

## Case Report

### A Rare Surgical Cause of Chronic Diarrhoea and Malabsorption

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Gastrojejunalic Fistula is a rare and under-recognised complication following gastric surgery for Peptic Ulcer Disease or as part of a malignant process. It is associated with malnutrition as the food bypasses the small bowel into the Colon as well as the colonic contents entering the Jejunum leading to Malabsorption. A multi-stage repair was performed in the past to reduce mortality. However, currently a single stage repair is feasible because of pre-habilitation and better surgical critical care. Here we are presenting a case which after adequate pre-operative optimisation with parenteral nutrition, the patient tolerated a single stage repair of the Gastrojejunalic Fistula.

[J Indian Med Assoc 2023; 121(5): 53-5]

**Key words :** Gastrojejunalic Fistula, Gastrojejunostomy, Incomplete Vagotomy, Fistula, Stomal Ulcer, Chronic Diarrhoea, Malabsorption.

**G**astrojejunalic Fistula (GJCF) is a rare complication following gastric surgery for Peptic Ulcer Disease in the yesteryears. It usually presents 20-30 years after the surgery. Its presentation may lead to a diagnostic dilemma as its incidence has come down drastically due to better medical management of Peptic Ulcer Disease. The treatment for the same was performed in two or three stages, in view of high mortality and morbidity due to the pathology itself<sup>1</sup>. Presently due to better surgical care, the repair can be performed in a single stage with much less morbidity for the patients<sup>2</sup>.

#### CASE REPORT

Our patient, a 38-year-old former smoker, presented with foul smelling Diarrhoea and upper abdominal discomfort, 2 hours after food intake for a duration of one year. This was associated with weight loss of 20 kgs over 1 year. He gave a history of a loop Gastrojejunostomy (GJ) for a suspected gastric outlet obstruction due to a Duodenal Ulcer at a primary health centre, the details of which were not available to us.

He was anorexic with a BMI of 13.15 kg/m<sup>2</sup>. Physical examination revealed an upper midline incision and pedal oedema. His pre-operative biochemical parameters are summarised in Table 1. An esophagogastroduodenoscopy (EGD) revealed a cicatrised duodenum and three openings at the anastomotic site. Colonoscopy revealed a fistulous opening at 60 cms from the anal verge (Fig 1). Biopsy from the gastric side was suggestive of moderate chronic

#### Editor's Comment :

- Gastrojejunalic Fistula is a rare complication presenting as a triad of Diarrhoea, foul smelling flatus and weight loss, with the onset of said symptoms 20 years after the Primary Gastric Surgery.

gastritis. CECT abdomen showed a GJCF of size 2.3 cms in the posterior wall of gastric antrum to proximal jejunal loop and anterior wall of distal transverse colon with no obvious focal thickening (Fig 2). Barium meal follow through showed contrast leaking into jejunum and colon with gastric emptying of contrast into the duodenum, signifying that there was no gastric outlet obstruction at the time of presentation (Fig 3).

He was admitted for nutritional optimisation with parenteral nutrition and correction of dyselectrolytemia. He was on a high protein diet to enable him to tolerate the surgical ordeal awaiting him. Once we were confident that his body was up to the task, by tracking his serum albumin, electrolytes and physical condition which were towards the improvement trend, he was taken up for surgery after obtaining anaesthetic clearance. Entering the abdomen via an upper midline incision, an antecolic posterior GJ was noted in situ with a fistula of size 2 cms at the anastomotic site opening into the jejunum and transverse colon (Fig 4). We presume a vagotomy was not performed previously, as the planes seemed virgin. The fistula was divided with sharp dissection and after freshening the margins of the gastric, jejunal and colonic openings, primary closure of the gastrotomy, jejunotomy and colotomy in two layers was done transversely. We proceeded with primary closure as the stomach and duodenum showed no ulcers or suspicious lesions supplemented with our pre-operative barium meal report. The gastric margin on histopathology revealed foveolar type of epithelium with an oedematous lamina propria with lymphoplasmacytes neutrophils, eosinophils and congested vessels suggestive of acute

