Distal Common Bile Duct Stenosis Secondary to Benign Duodenal Ulceration: Report of a Case

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Abstract. Obstructive jaundice is a very rare complication of peptic ulcer disease. We report a patient who presented with symptoms suggestive of malignant distal common bile duct stenosis. A final diagnosis of benign duodenal ulcer with stricture of the common bile duct was made. A short review of the literature is also presented.

Key words: Bile duct obstruction, extrahepatic – Duodenal ulcer – Cholangiography.

Duodenal ulcer can give rise to rare complications, such as choledochoduodenal fistula [1-8], choledochopancreatoduodenal fistula [9], and also to biliary obstruction without fistula formation [10-17]. We describe herein a patient who presented with symptoms and signs suggestive of a malignant common bile duct stenosis. The distal common bile duct stricture could finally be ascribed to the presence of a benign duodenal ulcer. All symptoms abated after treatment with H2-receptor antagonists. To our knowledge, the last similar case was reported in 1975 [17]; we felt that the significance of this radiologic documentation was of interest to draw the attention to this rare complication of peptic ulcer disease.

Case Report

A 69-year-old man, who had severe degenerative disease of the cervical spine with spinal cord compression, was admitted in May 1988 because of a 6-month history of right upper quadrant pain radiating to the back, and with a recent severe exacerbation of colicky pain. During the month prior to admission, he was anorectic and had a weight loss of 8 kg. Clinical evaluation did not reveal any abnormality except for signs of his neurologic disorder. Laboratory values for serum glutamic-oxaloacetic transaminase (SGOT) and serum glutamic-pyruvic transaminase (SGPT) showed slight elevations of 76 U/L (normal, 2-19 U/L) and 103 U/L (normal, 5-24 U/L), respectively. Serum bilirubin was 0.8 mg/dl, alkaline phosphatase 63 U/L (normal, 40-130 U/L), and gamma-GT 51 U/L (normal, 5-24 U/L). Ultrasonography showed dilatation of the intra- and extrahepatic bile ducts and a mass, extending from the duodenal wall into the distal common bile duct (Fig. 1). Percutaneous transhepatic cholangiography showed a medial displacement of the distal third of the common bile duct, which was narrowed with a slightly irregular aspect (Fig. 2). From these observations, a presumable diagnosis of malignant distal common bile duct stenosis was made. Endoscopic retrograde cholangiopancreatography (ERCP) was performed, revealing a large postbulbar duodenal ulcer. Cannulation of a normal papilla demonstrated a normal pancreatic duct system, whereas the bile duct could not be opacified. Multiple biopsies of the ulcer on repeated occasions showed only inflammatory changes. An upper gastrointestinal radiograph series confirmed the presence of a postbulbar duodenal ulcer with radiating folds (Fig. 3). There was no evidence of invasion or displacement of the duodenum by neoplasm. H2-receptor antagonists were

Fig. 1. Ultrasonography showed dilatation of the common bile duct and a mass, extending from the duodenal wall into the distal common bile duct (arrowheads).
Fig. 2. Percutaneous transhepatic cholangiography revealed a medial displacement and irregular narrowing of the distal common bile duct (arrowheads).

Fig. 3. Hypotonic duodenography showed a larger postbulbar duodenal ulcer (arrow).

prescribed for 2 months. Control examinations were performed in July and September of 1988, and September 1989. The patient was free of symptoms, liver tests were repeatedly normal, and a control gastroduodenoscopy showed complete healing of the duodenal ulcer. A control ERCP, performed in September 1989, showed only a slight residual stenosis of the distal common bile duct and a normal appearance of the pancreatic duct.

Discussion

This middle-aged man presented with right upper-quadrant pain, anorexia, weight loss, and abnormal liver tests. Radiologic examinations showed dilatation of the bile ducts and irregular narrowing and medial displacement of the distal third of the common bile duct, which was caused by a mass extending from the duodenal wall, as seen on sonography. As reported by others [13, 17], an erroneous diagnosis of malignant distal common bile duct stenosis was made. However, the presence of a benign duodenal ulcer as the cause of the bile duct stenosis was subsequently shown by duodenoscopy and hypotonic duodenography. The extrinsic obstruction of the distal biliary tract was produced by edema and fibrosis caused by the penetrating duodenal ulceration. All symptoms and biochemical abnormalities resolved after treatment with H₂-receptor antagonists for 2 months, and the patient remains free of symptoms 16 months posttreatment.

Considering the anatomic proximity of the distal common bile duct and the second part of the duodenum, it is remarkable that this biliary complication of peptic ulcer disease has been rarely reported. Parks and Fitz published a collection of 35 case histories in 1939 [10]. Of these 35 cases, all patients ranged in age from 20 to 54 years, and the ratio of men to women was four to one. The majority of the cases complained of right upper quadrant pain, but in some patients, silent jaundice was the presenting symptom. Since then, additional cases have been rarely reported [11-17]. Two mechanisms have been proposed as a cause of the biliary obstruction in these patients with peptic duodenal ulceration. In some patients, as reported by Levine and Gordon [11] and Engel and Spann [12], perforation of the ulcer was considered to be responsible for the production of jaundice, whereas in other cases [13-17], extrinsic obstruction of the common bile duct was produced by edema and fibrosis arising from a penetrating duodenal ulcer.

In most patients who have previously been reported with duodenal ulcer and distal common bile duct stenosis, different types of surgical interventions have been carried out [11, 12, 14, 15, 17]. However, as it has been suggested for patients with choledochoduodenal fistulas [1-3, 9, 18], we be-