

A Case of Combined Gastrojejunal and Gastrocolic Fistula secondary to Gastric Cancer

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A rare case of gastric cancer associated with gastrojejunal and gastrocolic fistula is presented. A 56-year-old man who had been diagnosed with advanced gastric cancer(Borrmann's type III) 5 months previously was admitted due to watery diarrhea and frequent vomiting for 2 weeks. Fluoroscopic examination was visualized two abnormal passage of contrast medium from the stomach, one to the colon, and the other to the jejunum. Gastrofiberscopy revealed that the tumor on the great curvature of the body appeared to penetrate into the colon, while the other one on the antrum directly invaded into the jejunum. The patient was treated conservatively with total parenteral nutrition and pain control.

Key Words : Gastrojejunal fistula, Gastrocolic fistula, Gastric cancer

INTRODUCTION

The development of a fistula between segments of the gastrointestinal tract is a rare occurrence in malignant disease. It results primarily from extension of the tumor from the serosa of one viscus into the wall of the another viscus followed by lumen-to-lumen necrosis (Martinez et al.,1978). Gastrocolic fistula is a well recognized complication of malignancies arising from the stomach or colon(Soybel et al.,1989; Adelman & Ponka,1971). Gastrojejunal fistulas due to gastric cancer are extremely rare and only two reported cases were found in the literature(Shoji et al.,1981). There was no report of combined gastrojejunal and gastrocolic fistula due to gastric cancer.

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We report, herein, a case of combined spontaneous gastrojejunal and gastrocolic fistula due to gastric cancer.

CASE REPORT

A 56-year old man was admitted to the hospital with the chief complaints of epigastric pain, diarrhea and vomiting. Five months before admission, endoscopy was performed, and showed a large and deep ulcerating mass in the lesser curvature of the high body on the stomach(Fig. 1. A and B). Biopsies taken from this lesion showed a poorly differentiated adenocarcinoma. The patient could not undergo surgery because of liver and periaortic lymph node metastasis noted on abdominal CT. He has been conservatively treated since that time. Two weeks before admission, intermittent diarrhea developed and his stools frequently contained particles of recently ingested food. The stools were sometimes dark. His CBC on admission were as follows : hematocrit 30%, white blood cell count 5,400/mm³, with a normal differential. His urinalysis was within normal limit. Fasting blood sugar was 102mg/dl and

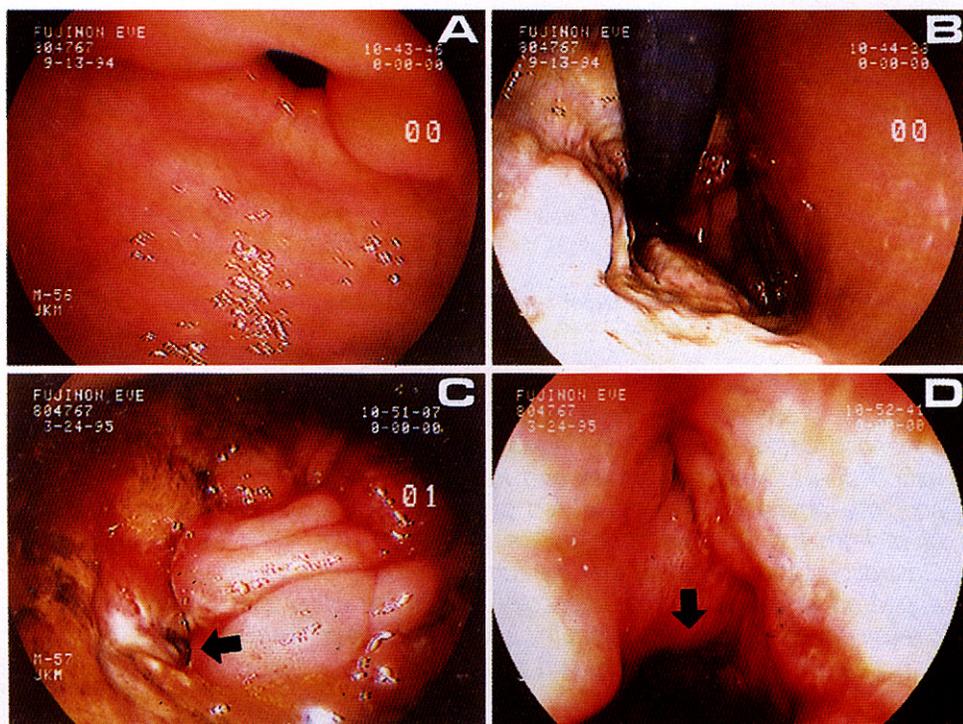


Fig. 1. The gastrofiberscopic examination. (A&B done at first visit on Sep. 13, 1994 and C&D done at admission on Mar. 24, 1995)

- A: The antrum of stomach showed nearly normal mucosa.
 B: The large ulcerating mass was seen on the body and fundus of stomach.
 C: The opening site of gastrocolic fistula (arrow) was seen at high body of great curvature on the stomach with stool materials.
 D: The other opening site of gastrojejunal fistula (arrow) was seen at the greater curvature of gastric antrum.

blood urea nitrogen was 20mg/dl. Total protein was 4.9 g/dl, albumin 2.0g/dl, creatinine 0.8mg/dl, and alkaline phosphatase was 87 IU/L. Stools were positive for occult blood on three occasions. Fluoroscopic examination visualized two abnormal passages of contrast medium from the stomach, one to the colon, and the other to the jejunum (Fig. 2). Gastrofiberscopy revealed that the tumor on the greater curvature of the body appeared to penetrate into the colon, while the one on the antrum invaded directly into the jejunum (Fig. 1. C and D). Abdominal CT revealed one fistulous tract between the gastric antrum and the proximal portion of the descending colon. It also showed an irregularly thickened gastric wall, perigastric lymphadenopathy and ascites (Fig. 3). The patient was treated conservatively with total parenteral nutrition and pain control. On the 58th hospital day, he was discharged per his and his family's request.