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Received on : 29/03/2022

Accepted on : 31/03/2022

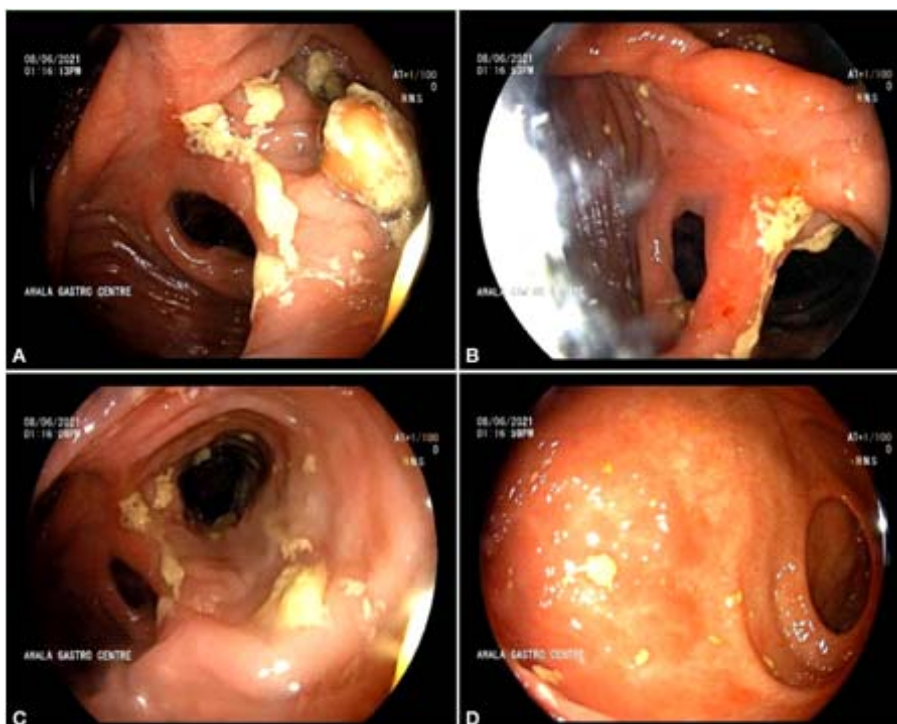


Fig 1 — Colonoscopy images. A – undigested food particles seen in colon, B and C – Fistulous opening seen, D – antrum accessed through fistula

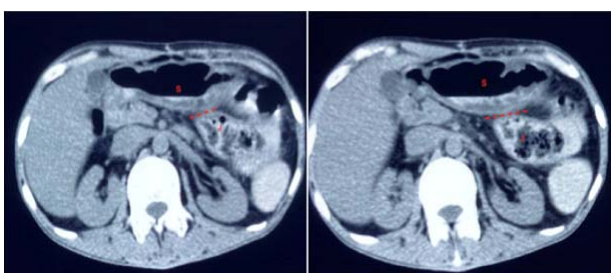


Fig 2 — CECT Abdomen showing the Gastrojejunostomy (dotted line) and site of the fistula. S-stomach, J-jejunum

on chronic inflammation.

His postoperative period was uneventful with oral feeds being started on the fifth post operative day and was discharged by the tenth day. A review 30 days after the procedure brought a smile on the faces of all involved as his BMI was 19.73 kg/m<sup>2</sup>.

**DISCUSSION**

Gastrojejunocolic fistula is an uncommon complication post gastrojejunostomy for peptic ulcer disease<sup>1,2</sup>. Stomal ulcer is the most common cause for GJCF as reported in the available literature (Table 2).

GJCF presents as a triad of diarrhoea (few hours following a meal), foul smelling flatus and weight loss as contrived by Marshal and Knud-Hansen<sup>3,4</sup>. There are also reports of passing undigested food in the stools if the size of the fistula is large<sup>3</sup>. Malnutrition is caused by

colonic contents entering the small bowel as well as food bypassing the small bowel leading to malabsorption<sup>5</sup>. An EGD usually reveals a fistulous opening into the jejunum and colon and sometimes faeculent material maybe present in the stomach. Barium enema has better sensitivity than a barium meal (95% versus 27%)<sup>4</sup>. In our case, EGD unveiled the fistula, which was solidified with CECT abdomen. Negative endoscopic findings should not alter the train of thought to the presence of a GJCF in a patient with prior history of gastric surgery along with the above-mentioned complaints<sup>4</sup>.

The operative mortality was around 40% in the former years. In the 1930s, the surgical procedure was performed in three stages with a colostomy followed by

resection of the fistula and then finally with a colostomy reversal<sup>5</sup>. This brought down the mortality significantly. As with any surgical progress, this was slowly converted into a two staged procedure and by the 1960s to a single stage procedure<sup>1</sup>. But this latter progression was due to improved intensive care and parenteral nutrition by which the patient could be optimised to tolerate the surgical stress<sup>1,5,6</sup>.

