Refractory Gastroparesis Following Duodenal Switch Treated With Laparoscopic Subtotal Gastrectomy With Roux-En-Y Gastrojejunostomy Reconstruction: A Case Report

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Introduction:

Gastroparesis is a known but rare complication following gastric surgery. Gastroparesis in a patient who has previously undergone duodenal switch (DS) is rarely seen. Medical management with prokinetic agents is first line therapy. There is evidence of laparoscopic pyloromyotomy or pyloroplasty and per-oral endoscopic myotomy (POEM) as viable treatment strategies. However, the evidence is lacking as to what approach is most effective if these patients do not improve with pyloromyotomy or pyloroplasty.

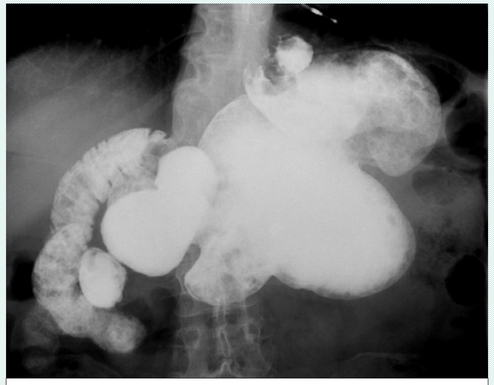


Figure A: UGI with enlarged poorly functioning stomach

Case Description:

This is a 66 year old female with a complex surgical history who initially underwent laparoscopic DS with hiatal hernia (HH) repair in 2017. Her case was complicated by a duodenal stump leak requiring 3 subsequent operations. In 2018 and 2019, she underwent two redo laparoscopic HH repairs. She subsequently developed gastroparesis and underwent laparoscopic pyloroplasty in 2021. After that, she presented to our facility with lower chest/epigastric pain with eating and regurgitation of solids and liquids.

Workup included an upper GI which demonstrated dilated and enlarged sleeve gastrectomy with poor emptying (Figure A). Nuclear medicine gastric emptying study demonstrated severe gastroparesis with 86% of tracer retained at 240 minutes. Laboratory values indicated severe protein-calorie malnutrition. A laparoscopic jejunostomy tube (J-tube) was placed for preoperative nutritional optimization into her biliopancreatic limb.

4 months after J-tube placement, she presented to undergo laparoscopic subtotal gastrectomy with Roux-en-Y (RNY) reconstruction. There were significant intraabdominal adhesions. She did not have evidence of recurrent HH. The stomach specimen was enlarged and full of solid, retained, undigested food (Figure B). The stomach was transected proximally to create a small pouch and distally at the duodenoileostomy (DI) anastomosis. The DI anastomosis was taken down and the ileum anastomosed to the newly created gastric pouch. The subtotal gastrectomy specimen was removed.

Postoperatively, she recovered well. Her J-tube feeds were continued and she was able to tolerate oral intake with no regurgitation. She was ultimately discharged home in improved condition on a full liquid diet plus tube feeds. She has had no issues or complaints regarding oral intake since undergoing subtotal gastrectomy with RNY reconstruction.

Discussion:

Gastroparesis following duodenal switch is a rare but known complication. The literature regarding the best management of this complication is lacking. Options include medical management, dietary management, gastric pacemaker placement, pyloroplasty (surgically or endoscopically), gastric bypass, and subtotal gastrectomy. As demonstrated in our case, laparoscopic subtotal gastrectomy with RNY reconstruction is a viable option.



Figure B: stomach specimen full of undigested food