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Case Report

Severe gastrointestinal bleeding secondary to cholecystitis: a case report and our handling experience

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Abstract

The patient was male, 57 years old, who was treated for "upper abdominal pain and discomfort for 4 hours". The pain was severe, with back radiation, without cold fever, nausea, vomiting, chest tightness, shortness of breath, skin or yellow eyes, also without hematemesis or black stool. Physical examination: without yellow skin and sclera, with right upper abdomen tenderness and positive Murphy sign. There were no other obvious positive signs. Abdominal CT : cholecystitis with possible occupancy, and multiple common bile duct stones. Laboratory tests: White blood cells was 10.88×10^{9}/ L, neutrophilic granulocyte was 84%, Glutamic transaminase was 666 IU/L. Past medical history: hypertension and diabetes. Preliminary diagnosis: Acute cholecystitis, Common bile duct stones, Abnormal liver function, High blood pressure, Diabetes, Admitted to hospital. Handling measures: fasting, pain relief, anti-infection, liver protection, fluid replacement treatment, and monitor blood sugar, blood pressure, and further improve the inspection.

Keywords: gastrointestinal; cholecystitis; upper abdominal pain; discomfort

Case report

The patient was male, 57 years old, who was treated for "upper abdominal pain and discomfort for 4 hours". The pain was severe, with back radiation, without cold fever, nausea, vomiting, chest tightness, shortness of breath, skin or yellow eyes, also without hematemesis or black stool. Physical examination: without yellow skin and sclera, with right upper abdomen tenderness and positive Murphy sign. There were no other obvious positive signs. Abdominal CT : cholecystitis with possible occupancy, and multiple common bile duct stones. Laboratory tests: White blood cells was 10.88×10^{9}/ L, neutrophilic granulocyte was 84%, Glutamic transaminase was 666 IU/L. Past medical history: hypertension and diabetes. Preliminary diagnosis: Acute cholecystitis, Common bile duct stones, Abnormal liver function, High blood pressure, Diabetes, Admitted to hospital. Handling measures: fasting, pain relief, anti-infection, liver protection, fluid replacement treatment, and monitor blood sugar, blood pressure, and further improve the inspection.

In the beginning, his pain was a little relief, but about 40 hours later after admission, the patient suddenly developed bright blood stool, three times between 6 and 10 p.m., about 100-200ml each, accompaniedly wit upper abdominal severe pain and obvious back pain. There was no obvious abnormality in rectal touch, while blood routine examination showed a significant decrease in hemoglobin (Figure 1). In the course of treatment, we perform hemostasis, fluid rehydration, analgesia, and blood preparation. It is worth mentioning that the patient's abdominal pain and back pain was severe and periodic, which could not be improved by non-steroidal anti-inflammatory drug. Considering that the cause of the patient's condition was unknown, we conducted an emergency enhanced CT examination. The results showed that: gallstone, cholecystitis, possible gallbladder carcinoma, invasion of gallbladder artery with pseudoaneurysm(Figure 2). After the enhanced CT examination, the patient suddenly hematemesis, about 600-800 ml, accompanied by lower blood pressure with the minimum of 68/40mmHg.

Combined with the results of enhanced CT and the clinical manifestations, it was confirmed that the gastrointestinal bleeding was caused by the rupture of the pseudoaneurysm of the gallbladder artery into the intestine. After the discussion between hepatobiliary surgery and interventional department, we took emergency digital subtraction angiography (DSA) to stop the bleeding. Through the intraoperative angiography, the bleeding vessel was identified actually as the gallbladder artery. We performed the right hepatic artery embolization and then confirmed that the primary bleeding vessel had no bleeding again (Fig .3). After the DSA operation, the patient was treated in intensive care unit (ICU). On the second day, while the patient's condition improved, he was transferred back to our department, and we continued to give anti-infection, liver protection treatment. Three days later, we performed endoscopic retrograde cholangiopancreatography (ERCP) to determine the presence of stones in the common bile duct, so endoscopic

sphincterotomy (EST) was performed to remove the stones (Figure 4). Another four days later, we performed laparoscopic cholecystectomy (LC) for him, in which he was defined as cholecystitis accompanied by cholecystoduodenal fistula (Figure 5, we also took fistula repair), and no malignant gallbladder tumor was found by intraoperative and postoperative pathology.