**CONCLUSION**

Gastrojejunocolic Fistula albeit an uncommon pathology, should ring a bell when a patient with prior

Table 1 — Preoperative Biochemical parameters		
Parameter	Value	Range
Haemoglobin	8.1 g/dl	13-17 g/dl
Total Count	4.65 x 10 <sup>3</sup> /uL	4.6-10.2 x 10 <sup>3</sup> /uL
SerumAlbumin	1.5 g/dl	3.5-5 g/dL
Serum Sodium	136 mmol/L	136-145 mmol/L
Serum Potassium	2.8 mmol/L	3.5-4.5 mmol/L
Serum Calcium	7.6 mg/dl	8.6-10.2 mg/dl
SerumMagnesium	1.8 mg/dl	1.6-2.3 mg/dl

Table 2 — Etiology of Gastrojejunocolic Fistula	
Drugs	Surgery
NSAID Anticoagulants	Inadequate gastric resection Long afferent loop Incomplete Vagotomy
Personal Habits	
Smoking	Peptic Ulcer Disease
Alcohol	Malignancy

gastric surgery presents with diarrhoea after food intake. A Computed Tomography usually delineates the Fistula. A negative Endoscopy finding should not deter us from the possibility of a Fistula. Surgical repair in a single stage is now possible with appropriate nutritional optimisation of the patient and adequate intensive care.

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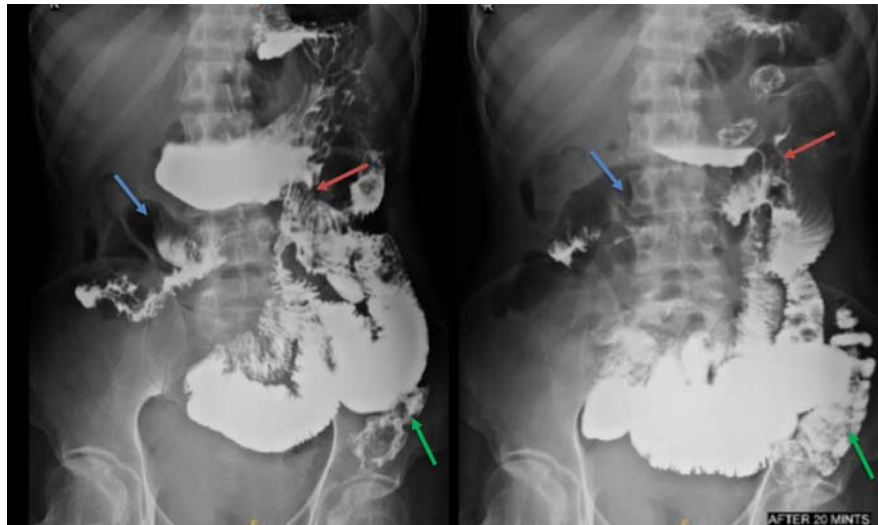


Fig 3 — Barium Meal study showing Gastrojejunalic Fistula. Red arrow showing patent Gastrojejunostomy, Blue arrow showing contrast filling the transverse Colon, Green arrow showing contrast in the left Colon.

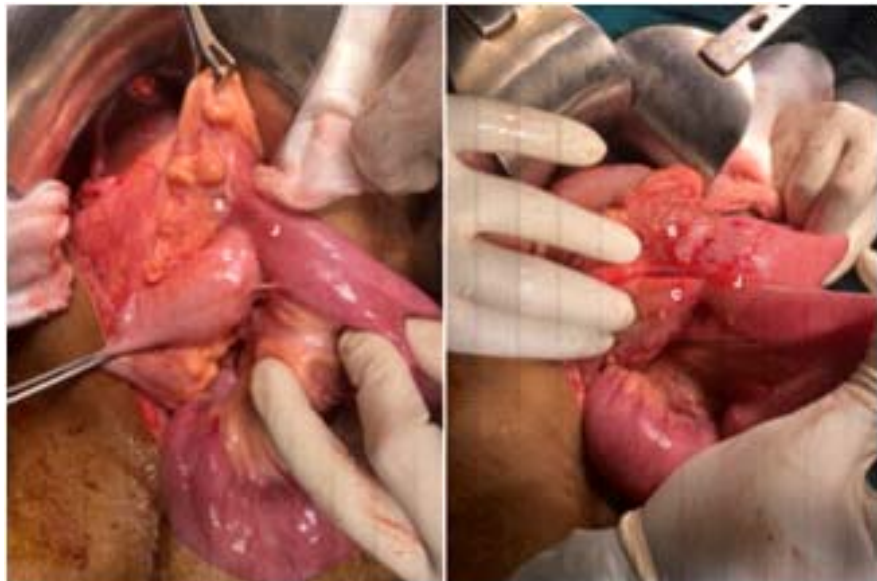


Fig 4 — Intra-operative images showing the Gastrojejunalic Fistula from above (A) and side (B) ; S-stomach, J-jejunum, C-colon