Late Sleeve Gastrectomy leaks and its severe consequences

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Abstract:

Laparoscopic Gastric Sleeve (LGS) is the latest accepted technique on bariatric surgery. Early (before two weeks after surgery) Esophago-Gastric Junction (EGJ) leak is the most severe complication for an otherwise simple technique. Late leaks are very rare. The aim of this paper is to present two cases of late leaks and its complex management. Material and Methods: Two patients developed late EGJ leaks. One of them 10 months after a re-sleeve gastrectomy and the second one presented with a symptomatic collection 2 years after the LSG and multiple surgeries were required. Results: The first patient required a total gastrectomy after several trials of conservative management. The second patient required 7 laparotomies and died to his primary intestinal vascular pathology. Conclusions: Early UGJ leaks usually get a cure by conservative means. Late leaks are rare but healing by conservative means usually fails and may require complex techniques for its management.

Key words: Gastric Sleeve; Gastric leak; multiple laparotomies; Intestinal ischemia; Intestinal necrosis.

Clinical cases:

1. A 35 years-old BMI-65 female had an open Duodenal Switch. Three years later had a BMI-29 and 96% EBMIL. Seven years, later with a BMI-36, she had a re-LSG because dilation of the sleeve. The post-operative period was normal.

Ten months later and a BMI-26 she developed fever, chills and a sub-diaphragmatic collection and was drained several times with negative radiological study but a leak was detected by endoscopy. Conservative management was attempted by NPO, sleeve stent and endoscopic suturing (Stomafix) in two occasions without success. Finally a total gastrectomy was done and she is asymptomatic, with a BMI-34, two years later.

2. A 65 years-old male BMI-40 with multiple co-morbiditys (high blood pressure, diabetic, COPD on CPAP, atrial flutter) had a LSG on February 2008 without incidents at surgery or in the post-op. His BMI dropped to 25, 22 and 19 by months 12, 18 and 24, all his co-morbidities were cured and his weight has dropped from 102 to 50 Kg.
Suddenly, 2 years after surgery he developed lower abdominal pain and soreness on both inguinal areas and urgency and then fever and left shoulder pain, and a subphrenic collection was found at CT scan.

A pigtail drain emptied the collection. NPO, TPN, sealants and 2 sequential stents failed. A contrast fistulogram identified the fistula tract to stomach but by endoscopy or radiology fail to show the leak site. The medical management was kept for 4 months.

He developed cerebral-vascular symptoms and bilateral carotid stenosis was diagnosed and a carotid stent placed on the right side. A 3.5 cm abdominal aneurysm was detected but not any serious abdominal vascular disease.

He was subjected to:

Laparotomy (LT) 1. - By a transverse supraumbilical incision with 60 cm long a internal RNY bypass 1,2 without incidents draining the opening of the leak site.

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LT2. - Four days later and with peritoneal symptoms a re-LT was done and massive intestinal necrosis was found. All the small bowel necrosis was resected and only 20 cm of the upper RNY loop, 60 cm of the proximal jejunum and 35 cm of distal ileum could be preserved. So only 115 cm viable intestine was saved and 3 ostomies with each loop performed

LT3. - Three days later the abdomen was re-explored to rule out any collections or necrosis and none were found.

LT4. - 28 days later the bowel was re-joined by a jeuno-ileal end-to-end, the distal part of the RNY loop to the jejunum and the proximal RNY remained connected to the stomach. The necrotic gallbladder was removed.

LT5. - 24 hours later new LT for a leak at the Jejuno-ileal anastomosis on the mesenteric border and it was re-done with a side-to-side anastomosis. A stenosis was found at the distal ileum that was dilated with IV glucagon and intraluminal dilator and the plasticity recovered.

LT6. - By next day there was a new leak, but no now the Gastric-proximal RNY anastomosis at the level of the original leak. The RNY bypass was undone and the stomach re-sleeved. The proximal end of the RNY was anastomosed end-to-side as a circular bypass.

Besides a peptic ulcer at the incisura angularis a severe stenosis was found at 10 cm from the ileo-cecal valve which it was probably the cause of intestinal obstruction and all the proximal previous perforations (Fig. 6)
Due to the condition of so short bowel remaining and instead of resection of the stenosis of the ileum, dilation of the stenosis was done by using Seldinger devises and finally a biliary stent T-tube was passed (after removing the appendix) one end into the proximal bowel and the second one into the colon. Local tissue sealant Blue Gran II was used. The patient survived the ordeal, the wounds closed and he tolerated oral intake.

Discussion

Isolated LSG has been used [1, 2] in the surgical treatment of the morbidly obese and as a 1st stage of the Duodenal Switch in the super-obese. The gravest complication is a leak at the EGJ, which presents commonly in the first 10 days and very rarely afterwards. “Switch surgeons” who used this operation as routine had this weir complication and it was reported rarely [3]. But, with the popularity of the isolated LSG, the EGJ leak is not so uncommon today but it is feared by all surgeons who are aware of the difficult handling of this complication. Multiple schemes have been devised [4-8] as conservative management, sealants, endo-surgery, stents[9], etc.

Burgos [4] has described to types of leaks: Type I or subclinical form, which is a local leak without important content and dissemination throughout the abdomen, or pleura; and Type II, where there is dissemination to the abdomen, pleura and causes peritonitis.

Localization of the leak should be made, if possible, at the time of diagnosis and keep a detailed clinical history. Usually type I leak close in less that 41 days if appropriated drainage, antibiotics and nutrition. Rarely the fistula tract becomes chronic and then the solution is a RNY bypass brought to drain the gastric opening or a total gastrectomy [10].

The causes of the leak are multiple, but it is related to low compliance and high intraluminal pressure due to a very long and narrow lumen (>35 cm) [11].

A late presentation of the leak is very rare. In our first patient it presented 10 months after a re-sleeve of a duodenal switch and a total gastrectomy was required because conservative measures such as stent and internal suturing failed.

On the second patient the leak happens very late, 2 years after the LSG. We have no notice of any such delay presentation and lead us to suspect that it may related to intestinal and mesenteric ischemic disease with narrowing since leaks reappeared in all the subsequent LT surgeries most likely unrelated to any technical defects but related to the patient vascular pathology that finally bled and after several transfusions lead to MOF and his death.

Conclusions:

The most wizard complications can occur after LSG. In both of our late cases, leaks occurred 10 and 24 months, conservative management failed with a high mobility and mortality. Late leaks and require more aggressive surgical techniques such as the diverting RNY or a total gastrectomy.

References:

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