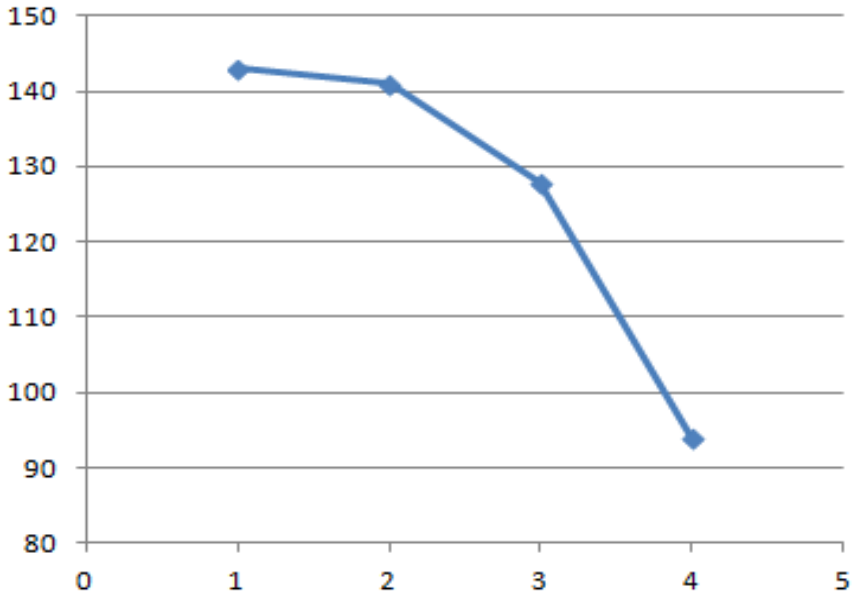

Figure 1: Changes in hemoglobin Axis: Hemoglobin (g/L) Transverse axis: corresponding time points

