Afferent loop syndrome after Billroth II reconstruction

Clinical History:
A 66 year old woman with a local extended duodenal-gastric neoplasm was treated by a Billroth II reconstruction. He had a sudden postprandial pain with associated nausea and vomiting.

Imaging Findings:
This patient with a local extended duodenal and gastric neoplasm was treated by Billroth II reconstruction. After about 1 month of the procedure, she began to feel a postprandial epigastric pain in association with projectile bilious vomiting.
The upper gastrointestinal contrast enhanced radiological examination revealed the presence of the gastrojejunostomy reconstruction and presence of barium contrast in remnant stomach and a very long afferent loop (Fig 1). There was a progressive dilatation of afferent jejunal loop and absence of the oral contrast medium in the distal efferent loop. After a few minutes there was a difficult pass of the contrast to the efferent loop (Fig 2).

Discussion:
Afferent loop syndrome (ALS) is a complication of gastrojejunostomy (Billroth II reconstruction). It is caused by acute or chronic obstruction of the afferent jejunal loop due to hernia, intussusception, kinking, volvulus, etc.
The choice of this type of reconstruction is actually very rare due to the multitude of complications that can happen. However, it is a feasible option if there are extended neoplasms that include duodenum and distal stomach.
In Billroth II gastrojejunostomy, the duodenal stump is closed and an anastomosis is created between the remnant stomach and the jejunum. The afferent loop can have more or less length, being the complications more frequent when the loop is longer, including the afferent loop syndrome.
ALS is caused by partial or total obstruction of the afferent loop. Approximately 10-20 minutes to an hour postprandially, the patient experiences abdominal fullness and epigastric pain. These symptoms usually last from several minutes to an hour, although they occasionally last as long as several days. The distended afferent loop decompresses forcefully after vomiting, providing rapid relief of symptoms.

Symptoms associated with ALS are caused by increased intraluminal pressure and distension due to accumulation of enteric secretions in a partially or completely obstructed afferent limb. ALS is one of the main causes of duodenal stump blowout in the early postoperative period and is also an aetiology for postoperative obstructive jaundice. High luminal pressures and distension increase bowel wall tension in the afferent loop and can lead to ischemia and
gangrene with subsequent perforation and peritonitis.

**Differential Diagnosis List:** Afferent loop syndrome

**Final Diagnosis:** Afferent loop syndrome

**References:**


**Figure 1**

*Description:* Image a few minutes after the ingestion of barium contrast shows a dilated afferent loop (large arrow) and absent of the contrast in the distal efferent loops. The small arrow indicates the remnant stomach. *Origin:*
Figure 2

Description: Images after 30 and 45 minutes of the contrast ingestion respectively, showing the presence of barium in distal efferent loops (small arrows), nevertheless there continues being difficulty of evacuation of the afferent loop (large arrows). Origin:
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