

# A Rare Case of Afferent Loop Syndrome

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**Abstract:** *Afferent loop syndrome (ALS) is an uncommon mechanical complication defined by a distal obstruction causing distension of the afferent limb secondary to the accumulation of bile, pancreatic fluid, and proximal small bowel secretions, occurring after procedures involving anastomosis of stomach or esophagus to jejunum. It was described with Billroth II gastrojejunostomy and other Roux-en-y procedures.*

**Keywords:** Afferent Loop Syndrome, Braun Anastomosis, Bilroth I & II

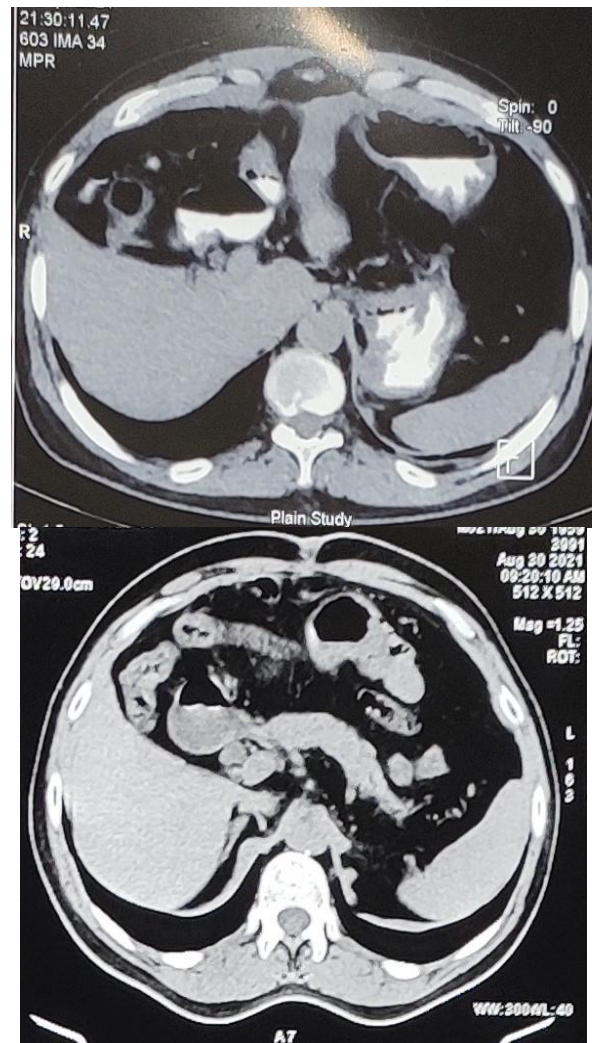
## 1. Introduction

Any intrinsic or extrinsic obstructive process along the afferent limb or at the distal anastomosis may result in afferent loop syndrome. Common causes include adhesions, which may result in compression or kinking of the afferent limb, internal hernia, scarring caused by previous ulceration of the gastrojejunostomy, and recurrent disease in patients who underwent surgery for cancer [5]. After surgery, bile and digestive fluids enter the afferent loop. The fluids flow toward the upper stomach. They need to pass through the anastomosis and then enter the efferent loop to help digest your food. Afferent loop syndrome occurs when something traps the flow of these juices in the afferent loop. [1] [3] Fluid pressure builds up in the afferent loop and causes discomfort and nausea. If the pressure builds up, the bile and pancreatic fluid may then empty into the upper stomach. The most common symptoms are: Abdominal pain, especially in the upper abdomen, nausea and fullness, especially after eating and sudden, severe vomiting of fluid with bile in it that suddenly eases the pain. [1]

## 2. Case Report

A 62 yr old male came with complaints of post prandial upper abdominal fullness along with vomiting for 3 weeks. H/o abdominal distension with pain after food intake followed by pure bilious vomiting. After vomiting patients distension and pain is relieved. Pt is known case of peptic ulcer disease and underwent surgery 26 yrs ago (Billroth II). No comorbidities. Past h/o smoking and alcoholism stopped for 3 yrs.

