol Gebelli J, Garcia Ruiz de Gordejuela A, Casajoana Badia A, Secanella Medayo L, Vicens Morton A, Masdevall Noguera C. [Laparoscopic Gastric Plication: a new surgery for the treatment of morbid obesity]. *Cir Esp.* 2011;**89**(6):356-61.
5. Sarkhosh K, Birch DW, Shi X, Gill RS, Karmali S. The Impact of Sleeve Gastrectomy on Hypertension: A Systematic Review. *Obes Surg.* 2012:[Epub ahead of print].