

PYLORIC STENOSIS AS AN INITIAL SYMPTOM IN CROHN'S DISEASE: A CASE REPORT AND THE REVIEW OF LITERATURES

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The gastroduodenal lesion in Crohn's disease is relatively rare and occasionally causes pyloric stenosis. We here report on a 39-year-old man who had complained of upper abdominal obstructive sensation. He underwent gastro-jejunostomy and truncal vagotomy for pyloric stenosis, and intestinal resection and stricturoplasties for intestinal lesions. When a patient complains a symptom due to pyloric stenosis, it is necessary to take into consideration Crohn's disease as a diagnosis.

Key words: Crohn's disease, pyloric stenosis

INTRODUCTION

Crohn's disease is a chronic, nonspecific inflammatory disease of the gastrointestinal tract of unknown etiology. It involves mainly the ileum and large intestine. There have been only 21 reports on the treatment of pyloric stenosis due to Crohn's disease in Japan (1-4). Furthermore, most of these cases had other gastrointestinal complaints and only 6 cases had a complaint due to pyloric stenosis in the first time. We here present a case of gastroduodenal and intestinal Crohn's disease who have had a complaint of obstruction due to pyloric stenosis and had surgical treatment.

CASE REPORT

A 39-year-old man had complaints of nausea and upper abdominal obstructive sensation. He had no contributory family history but had a history of puru-

lent discharge from anal fistula at intervals since 6 years before. Barium study revealed almost complete obstruction of the pylorus (Fig. 1).



Fig. 1. Barium study revealed almost complete obstruction of the pylorus (Ram's horn sign).

Gastrointestinal endoscopy demonstrated the stenosis of the pylorus, which accompanied the nodular thickness and ulceration. The fiberscope was difficult to be passed through the ring. No other particular findings such as bamboo appearance, characteristic to the Crohn's disease, were found in the oral side of the stomach (Fig. 2a). Histological examination of the biopsy specimen of the stenotic lesion showed regenerative epithelium but no malignant cell. There were diffuse infiltration of plasmacytes and eosinophils, however the granuloma or focal lymphomonocytic infiltrate which was characteristic for Crohn's disease was not demonstrated. Thickening of the gastroduodenal wall was recognized by computed tomography. He was referred to our hospital for further examination and treatment. Obstructive symptoms developed despite the administration of H₂ blocker or proton-pump inhibitor (PPI) for a month. He lost his weight 6 kg for two months.

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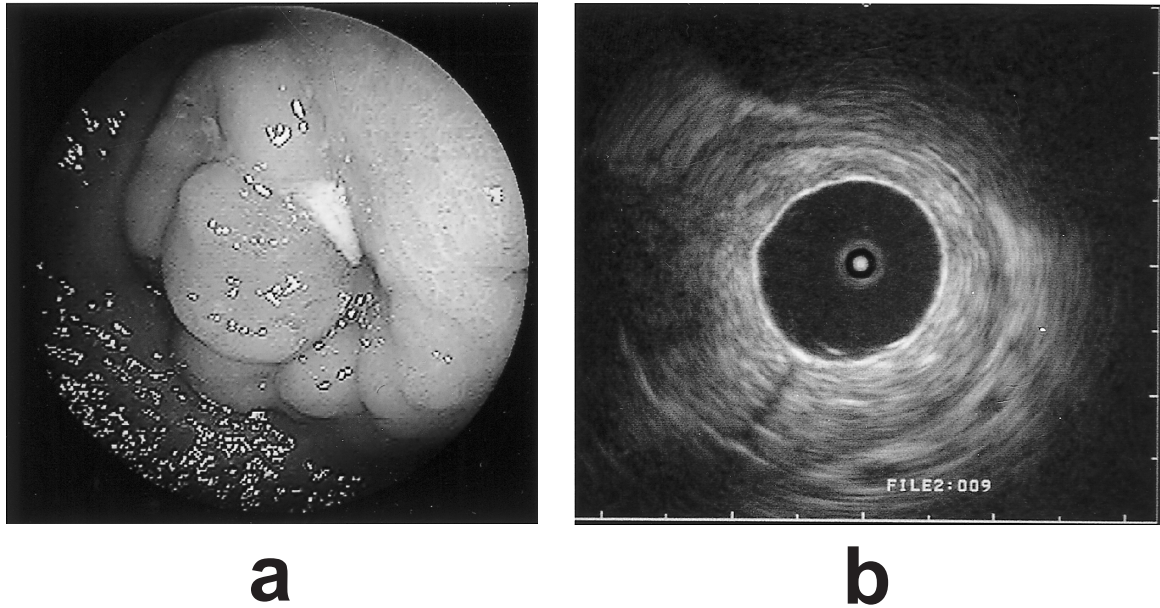


Fig. 2. (a) Gastrointestinal endoscopy demonstrated stenosis of the pylorus, which accompanied nodular thickness and ulceration. It was difficult to pass the fiberscope through the ring. (b) Endoscopic ultrasonography using miniature probe with balloon (OLYMPUS: UM-BS20-26R 20MHz) presented circular transmural thickening for all layers of the gastric wall in the proximal side of the stenosis. The length of markers included in the figure was 5 mm for a mark.

