

Response to Comment: “Laparo-Endoscopic Gastrostomy (LEG) Decompression: a Novel One-Time Method of Management of Gastric Leaks Following Sleeve Gastrectomy”

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Published online: 28 December 2015
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Dear Editor,

We appreciate the interest and discussion by Athanasiou et al. about our article “Laparo-Endoscopic Gastrostomy (LEG) Decompression: a Novel One-Time Method of Management of Gastric Leaks Following Sleeve Gastrectomy” [1]. We noted the arguments put forward in the comment and welcome the opportunity to discuss and highlight some points of our technique.

Firstly, obesity surgery societies (IFSO, ASMBS) around the world state that bariatric surgery is an advanced laparoscopic surgery (more so, revision surgery involving post-LSG leaks) and hence is undertaken by those with appropriate privileging [2]. So, the point that the LEG decompression is an “advanced laparoscopic technique” posing difficulties for a large number of surgeons is unclear to us. In fact, we feel that the intraoperative gastroscopic skills required for this technique are far less when compared to deploying a SEMS stent, pigtail stent, or OTSC clips, except that it should be done simultaneously during laparoscopy by an assistant with some experience.

Secondly (regarding the general anesthesia), in a stable patient, with a clinically or radiologically suspected leak requiring intervention, laparoscopy under general anesthesia is safe and facilitates complete visualization, washout, and drainage of peri-gastric area. ASMBS positional statement (2009), also lowers the threshold for a laparoscopic/open re-exploration under anesthesia in patients with clinically suspected leak, where CT scan or upper GI study fails to

demonstrate it (33 % of all leaks), without any mention of out-patient gastroscopy as a diagnostic tool [3]. On the other hand, it is also true that in an unstable patient, a surgical intervention is mandatory. Hence, the keenness to avoid general anesthesia is not perceived to have additional safety, in these situations.

Thirdly, adequate drainage of all the peritoneal collections secondary to the leak is of paramount importance in managing sepsis and its catastrophic sequelae. It should be noted that studies report 61 to 72 % of concurrent external drainage for post-LSG leaks [4, 5]. In many cases, this was in addition to an expensive endoscopic stenting procedure. Closure of the leak with OTSC clip and stenting of the sleeved stomach also does not address this issue of intraperitoneal collections. Though the pigtail drainage (EDEN) technique does address this to an extent, the authors mention external drainage was also required in 61 % of their cases [6]. Fourthly, several studies have also documented about morbidity associated with stents, when used to treat these leaks and hence needs no further elaboration here [7, 8].

The pivotal point of our article describing the “LEG” method is the concept of “luminal decompression” and not just drainage. The sleeved gastric tube with pylorus is seen to have nearly twice the pressures of a normal stomach [9] which is believed to be the cause of non-healing post-LSG gastric fistulae [10]. External decompression of the gastric lumen in our technique prevented the constant dribbling into the peritoneal cavity of its contents and the internally drained collections, and thereby prevented the need of extra procedures in our patients.

We believe that the success of healing of the fistula also depends on adequate “enteral” nutrition without inducing vomiting, retching or increase in the intra-luminal pressure of the “leaking gastric tube” (secondary to feeding). Laparoscopic jejunostomy placed distal to ligament

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of Trietz (technique as described) is a safe procedure providing all this and is commonly recommended [10]. It was also removed as soon as oral feeds were tolerated without leak. Patient acceptance was excellent and none had any complications with this route of feeding. While in naso-gastric/duodenal feeding, there can be the inconvenience of the nasogastric tube with its associated pulmonary problems and the inability to achieve gastric luminal decompression. Our goals were also to reduce TPN and hospital stay and have an early enteral feeding via a route that was acceptable to patients to pursue social activities.

The complications presumed about the “gastrostomy” seem to be exaggerated, as the reference quoted was a study of PEG, in terminal stage cancer patients. The latter cannot be extrapolated to these patients because the LEG decompression tube (18 Fr) was neither used for feeding purposes nor was it for palliative long term use, and hence, we did not experience any such complications in our patients.

Last but not the least is the lower cost of our method delivered as a one-time intervention, adhering to the traditional principles of fistula healing, which pits it as a viable alternative to stents in the management of gastric leaks following LSG.

Compliance with Ethical Standards

Conflict of Interest All authors declare that they have no competing interests.

References

1. Zachariah PJ, Lee WJ, Ser KH, et al. Laparo-endoscopic gastrostomy (LEG) decompression: a novel one-time method of management of gastric leaks following sleeve gastrectomy. *Obes Surg*. 2015;25(11):2213–8.
2. Melissas J. IFSO guidelines for safety, quality, and excellence in bariatric surgery. *Obes Surg*. 2008;18(5):497–500.
3. Clinical Issues Committee ASMBS. ASMBS guideline on the prevention and detection of gastrointestinal leak after gastric bypass including the role of imaging and surgical exploration. *Surg Obes Relat Dis*. 2009;5:293–6.
4. Sakran N, Goitein D, Raziel A, et al. Gastric leaks after sleeve gastrectomy: a multicenter experience with 2,834 patients. *Surg Endosc*. 2013;27:240–5.
5. Quezada N, Maiz C, Daroch D, et al. Effect of early use of covered self-expandable endoscopic stent on the treatment of postoperative stapler line leaks. *Obes Surg*. 2015;25(10):1816–21.
6. Donatelli G, Ferretti S, Vergeau BM, et al. Endoscopic Internal Drainage with Enteral Nutrition (EDEN) for treatment of leaks following sleeve gastrectomy. *Obes Surg*. 2014;24(8):1400–7.
7. Bege T, Emungania O, Vitton V, et al. An endoscopic strategy for management of anastomotic complications from bariatric surgery: a prospective study. *Gastrointest Endosc*. 2011;73(2):238–44.
8. Tan JT, Kariyawasam S, Wijeratne T, et al. Diagnosis and management of gastric leaks after laparoscopic sleeve gastrectomy for morbid obesity. *Obes Surg*. 2010;20(4):403–9.
9. Yehoshua RT, Eidelman LA, Stein M, et al. Laparoscopic sleeve gastrectomy—volume and pressure assessment. *Obes Surg*. 2008;18:1083–8.
10. Nguyen NT, Amstrong C. Management of gastrointestinal leaks and fistula. In: Nguyen NT, Blackstone RP, Morton JM, et al., editors. *The ASMBS textbook of bariatric surgery*. New York: Springer; 2015. p. 221–8.