

# Gastrojejunocolic Fistula As A Rare Cause Of Chronic Diarrhea: A Case Report

## *Nadir Bir Kronik İshal Nedeni Olarak Gastrojejunokolik Fistül: Olgu Sunumu*

ULAŞ ADAY, KAMURAN CUMHUR DEĞER, EBUBEKİR GÖNDEŞ, DURMUŞ ALİ ÇETİN, HÜSEYİN CİYİLTEPE, MUSTAFA DUMAN

Kartal Koşuyolu Yüksek İhtisas Eğitim ve Araştırma Hastanesi Gastroenteroloji Cerrahisi Kliniği, İstanbul - Türkiye

### ÖZET

Gastrojejunokolik fistül; peptik ülser nedeniyle antrektomi ve Bilroth II gastroenterostomi yapılan hastalarda geç dönemde, nadir görülen ciddi bir komplikasyondur. Yeterli antral rezeksiyonun veya vagotominin tam yapılamaması ülser nüksü ile sonuçlanır. Marjinal ülserin transvers kolona penetre olmasıyla; karın ağrısı, fekaloid kusma, ishal ve kilo kaybının eşlik ettiği klinik tablo oluşur. 37 yıl önce peptik ülser nedeniyle cerrahi geçiren, 59 yaşındaki erkek hasta son 6 aydır ishal ve kilo kaybı nedeniyle değerlendirilirken gastrojejunokolik fistül tespit edilmesi üzerine kliniğimize refere edilmiştir. Malnütrisyonu olan hastaya total parenteral nütrisyon desteği sağlanarak en blok rezeksiyon, posterior vagotomi, Roux-en-Y gastrojejunostomi ve primer kolon anastomozu tek seansta yapılmıştır. Postoperatif erken

### ABSTRACT

Gastrojejunocolic fistula is a rare but significant complication seen in the later phase in patients who had antrectomy and Bilroth II gastroenterostomy because of peptic ulcer. The failure to perform complete antral resection or adequate vagotomy results in ulcer recurrence. A clinical picture accompanied by abdominal pain, fecaloid vomiting, diarrhea, and weight loss manifests itself as a result of the penetration of the marginal ulcer into the transverse colon. A 59-year-old male patient, who had undergone surgery because of peptic ulcer 37 years before, was referred to our clinic upon the detection of gastrojejunocolic fistula while he was being evaluated for diarrhea and weight loss that had been going on for the last 6 months. The patient, who had malnutrition, received total parenteral nutrition

Başvuru Tarihi: 22.10.2015, Kabul Tarihi: 25.11.2015

Dr. Ulaş Aday

Kartal Koşuyolu Yüksek İhtisas Eğitim ve  
Araştırma Hastanesi 34000 İstanbul - Türkiye  
Tel: 0216.4594440  
e-mail: ulasaday@gmail.com

Kolon Rektum Hast Derg 2015;25:131-135

dönemde intra abdominal kanama nedeniyle relaparotomi yapılan hastada kolon mezodan kaynaklı kanama geliştiği ve spontan durduğu izlendi. Anemiye sekonder gelişen taşikardi ve hipotansiyon nedeniyle verilen eritrosit süspansiyonuna bağlı akut akciğer hasarı gelişen hasta kaybedilmiştir. Geçirilmiş ülser cerrahi öyküsü olan vakalarda, kronik ishal ve kilo kaybı dominant semptomlar olabilirken, gastrojejunolik fistülde gelişebileceği düşünülerek tanıda gecikmenin önüne geçilebilir.

**Anahtar Kelimeler:** *Gastrojejunolik fistül, gastrektomi, ishal*

support followed by en bloc resection, posterior vagotomy, Roux-en-Y gastrojejunostomy, and primary colon anastomosis in a single session. The patient underwent relaparotomy because of intra-abdominal bleeding in the early post-operative phase and he was seen to have bleeding originating from the mesocolon which stopped spontaneously. The patient died of transfusion related acute lung injury related to erythrocyte suspension administered because of tachycardia and hypotension that developed secondarily to anemia. While chronic diarrhea and weight loss can be the dominant symptoms in cases with previous history of ulcer surgery, delays in diagnosis can be prevented by taking the possibility of gastrojejunocolic fistula development into consideration as well.

