

Choledochoduodenal Fistula Associated With Recurrent Peptic Ulcer

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Abstract

A male 33 years of age who had a history of recurrent duodenal ulcer was admitted to our hospital because of frequent vomiting and weight loss. The blood tests showed hypokalemia and acute renal dysfunction due to dehydration. Abdominal CT revealed dilatation of the stomach with pneumobilia of the intrahepatic bile duct, and endoscopy showed duodenal ulcer with stricture of the duodenal bulb. The diagnosis of choledochoduodenal fistula due to duodenal ulcer was made, so he underwent surgical operation because the obstruction was severe. Both choledochobiliary fistula and duodenal stricture are relatively rare complications of duodenal ulcer. Here we report on a case accompanied by the both complications, requiring surgical operation.

Keywords: Duodenal ulcer; Fistula; Biliary tract

Introduction

Peptic ulcer is common condition in Japan because of high prevalence of *Helicobacter pylori* infection. However, severe complications such as entero-biliary fistula are relatively rare in recent years due to development of strong acid suppressants. Here we report on a case with recurrent duodenal ulcer accompanied by choledochobiliary fistula and duodenal stricture which require surgical operation.

Case Report

A 33-year-old male visited to Teikyo University Hospital (Tokyo, Japan) because of recurrent vomiting and marked weight loss (20 kg/year). He had a 15-year history of recurrent duodenal ulcer (Fig.1). Last year, he was recommended by a physician to have eradication therapy against *Helicobacter pylori*, but, he did not. On admission, the laboratory data showed acute renal dysfunction due to dehydration and hypokalemia (Table 1). Abdominal computed tomography revealed dilatation of the stomach and the air in the intrahepatic biliary duct (Fig. 2). Esophagogastroduodenoscopy showed marked deformity with severe stricture of the duodenal bulb (Fig. 3). Although the presence of hole could not be confirmed directly, gastroduodenography showed contrast medium entered into the biliary tract, indicating duodenobiliary fistula (Fig. 4). He could not take meal enough due to duodenal stricture, so partial gastroduodenectomy was performed. After the operation, he had been able to eat meals and was discharged without serious complication.

Discussion

Choledochoduodenal fistula is well-known but a relatively rare complication of duodenal ulcer in recent years, because the development of antacid drugs makes us control the disease easier than before. The most major cause for duodenobiliary fistula is inflammation of the bile duct due to

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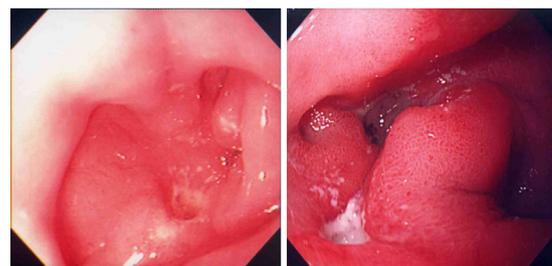


Figure 1. Past endoscopic findings; 19 years old (left) and 32 years old (right).

Table 1. Laboratory Data

Cell count	
RBC	511 × 10 ⁴ /μl
Hb	15.9 g/dl
Ht	46.5%
Plt	26.6 × 10 ⁴ /μl
WBC	7,800 /μl
Blood gas analysis (room air)	
pH	7.56
paCO ₂	74 mmHg
paO ₂	70 mmHg
HCO ₃	66.3 mmol/l
SaO ₂	94.6%
Chemistry	
TP	8.1 g/dl
Alb	5.4 g/dl
AST	20 IU/l
ALT	16 IU/l
LDH	149 IU/l
AIP	248 IU/l
γ-GTP	23 IU/l
ChE	5.44 U/ml
BUN	61.8 mg/dl
Cr	3.44 mg/dl
UA	13.5 mg/dl
Na	145 mEq/l
K	2.9 mEq/l
Ca	4.7 mEq/l
FBS	96 mg/dl
CRP	0.76 mg/dl

gallstones, and the minors include duodenal ulcer, pancreatic neoplasm, and inflammation of neighbor organs [1-2].