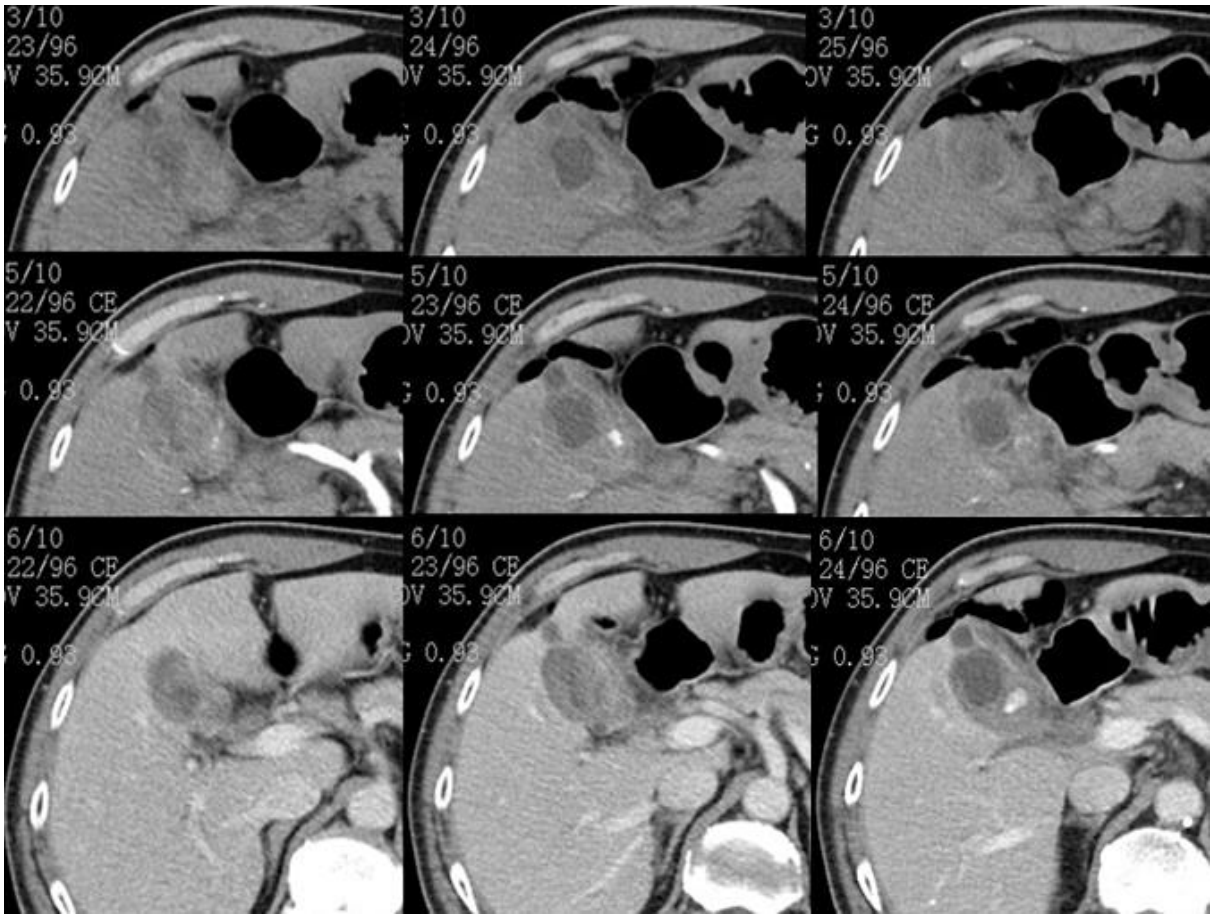

Figure 2: CT images (first line is photo of plain scan, second is arterial phase, third is venous phase ; during arterial and venous, we can find contrast agent overflow in gallbladder, which means pseudoaneurysm formation)

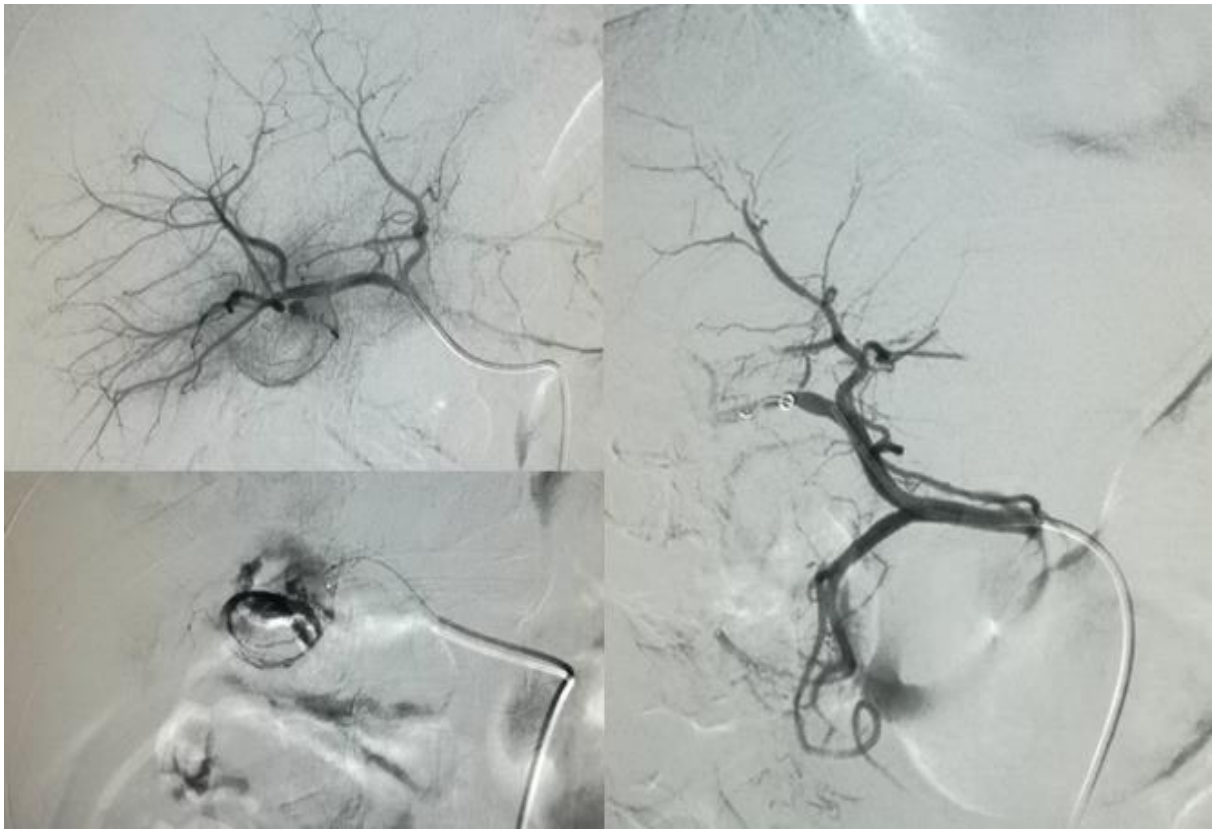

Figure 3: DSA images (the two images on left show contrast agent overflow in the gallbladder, and the lower left shows the guide wire being selected to the gallbladder artery; the right image shows the right hepatic artery has been embolized).