At admission to our hospital, he was 174 cm in height, 69 kg in weight, and with average body constitution and normal nutrition. The physical examination showed normal bowel sound. There was neither tenderness nor mass lesion in the abdomen. Two scars of the anal fistula were found at 2 and 10 o'clock. Laboratory tests showed high C-reactive protein concentration (2.7 mg/dl), high gastrin concentration (371 pg/ml), and high erythrocyte sedimentation rate. Fecal occult blood was positive. There were no other abnormalities (Table 1). Repeated

Table 1 Laboratory data on admission

WBC	4200 / μ l	TP	6.7 g/dl
Hemoglobin	14.5 g/dl	Albumin	3.9 g/dl
ESR	30 mm/h	-globulin	19.0%
CRP	2.7 mg/dl	AST	25 IU/l
CEA	2.9 ng/ml	ALT	26 IU/l
CA19-9	6 U/ml	ALP	200 IU/l
Gastrin	371 pg/ml	T-cholesterol	142 mg/dl
Fecal occult blood	(+)	BUN	9 mg/dl
Anti Helicobacter Pylori	(-)	Creatinine	0.91 mg/dl

gastrointestinal endoscopy and histological examination could not reveal new findings. Endoscopic ultrasonography using miniature probe with balloon

(OLYMPUS: UM-BS20-26R 20MHz) presented circular transmural thickening for all layers of the gastric wall in the proximal side of the stenosis. (Fig. 2b). In the distal side, the thickening was limited to the mucosal and submucosal layers. Gastroduodenal border was indistinct. From the above-mentioned, pyloric stenosis due to peptic ulcer, malignant disease and Crohn's disease were suspected but not confirmed. Because of difficulty for drinking or eating, small and large intestinal studies were not performed and laparotomy was done to release his obstructive symptom and to have a confirmed diagnosis.

On laparotomy, the tumorous thickening of the wall and inflammation, which ranged from the pylorus to the second portion of the duodenum, was found. Examination of the other organs revealed six stenotic lesions in the small intestine. Intraoperative histological examination of the biopsy specimen from the mesenteric lymph node was performed. It showed the presence of granuloma with no caseation. On this time, the diagnosis of Crohn's disease of the gastroduodenum and small intestine was confirmed for the first time. The gastroduodenal lesion was not resected for its involvement of the second portion of the duodenum. So, gastrojejunostomy and truncal vagotomy was selected for the pyloric obstruction. For the intestinal stenotic lesions, five stricturoplasties

and one intestinal resection for the most severe stenosis for 20 cm were performed. In the resected intestine, longitudinal ulcers along the mesenteric attachment and focal cobblestone appearance were observed. Histologically, non-caseating granulomas and lymphangitis were found. Schaumann's body in an atrophic giant cell was also observed.

In spite of postoperative administration of corticosteroid and mesalazine with total parenteral nutrition and elemental diet therapy, the pyloric stenosis was not alleviated. Passage of gastrojejunostomy and small intestine was intact. Colorectal lesion was not found postoperative examination and anal fistula was well controlled by the administration of metronidazole. He did well postoperatively and was discharged 90 days later.

DISCUSSION

Crohn's disease is a chronic, nonspecific inflammatory disease of the gastrointestinal tract of unknown etiology. It involves the entire gastrointestinal tract, mainly the ileum and large intestine. Progressive gastroduodenal lesions causing stenosis are rarely observed in 0.5%-13% of Crohn's disease in Western countries (5-7). There have been only 21 reports on the treatment of pyloric stenosis due to Crohn's disease in Japan (1-4). Furthermore, only 6 cases had an initial diagnosis of Crohn's disease by the complaint of pyloric stenosis. When the lesions of the small and large bowel are already evident, the diagnosis of gastroduodenal Crohn's disease is not difficult. However, if the main symptom is due to gastroduodenal lesion, it is necessary to differentiate this condition from numerous other diseases (e.g., peptic ulcer, pancreatitis, eosinophilic gastroenteritis, tuberculosis, syphilis, fungal infection, foreign body reactions, carcinoma, sarcoidosis, amyloidosis, and collagen-vascular disorders). If the antrum and duodenum are both abnormal and display stricture, rigidity, cobblestone appearance, or multiple punctate ulcerations, the lesion is more likely to be Crohn's disease. However, the present case had no such characteristic appearances on endoscopy. The presence of non-caseating granulomas in the specimen of biopsy is necessary for preoperative diagnosis. However, the positive rate is low (19.5%) according

to Alcantara *et al.*(8). In the present case, the histological examination did not reveal the granulomas.

In many cases of pyloric stenosis due to gastroduodenal Crohn's disease, a surgical treatment is indicated. Among 21 cases reported in Japan, 17 underwent surgery. Twelve had gastrectomy and five had gastro-jejunostomy according to the extent of the lesions. In the cases of gastrojejunostomy, the requirement of additional vagotomy is controversial. Ross *et al.*(9) recommended additional vagotomy because of high incidence of postoperative anastomotic ulcer. Though truncal vagotomy does not cause severe diarrhea by their report, selective or highly selective vagotomy has been recommended in Japan.(2) On the other hand, Nugent *et al.*(10) have reported that vagotomy is not necessary because of low incidence (6%) of anastomotic ulcer. The rate of reoperation ranges 24% to 70%(9, 10) and careful follow-up is important. Our patient has been spending a normal life until now, 9 months after the gastro-jejunostomy and the truncal vagotomy.

In conclusion, when a patient complains symptoms due to pyloric stenosis, it is necessary to take into consideration Crohn's disease as a diagnosis.

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