DISCUSSION

Gastrocolic fistulas of malignant origin, although rare, are the second most common type of gastrointestinal fistula, being surpassed in frequency only by gastrojejunocolic fistulas, usually a complication of gastric operation for benign gastric ulcer (Smith *et al.*, 1972). Some authors have stated that carcinoma of the colon is a more frequent cause of this type of fistula than carcinoma of the stomach (Marshall and Knud-Hansen, 1957). Other benign causes for such fistulas have been reported, including peptic ulcers, Crohn's disease, trauma, pancreatitis, diverticulitis, and infections of the stomach such as syphilis, tuberculosis, or cytomegalovirus (Tavener *et al.*, 1993).

The incidence of spontaneous gastrojejunal fistula is extremely rare. There are only 10 reported cases due to peptic ulcer and only 2 due to cancer (Shoji *et al.*, 1981).

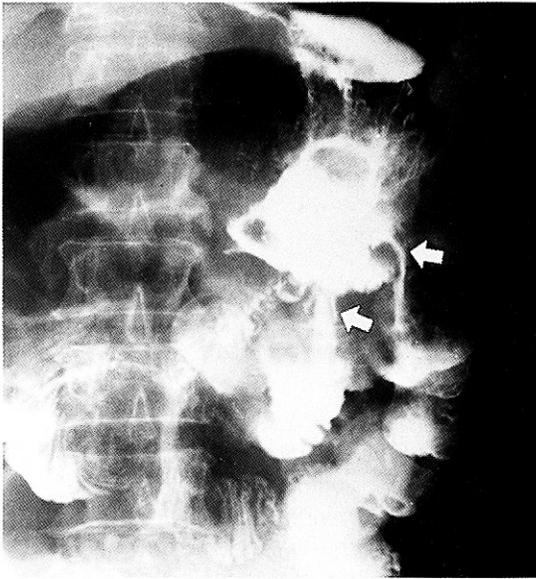


Fig. 2. Upper gastrointestinal barium study showing two fistulous tracts along the greater curvature of stomach. The proximal one (white arrow) was communicated with descending colon and the distal one (white arrow) with jejunum. The margin of gastric antrum and lower body was irregular due to tumor infiltration.

To our knowledge, combined gastrojejunal and gastrocolic fistula due to gastric cancer has never been reported.

Martinez suggested that the pathogenesis of communications between the stomach and other part of the intestinal tract is malignant infiltration upto the serosal surface, adherence and then infiltration of the serosal surface of adjacent organs and, finally, central necrosis of the infiltrating mass resulting in communication between the organs (Martinez et al., 1978). Anatomically, the distal half of the transverse colon lies just below and slightly posterior to the greater curvature of the stomach connected by a short segment of omentum called the gastrocolic ligament. Therefore, perforating gastric cancer along the greater curvature easily invades into the serosal surface of the colon (MacMahon and Lund, 1963). In case of the gastrojejunal fistula arising from gastric cancer, Shoji postulated that the cancer reached the jejunum by direct growth and infiltration through the transverse mesocolon (Shoji et al., 1981).

The predominant symptoms of gastrocolic fistula are epigastric pain, weight loss, diarrhea, and feculent vomiting (Braghetto et al., 1984). Barium enema remains the most accurate method of diagnosis but in some hands barium meal and endoscopy are improving (Soybel et

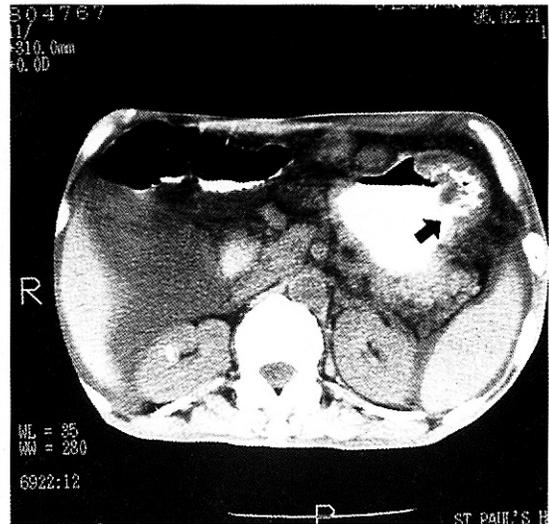


Fig. 3. Unenhanced CT scan showing fistulous tract (arrow) between the gastric antrum and the proximal portion of descending colon, and irregularly thickened gastric wall, perigastric lymphadenopathy and ascites.

al., 1989).

Treatment is based on nutritional support with parenteral and, or enteral hyperalimentation and surgery, if possible (Braghetto et al., 1984).

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