



# Sleeve Gastric Resection for Morbid Obesity: It's the Time to Revise the Surgical Technique?



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## Letter To Editor

Laparoscopic sleeve gastrectomy (LSG) is one of the main surgical options for the treatment of obesity and its comorbidities. This procedure works because the new stomach pouch holds a smaller volume than the normal stomach and gives an early sense of satiety, but the greater impact seems to be the effect on the attenuation of endogenous ghrelin levels.

Despite its technical simplicity, LSG can have serious complications. Besides bleeding and strictures [1], gastric leak remains the main complication after this surgery, and often it occurs in the upper part of the suture line [2-4], with a reported incidence of 0% - 8% [5-11].

The pathogenesis of staple-line leaks can be mechanical and/or ischemic [12]. The first theory gives a pivotal role to the increased intra-gastric pressure after tubulisation [13]. In the second case the irregular vascularization in the critical area of the gastroesophageal junction (GEJ), damaged by the sleeve procedure, leads to a deprivation in the blood supply creating a condition of ischemia with an increased risk of fistula. Both findings corroborate the importance of a careful dissection, especially at the gastric fundus, during sleeve gastric resection.

Many intraoperative measures have been suggested in order to prevent post-operative leaks: staple line over sewing, use of different bougie sizes, intraoperative routine test with methylene blue, different distances from the pylorus when stapling is initiated. However, overall results are inconsistent regarding their real effectiveness [14-16].

In our centre, we decided to approach the proximal gastric resection during sleeve gastrectomy analysing as intraoperative

preventive measure the positioning of the suture machine to 1.5 cm from the His angle. Our hypothesis is to perform a gastric resection paying adequate attention to this critical area maintaining its appropriate vascularization. This technique could also work by increasing the compliance, the other putative factor contributing to leak formation.

Therefore, our surgical technique was revised: it involved a conventional 5-port approach, accessing the abdominal cavity through an optical trocar. The greater curvature of the stomach was dissected free from the omentum and the short gastric vessels using the ultrasonic scalpel, starting 6 cm above the pylorus along a 34 Fr orogastric bougie. This was followed by the resection of the gastric corpus and fundus. The last dissection was made leaving at least 1.5 cm from His corner. This distance was measured using an instrument with a known length, such as the laparoscopic linear stapler, whose branch has a width of 1.5 cm. We did not use buttress material to reinforce the staple line because there is no significant evidence in literature. The resected stomach was removed from the peritoneum. A methylene blue-leak test was performed at the end of the operation, introducing the solution through the bougie.

From 2015 to 2017, we tested this revised technique in a group of 42 patients and the rate of gastric staple line leak was 2.38% (1 case). Before (from 2013 to 2015), we had surgically treated 59 obese subjects and the leak rate was 6.78% (4 cases).

We do not know if our modified technique really represents an improvement, but we are confident to continue on this way, and a randomized trial is ongoing.

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