A 49-year-old Korean man was admitted to our hospital on 15 November 2013 because of diarrhea, a body weight loss of 10 kg over 2 months, and a 1-month history of edema in both legs. He had undergone gastrectomy for gastric perforation after drinking agricultural chemicals in 2001, and in 2008 had also received a bypass gastrojejunostomy to treat pyloric obstruction resulting from recurrent gastric ulcers. Since then, annual upper endoscopy examinations conducted at this hospital had revealed recurrent marginal ulcers.

At presentation, the patient had a chronically ill appearance. Examination revealed pitting edema in both legs. The patient was taking no medications and had no known allergies to medications. He had a history of smoking (15 pack-years) and did not use illicit drugs. There was no family history of cancer or other disease.

The patient’s total protein and albumin levels were 4.3 g/dL and 2.2 g/dL, respectively. Hemoglobin was 10.3 g/dL, but plasma levels of electrolytes, coagulation tests, and kidney and liver function were all normal. Doppler ultrasonography of both legs revealed no evidence of deep vein thrombosis. Upper endoscopic examination revealed reflux esophagitis and the previous gastrostomy site low in the posterior wall of the body, with marginal ulcers and jejunal ulcers. Rapid urease test was positive. Colonoscopic examination revealed edematous mucosal change in the ascending and descending colon, and two openings suggestive of fistula in the transverse colon (Fig. 1). Barium upper gastrointestinal series revealed a fistula between the jejunum and the transverse colon (Fig. 2). Abdominal computed tomography (CT) visualized the fistula more clearly (Fig. 3).

The patient was diagnosed as having a gastrojejunal fistula that was causing hypoalbuminemia and edema in both legs. He underwent segmental resection of the transverse colon and reconstruction of the gastrojejunostomy. After the operation, the edema in both legs and hypoalbuminemia gradually improved, the diarrhea stopped, and body weight increased. Two weeks after discharge the patient attended the outpatient clinic of this hospital; his edema was gone and his albumin level was 3.7 g/dL.

Gastrojejunal fistula is a rare complication of gastrojejunostomy [1]. The fistula results from perforation of marginal ulcers into the transverse colon [2]. Symptoms include diarrhea, weight loss, belching of fecal odors, vomiting, anorexia, and edema [3]. Anemia, leukocytosis, electrolyte imbalance, and hypoalbuminemia are common laboratory findings [3, 4]. However, it is difficult to diagnose gastrojejunal fistula on the basis of these symptoms and laboratory findings, because there are many differential diagnoses. The most commonly used diagnostic tools are the barium upper gastrointestinal series and endoscopic examination. Abdominal CT is also used to identify the fistula and to exclude extra-abdominal disease. The treatment of choice of gastrojejunal fistula is surgery.

In our patient, the cause of the gastrojejunal fistula is thought to have been recurrent marginal ulcers resulting from persistent smoking or recurrent Helicobacter pylori infection after gastrojejunostomy. In patients with gastrojejunal fistula, the ingested food cannot pass in the physiologic order (stomach–jejunum–ileum–colon), but can pass in a
pathologic order (stomach–gastrojejunostomy site–transverse colon). This abnormal passage results in malabsorption and, eventually, progressive hypoalbuminemia, weight loss, diarrhea, and edema in both legs. In our patient, the gastrojejunocolic fistula caused all of these symptoms.

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Competing interests: None

Jae Hyun Kim, Seun Ja Park, Moo In Park, Won Moon, Sung Eun Kim, Hye Jung Kwon, Youn Jung Choi
Department of Gastroenterology, Kosin University College of Medicine, Busan, Korea

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Corresponding author
Seun Ja Park, MD
Department of Gastroenterology
Department of Internal Medicine
Kosin University College of Medicine
34 Amnam-dong, Seo-gu
Busan 602-702
Korea
Fax: +82-51-9905055
parksj6406@daum.net