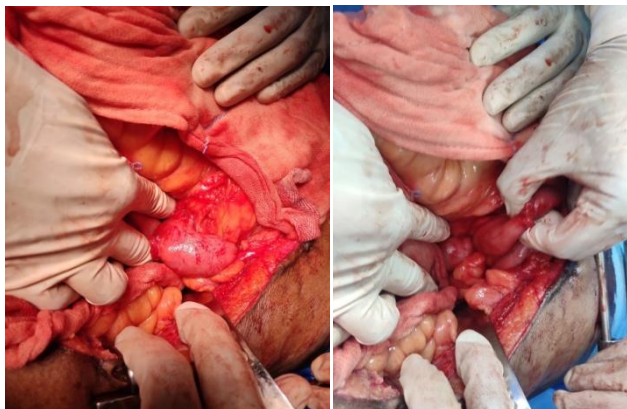
**CECT abdomen:** Afferent loop is dilated and wall edematous proximal to anastomotic site. No e/o of contrast leak and stenosis at anastomotic site.



UGI scopy: Scanty bile noted near antrum with surrounding inflammation. Attempt to negotiate the loop caused bleeding. Both loops visualized at anastomotic site but only distal loop allowed entry of scope

General examination showed signs of dehydration. On per abdomen epigastric fullness, mild tenderness noted epigastric, It hypochondriac region. vertical scar seen in midline from previous surgery. His cardiopulmonary profile was normal.

Laprotomy was planned-stricture in afferent loop noted 10 cm away from gastrojejunostomy with dilatation of loop proximal to stricture and narrowing of distal part. Jejunojunostomy done proximal to stricture.



### 3. Discussion

After procedure pt post prandial abdominal distension was relieved with no episodes of vomiting/pain. In benign etiologies surgical management like adhesiolysis, bypass and reconstruction of loop will resolve the cause. Diagnosis of afferent loop syndrome caused by obstruction may be best made on CT. CT reveals a dilated, fluid-filled afferent loop and may also reveal the cause of obstruction. Management for patients with afferent loop syndrome can largely subdivide according to underlying etiology. For most benign causes, surgery usually provides definitive treatment. In the setting of malignancy, initial neoadjuvant management may be followed by surgical treatment with curative/palliative intent. Nasogastric tube drainage may provide temporary relief of symptoms while the patient is resuscitated for surgery. [2] [4] In one retrospective study evaluated the efficacy of endoscopic placement of a nasogastric tube into the afferent limb as both a temporizing measure before surgery and as a conservative treatment for patients with benign ALS due to non-obstructive causes such as mucosal edema. Patients with chronic afferent loop syndrome may benefit from preoperative nutritional support and blood transfusions to decrease surgical complications. Antibiotics are an option to treat bacterial overgrowth contributing to malnutrition. [4] [5]

### 4. Conclusion

Afferent loopsyndrome is rare complication after gastric surgeries (<1%). [1]The prognosis of ALS is generally good if diagnosis is made early and pt undergoes surgery. Delayed diagnosis may result in fatal complications like recurrent cholangitis/ pancreatitis, intestinal ischemia, perforation, peritonitis and shock. [5] [6]Surgery remains mainstay for treatment of ALS converting a Billroth II to a Roux-en-Y or creating a Braun anastomosis in a Billroth II, which is an anastomosis from the afferent limb directly to the efferent limb allowing secretions to bypass the gastrojejunal anastomosis. [6]Patients who are not strong surgical candidates may benefit from the endoscopic ultrasound-guided creation of a gastrojejunostomy. So it is important for

surgeon to fashion appropriate length of afferent loop to avoid ALS.

### References

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- [6] Dawod E, Nieto JM. Endoscopic ultrasound guided gastrojejunostomy. *TranslGastroenterolHepatol*.2018; 3: 93 receive a prompt diagnosis and undergo surgery. Delayed
- [7] diagnosis is associated with fatIt is important for surgeons to fashion an afferent limb of appropriate length to prevent this complication