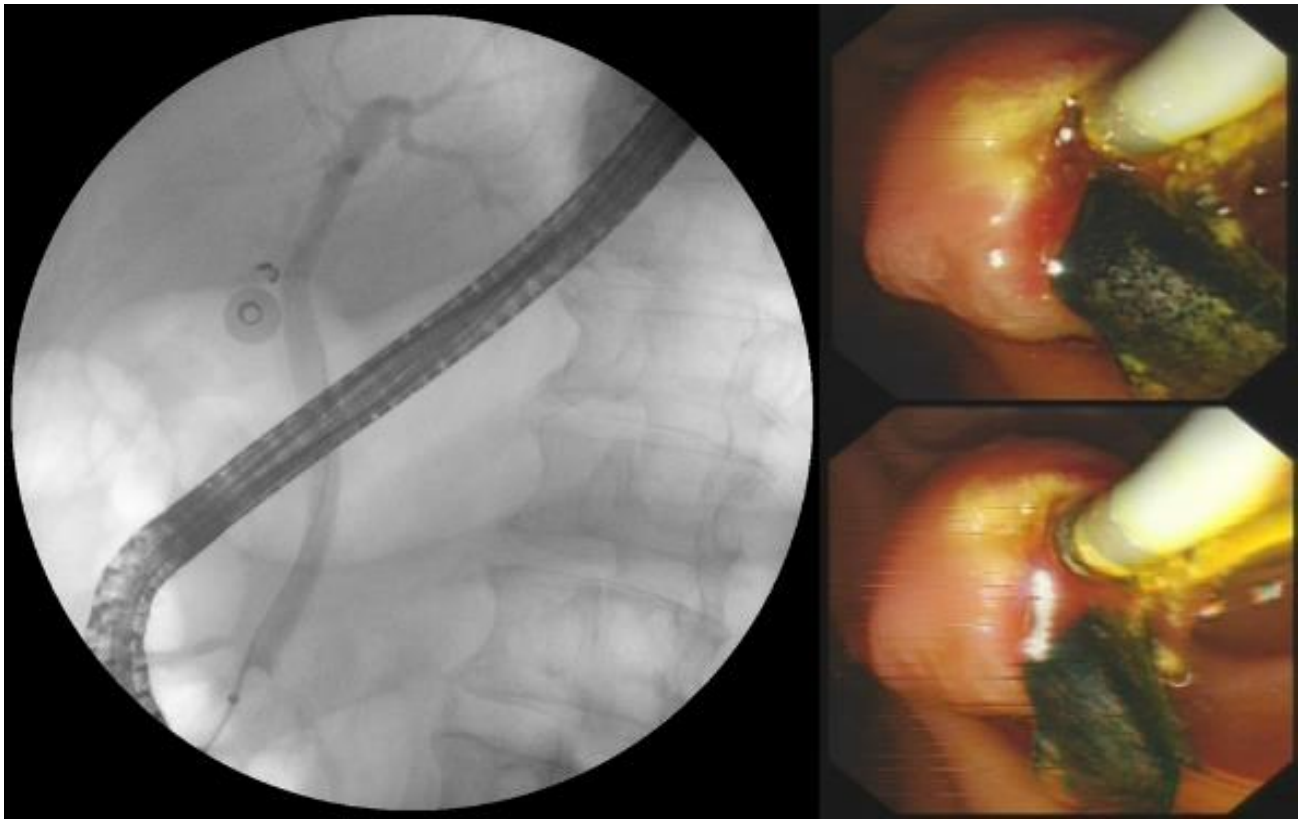

Figure 4: ERCP images (the left shows stones in the common bile duct; the right shows removed stones).