**Key words:** *gastrojejunocolic fistula, gastrectomy, diarrhea*

## Introduction

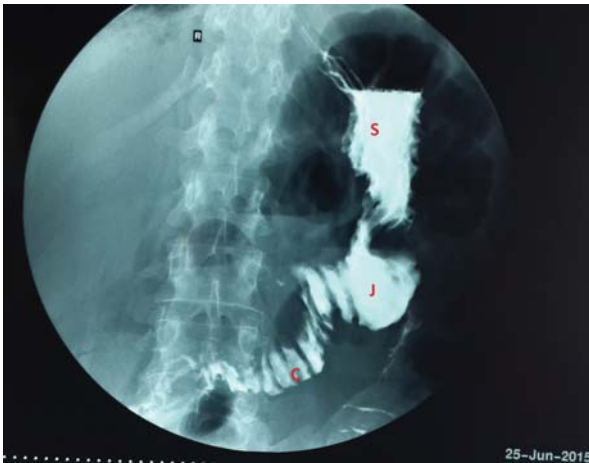
The number of surgical procedures decreased considerably with the introduction of proton pump inhibitors in peptic ulcer treatment and H. Pylori eradication within the last two decades.<sup>1</sup> Incomplete vagotomy or the failure to perform adequate antrum resection in patients undergoing surgery because of ulcer is the main reason for ulcer recurrence.<sup>2</sup> Gastrojejunocolic fistula, which is one of the very rare, late-phase complications of defective ulcer surgery, progresses with clinically fecaloid vomiting, foul smell in the mouth, diarrhea, and weight loss.<sup>2,3</sup> The case of our patient with gastrojejunocolic fistula, who had had subtotal gastrectomy and Bilroth II reconstruction because of peptic ulcer previously was discussed in the light of current literature on the subject.

## Case Report

The 59-year-old male patient, who had had diarrhea 5-6 times daily and weight loss for the last 6 months, was referred to our clinic upon the detection of gastrojejunocolic fistula at another center. The patient's medical history revealed that he had undergone subtotal gastrectomy and Bilroth II reconstruction because of

ulcer 37 years before and had received blood transfusion twice being interned at a hospital because of upper gastrointestinal system bleeding, one being 1 and the other being 3 years following surgery. The patient, who had had no complaints for a long time, had no history of medication intake either. His physical examination revealed that he was cachectic (BMI: 16.1) and had pitting edema in the bilateral lower extremities as well as an incision scar belonging to his previous surgery. His laboratory parameters were stated as such: Hb: 9.5 gr/dL (normal range: 11.1-17.1 gr/dL), Htc: 27.8% (normal range: 33-54%), albumin: 2.8 gr/dL (normal range: 3.5-5.2 gr/dL), pre-albumin: 7 mg/dL (normal range: 17-34 mg/dL). His CEA level was 6.4 ng/ml (normal value: 4.1 ng/ml). The patient's other laboratory parameters were within normal range.

The patient's graphy with barium revealed images concordant with fistula between the stomach and the colon (Figure 1). His endoscopic evaluation showed colonic content within the remnant stomach and a third lumen, alongside with the afferent and efferent jejunal lumens, was observed to be penetrating into the transverse colon (Figure 2). No atypical cells were seen in his

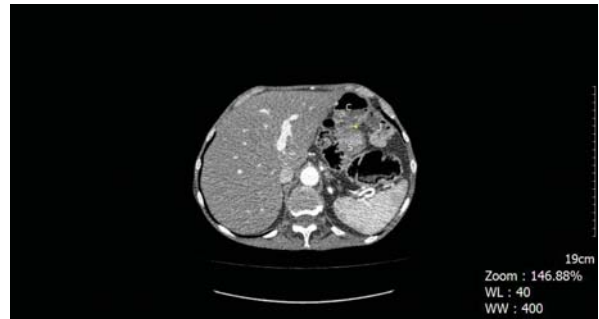


**Figure 1.** Image of the remnant stomach (S), transverse colon (C), and jejunal loop (J) in barium.

biopsies taken from the anastomosis line. Colonoscopic evaluation could not be done because of contamination. The patient's tomography with oral and intravenous contrast revealed that his stomach with partial resection was continuous with the jejunum and the wall integrity was lost between the stomach and the colon with the neighboring anastomosis line (Figure 3). Total parenteral nutrition was initiated pre-operatively and was continued during the post-operative period. Albumin infusion was given because of hypoalbuminemia and pretibial edema. His control pre-albumin and albumin value was normal before the surgery. No erythrocyte suspension was given to the patient before surgery because there was no symptoms due to anemia. The laparotomy performed showed partial gastrectomy, antecolic gastroenterostomy, and gastrojejunocolic fistula (Figure 4). The posterior vagus was intact. Posterior vagotomy was performed with en bloc resection including the partial resection of



**Figure 2.** Endoscopic image of gastrojejunocolic fistula (S, Stomach; J, Jejunum; C, Colon).



**Figure 3.** Abdominal tomography section with oral and intravenous contrast. (S, Stomach; J, Jejunum; C, Colon; Fistula tract shown with yellow arrow).

the colon and jejunum, and subtotal gastrectomy. Stomach continuity was achieved by Roux-en-Y gastrojejunostomy. Primary anastomosis was performed for the colon. The patient was taken into the operating room and relaparotomy was performed on the second post-operative day upon observing that the patient had hypotension and tachycardia alongside with 1200 cc hemorrhagic discharge from the abdominal drain. It was seen that the bleeding originating from the resected mesocolon stopped spontaneously and the feeding in the colonic segment was fine. The patient had drainage and was administered 3 units of erythrocyte suspension in order to ameliorate anemia. The patient, who developed 'Transfusion Related Acute Lung Injury' (TRALI), died on the third post-operative day following transfusion in spite of supportive treatment.



