Obstructive Jaundice and Hepatic - Portal Vein Fistula Caused by Hepatic Cyst

Ahmad Mahmood, Mohammad Shoaib, Rexiati Ruze, Erpan yilihaer, Yikeshan Tuxun, Abdusalam, Abuduhaiwaier, Aimitaji Abulaiti, Musitapa Zhayier*

Department of Hepatobiliary and Echinococcosis Surgery, