A "MacGiveric" Myotomy for a Gastric Bypass Conundrum

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Introduction:

Postprandial nausea and vomiting (N/V) following a gastric sleeve can be a common side effect after the procedure as the body adapts to the smaller size of the stomach. The management guidelines recommend having smaller but more frequent meals focused on protein, adequate and thorough chewing, and adequate fluid intake. Risk factors can include the female sex as well as the amount of opioid medication used for postoperative pain. We present a case of an elderly man experiencing postprandial nausea and vomiting for years after his gastric sleeve procedure, found to have distorted anatomy upon EGD evaluation, requiring further endoscopic intervention.

Case:

A 72-year-old male with a past medical history of Gastroesophageal reflux disease (GERD), cholecystectomy, and gastric sleeve (~2015) presented with chronic persistent postprandial nausea and vomiting.

CTA abdomen pelvis showed postsurgical changes of his gastric sleeve, moderate-sized hiatal hernia, normal-appearing duodenum / small bowel, and diverticulosis of the colon.
The patient underwent esophagogastroduodenoscopy (EGD), which showed evidence of a Hill class IV hiatal hernia. In the proximal aspect of the gastric sleeve, just below the GE junction, an abnormal ridge/diaphragm was noted between the gastric fundus and sleeve body, causing food retention and secretions along the greater curve in the fundus (Figure 1). Gastric sleeve, and this ridge was dilated with a 20 mm balloon, with no improvement in his symptoms. Gastric emptying scan was normal; however, his symptoms of immediate nausea and vomiting after eating were quite convincing to point towards retention of food in the retained fundus, caused by this abnormal septum. After detailed discussions with the patient, gastric sleeve septotomy or " S-POEM" was offered.

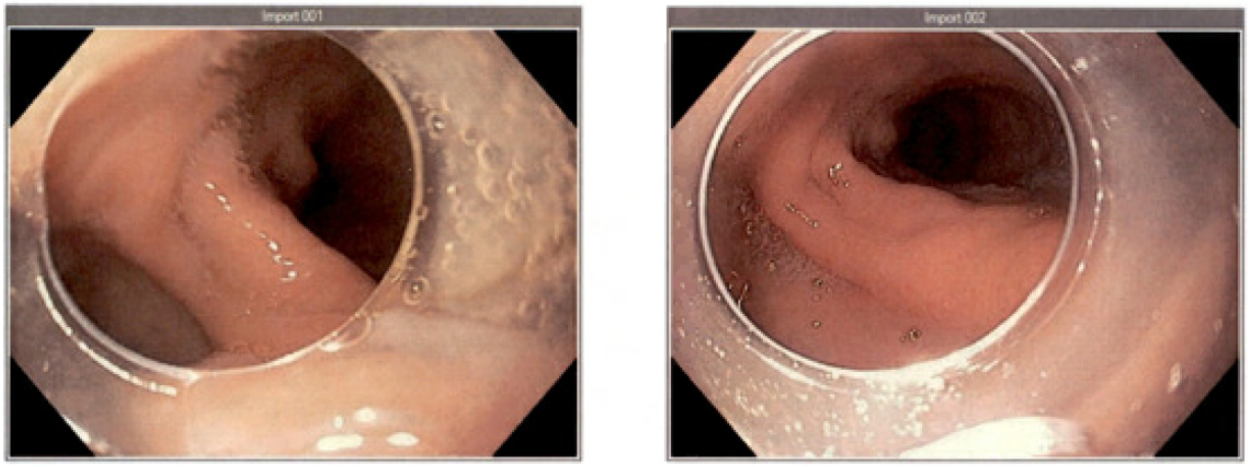

Figure 1: Abnormal prominent mucosal ridge noted just below the GE junction, suspected to cause the patient's post-prandial nausea and vomiting.

In this procedure, methylene blue was injected submucosally to delineate the details of the submucosa at the septum, followed by mucosotomy to expose the layers. Soft coagulation and endocut were combined to divide the muscle fibers horizontally (Figure 2). Once the ridge was opened up adequately, the mucosal defect was located and closed with a double-channel scope utilizing Apollo Prolene 2.0 sutures (Figure 3). The patient was followed for recovery after two weeks and could eat solids and liquids without any symptoms of nausea and vomiting.

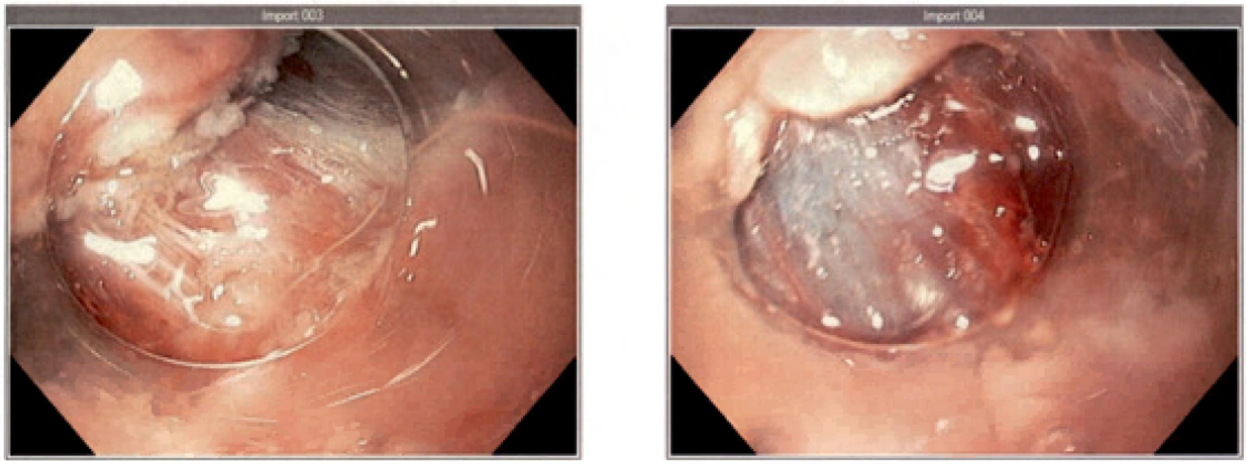

Figure 2: Horizontal mucosotomy was performed using a combination of coagulation and endocut to separate mucosal layers.

Figure 3: Defect noted upon opening of the mucosal ridge.

Discussion:

Laparoscopic sleeve gastrectomies are procedures performed to treat obesity, typically for patients with a body mass index (BMI) over 40 or 35 with other comorbidities. In addition to weight loss, the procedure has been noted to improve other health disparities, such as hypertension, obstructive sleep apnea (OSA), diabetes mellitus type 2, etc.

Postprandial N/V is a common side effect after the procedure due to the sudden decrease in gastric size and seems to be exacerbated by foods high in fiber, sugar, and fat. Rarely, however, these gastrointestinal symptoms can be secondary to postoperative anatomical changes. As with our case, an irregular mucosal ridge was noted to have developed post-surgery. This ridge was found right below the Gastroesophageal (GE) junction in the gastric cardia and was interfering with the passage of food contents into the stomach. This was verified by direct visual observation of food contents within the folds. Ingenuity had to be implemented as there are no specific guidelines for intervention for such anatomical defects. A dual-channel scope was utilized for further evaluation due to more endo-therapeutic and suction capabilities. An endoscopic incision was made to divide the submucosa from the muscularis layers until the defect was visualized. After repair, endoscopic suturing techniques were utilized to close. Per review of the literature, similar approaches to this complication have not been documented.

Conclusions:

Nausea and vomiting can be common complications after sleeve gastrectomies, but are usually the result of patients needing to acclimate to a smaller stomach volume. This case reports a unique etiology of an abnormal mucosal ridge catching food/liquid as it passed through the stomach. A novel approach was taken involving an EGD with septoplasty (Sleeve-POEM) to divide the muscular ridge between the gastric fundus and gastric sleeve to fix the deformity. This caused rapid improvement in symptoms. Persistent abdominal symptoms after procedures should be investigated for further possibilities of structural defects as the etiology.

References:

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