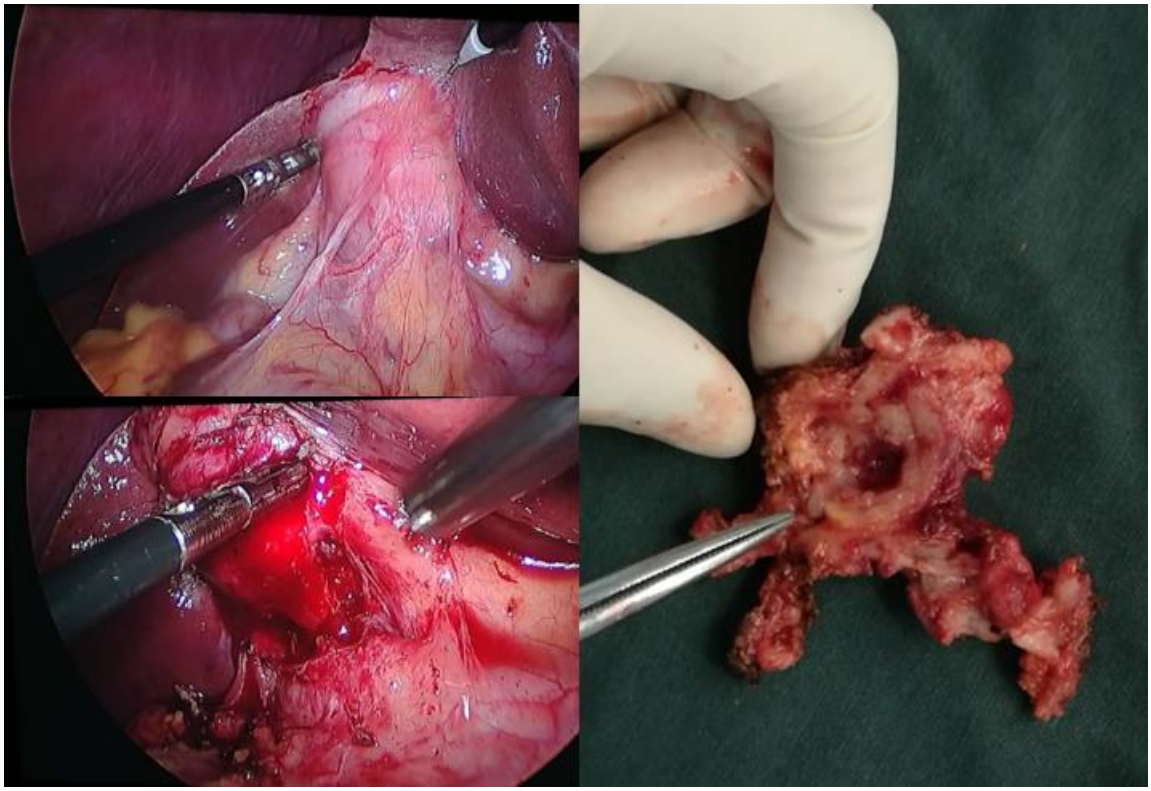

Figure 5: intraoperative and specimen images (the left shows cholecystoduodenal fistula; the right shows the fistula on gallbladder).

Discussion

Gastrointestinal bleeding induced by cholecystitis are rare. The cause is thought to be the formation of pseudoaneurysms, as inflammation and fibrosis induces weakness and erosion in the gallbladder artery [1, 2].Blood enters the gastrointestinal tract through the common bile duct or the fistula between the gallbladder and other intestines, such as gallbladder-duodenal fistula, gallbladder-colon fistula. The classical clinical symptoms of cystic artery pseudoaneurysm (CAP) include abdominal pain, jaundice, and upper gastrointestinal bleeding (Quincke triad), while about 25–30% of the patients present these symptoms simultaneously [3-5]. Enhanced CT is very important for early diagnosis. Since the disease is extremely dangerous, effective measures should be taken as soon as possible once diagnosed. Transcatheter embolism is usually considered to be the first choice, which can identify bleeding vessels better and control bleeding accurately, and reduce the risk of visceral injury and anesthesia [6]. Selective gallbladder artery embolization is the best way to avoid complications such as ischemic hepatitis and abscess formation caused by non-target embolism. It should be emphasized that laparoscopic cholecystectomy is still recommended in order to completely solve gallbladder lesions. It is worth mentioning that the case we report is accompanied by common bile duct stones, while past reports do not mention. ERCP and EST were successfully used to remove the stones.

Availability of data and material: All data is available and can be provided if requested.

Compliance with ethical standards

Conflict of interest: All authors declare no conflict of interest.

Consent for publication: The provided information is anonymous and does not expose the identity of the patient. The patient gave Informed Consent to the publication of the report.

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