**Figure 4.** Intraoperative finding. S, Stomach; J, Jejunum; C, Colon.

## Discussion

Gastrocolic fistulas are frequently formed secondarily to stomach and colon malignities. Gastrocolic fistulas related to Crohn's disease, syphilis, tuberculosis, foreign body penetration, lymphoma, chronic pancreatitis, pancreatic abscesses, infiltrating tumors of the pancreas, duodenal and biliary diverticulitis; use of aspirin, non-steroid anti-inflammatory drugs and long-term use of steroids, percutaneous endoscopic gastrostomy feeding tube insertion following surgical procedures have been reported less.<sup>3,4</sup> The introduction of proton pump inhibitors to ulcer treatment and the eradication of *H. Pylori* have significantly decreased the number of surgical ulcer procedures which had been performed frequently in the past. Serious clinical outcomes like ulcer recurrence and gastrojejunocolic fistula can arise as a result of defective vagotomy or gastrectomy in surgical procedures done because of ulcer.<sup>5</sup> 0.5-3% anastomosis ulcers develop following ulcer procedures where vagotomy is performed alongside with antrectomy.<sup>6</sup> It has also been stated that in cases with retrocolic Bilioth II reconstruction fistula formation was seen more frequently.<sup>2</sup> It was seen that Bilioth II reconstruction following gastrectomy had been performed antecolically in our patient.

Although fecaloid vomiting, diarrhea, and weight loss account for the classical symptom trio, they are seen only in 30% of the patients.<sup>1</sup> Patients suffer from serious weight loss due to inadequate calorie intake. Anemia, abdominal pain, and malnutrition are seen in most of the patients.<sup>3,5</sup> Diarrhea becomes the dominant symptom when the pylorus is not open, fistula opening is wide, and small intestinal content becomes involved.<sup>7</sup> As diarrhea was prominent in our case, the patient had been evaluated by gastroenterologists with different pre-diagnoses previously and gastrojejunocolic fistula had not been considered initially.

Patients are generally diagnosed with barium passage

graphy of the colon, endoscopic and colonoscopic evaluation.<sup>1-5</sup> Barium graphy should be the first method to be used clinically because of its 95-100% diagnostic accuracy in cases with possible risk of gastrojejunocolic fistula. Endoscopic evaluation has advantages like enabling exploration under direct vision, opportunity for tissue diagnosis, and possible malignity elimination.<sup>4,5</sup> Although it has been stated that colonoscopy is diagnostically a better method than endoscopy, the compound use of diagnostic methods yields better results.<sup>2</sup> In cases with malignity risk or diagnosis the dissemination of the disease is conducted with tomography.<sup>1,3,5</sup> Although colonoscopic examination was done thrice in our case, evaluation could not be achieved because of contamination. Moreover, tomographic evaluation done because of the patient's high CEA level did not show any findings in favor of malignity but screening images concordant with gastrojejunocolic fistula were obtained. Surgically, en bloc resection and appropriate reconstruction are the basic treatment approaches. One-stage surgical procedure is preferred over multiple-stage surgical procedures because of the developments witnessed in post-operative care and nutritional support.<sup>3,4,8</sup> Great attention should be paid to the completion of vagotomy and the appropriate performance of stomach resection in cases with previous history of ulcer surgery since these two factors have become prominent as causes of recurrence in peptic ulcer surgeries.<sup>2,5</sup> As it was seen in our patient that posterior vagotomy had not been performed and gastric resection had been inappropriate, posterior vagotomy and gastric resection were added to the surgical procedure. Gastrojejunocolic fistula should be considered in patients with chronic diarrhea and with previous history of ulcer surgery. One-stage surgical procedure can be safely performed through optimal nutritional support.

---

## References

1. Yin J. *et al.* Current diagnosis and management of malignant gastrocolic fistulas: a single surgical unit's experience. *Int J Clin Exp Med* 2014;7;4123-4130.
2. Ding YL, Zhou Y, Zhang JL. Gastrojejunocolic fistula after gastroenterostomy with Bilroth II reconstruction for duodenal ulcer: Report of case. *Scientific Research and Essay* 2011;6:4634-38.
3. Stamatokos M, Karaiskos I, Pateras I, Alexious I, Stefanaki C, Kontzoglou K. Gastrocolic fistulae; From Haller till nowadays: *International J of Surgery* 2012;10:129-133.
4. Winata LS, Kong CH, Thiruchelvam D. A case of bleeding benign gastrocolic fistula in 2014. *International J of Surgery Case Report* 2014;5:948-950.
5. Keçe C *et al.* Current Diagnosis and Management of Gastrojejunocolic Fistula. *Case Ports in Gastroenterology* 2010;4:173-177.
6. Sayek İ. Temel Cerrahi 4. Baskı, Cilt 2 2012;1302.
7. Mathewson C. Preliminary colostomy in the management of gastrocolic and gastrojejunocolic fistula. *Ann Surg* 1941;114:1004-10.
8. Naik SA, Pai S. Unusual case of gastro jejuno-colic fistula with perforation: a rare case report. *Pan African Medical Journal* 2014;18:341.