Yamashita et al. reported that 33 of 1929 cases (1.9%) with biliary diseases showed duodeno-biliary fistula [3]. On the

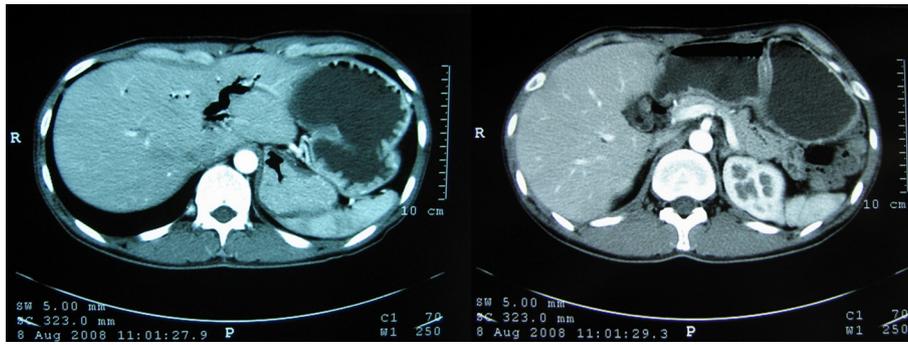


Figure 2. Abdominal computed tomography. Peumobilia in the intrahepatic bile duct (left) and dilatation of the stomach (right) was found.

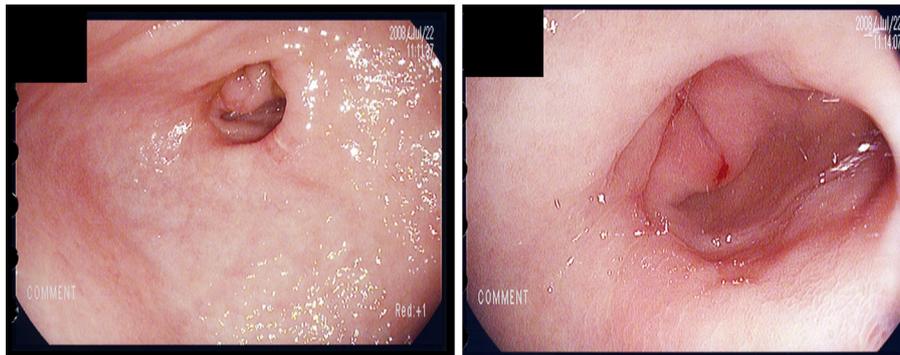


Figure 3. Upper gastrointestinal endoscopy. Duodenal ulcer and stricture was seen.

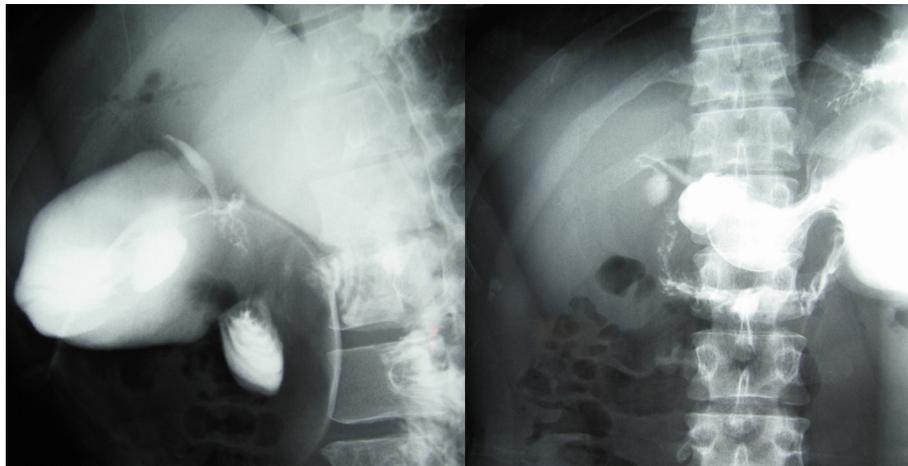


Figure 4. Upper gastroduodenography. This revealed the existence of choledochoduodenal fistula.

other hand, duodenal ulcer causes fistula to the other organs such as the biliary tract, pancreas, ureter, portal vein, aorta, pleura and skin [3-8]. Of these, biliary fistula seems more often than others [9]. Stricture is also uncommon condition of duodenal ulcer. In the present case, both the complications occurred as a result of recurrence of the disease. Additionally, the stricture of the duodenum got him unable to

take food and water, developing weight loss and acute renal dysfunction due to dehydration.

Possible treatments of both complications include surgical therapy, endoscopy, and conservative treatment [10]. Endoscopic therapy such as endoscopic closure and dilatation, may be an alternative method for surgery. In our case, however, both fistula and stricture coexisted, and endoscopic

closure was not available because the location of the fistula could not be confirmed precisely. Additionally, since the stricture was very severe, we could not try endoscopic dilatation. Then we did not choose endoscopic or conservative treatment, but did surgical operation.

Here we reported on a rare case of duodenal ulcer accompanied by duodeno-biliary fistula and duodenal stricture. Since duodenal ulcer is common condition, we need to remind those complications and treatment against them.

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