Case Reports

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Duodenal bulbar necrosis with hemorrhage caused by cholecystolithiasis: a case report

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Abstract

Gastrointestinal bleeding and gallbladder stones are common diseases of the digestive system. However, duodenal necrosis and bleeding caused by gallbladder stone compression is relatively rare. The present report describes a patient with repeated hematemesis and melena that relapsed after several symptomatic treatments. The patient and his family elected surgical treatment. Intraoperative examination revealed necrosis of the duodenal bulb with hemorrhage, which was related to compression of the gallbladder neck. Because the imaging manifestations of this disease lack specificity, early diagnosis is difficult.

Keywords

Duodenal bulbar necrosis, hemorrhage, cholecystolithiasis, case report, gastroscopy, computed tomography

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Introduction

Because of the progress of endoscopy and interventional radiology in recent years, several rare conditions such as adjacent organ disease and bleeding associated with systemic disease have been reported with increasing frequency.[1] Gallbladder stones are a common clinical disease. Gallstones in the gallbladder can be displaced through

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the biliary tract, resulting in organ damage and related complications. Intestinal obstruction and biliary syndrome are common consequences, and duodenal fistula formation caused by cholecystolithiasis-induced compression has also been reported.[2] Duodenal ischemic necrosis due to compression by large gallbladder stones is fairly rare. However, it can lead to severe gastrointestinal bleeding, perforation, and other serious consequences. We herein report such a rare case.

Case report

A 76-year-old man was hospitalized in our department because of repeated hematemesis and hematochezia. He had a history of cholecystolithiasis but no history of acute attacks. Laboratory testing revealed a low hemoglobin level (61 g/L). Abdominal computed tomography showed that the gallbladder wall was slightly thickened and that the neck of the gallbladder was tightly connected to the duodenal bulb (Figure 1(a)). Inflammation within the duodenal bulb

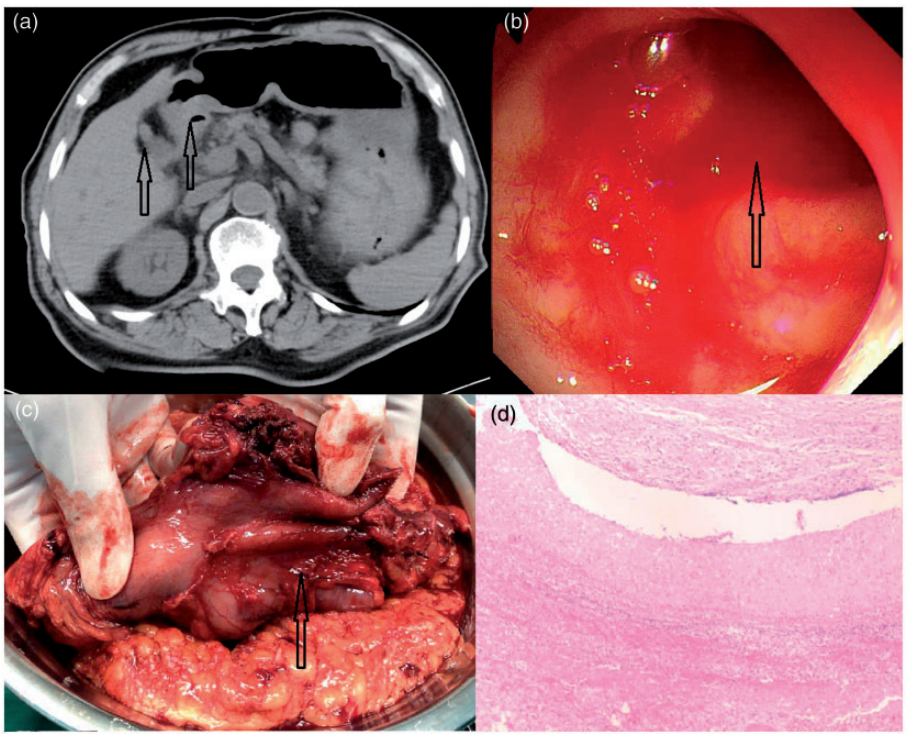

Figure 1. (a) Abdominal computed tomography showed that the neck of the gallbladder was tightly connected to the duodenal bulb. The left and right arrows indicate the neck of the gallbladder and the bulb of the duodenum. (b) Inflammation within the duodenal bulb was found by gastroscopy a few days before the onset of the disease. The arrow indicates the bleeding of the duodenal bulb. (c) Intraoperative exploration revealed edema of the intestinal wall in the duodenal bulb and dense adhesion with the surrounding area. Stones were present in the gallbladder neck, pressing into the duodenum. The arrow indicates areas of compression and adhesion, with slight tissue necrosis. (d) Postoperative pathologic examination revealed chronic gastric mucosal inflammation, tissue degeneration, and necrosis as well as chronic inflammation, necrosis, mucous membrane abscessation, and mixed calculi in the gallbladder.

had been found by gastroscopy at another hospital a few days before the onset of the disease (Figure 1(b)). The patient had persistent bloody stools, and his blood pressure was still low after active treatments. Emergency gastroscopy indicated that the duodenal bulb was deformed and that the bulbar cavity could hardly be entered. A large number of blood clots and active oozing blood were also present. Because of the unsatisfactory therapeutic effect of drugs and endoscopy, surgical treatment was recommended. Intraoperative exploration revealed edema of the intestinal wall in the duodenal bulb and dense adhesion with the surrounding area. Stones were present in the gallbladder neck, pressing into the duodenum (Figure 1(c)). The patient then underwent distal gastrectomy with repair of the duodenal stump fistula by the Billroth II method following a clinical diagnosis. The gallbladder was also removed. Postoperative pathologic examination revealed chronic gastric mucosal inflammation, tissue degeneration, and necrosis as well as chronic inflammation, necrosis, mucous membrane abscessation, and mixed calculi in the gallbladder (Figure 1 (d)). He was diagnosed with duodenal bulbar necrosis with hemorrhage caused by cholecystolithiasis. The patient recovered well after surgery. At the time of this writing, the patient had developed no further discomfort or bleeding.

The patient provided written informed consent for publication of the data in this study. This was a retrospective case report, and institutional review board approval was not required. The reporting of this study conforms to the CARE guidelines.[3]

Discussion

In this case, neither duodenal ulcers nor other lesions were found by gastroscopy before the onset of the disease. During emergency gastroscopy after admission, the nature of the lesion could not be determined because of the limited visual field. On computed tomography, the neck of the gallbladder was closely connected to the duodenal bulb, but no evidence of gallstones, gallbladder inflammation, or duodenal bulb ischemic necrosis was found. During the operation, the cause of the patient's symptoms was found to be gallstone compression. This condition is difficult to detect by abdominal imaging and is easily missed.[4] The treatment of gallstones often involves removal of the gallbladder. When cholecystolithiasis is associated with serious complications such as gastrointestinal bleeding, timely surgical treatment is needed and can avoid a series of related complications. The general prognosis of cholecystolithiasis is good.

Timely surgical exploration is crucial for the diagnosis of duodenal necrosis and bleeding caused by gallbladder stone compression. If repeated gastroscopy or imaging examinations fail to show a clear result, we recommend performing an operative intervention after detailed assessment to improve the positive rate of diagnosis and benefit the patients.

Declaration of conflicting interest

The authors declare that there is no conflict of interest.

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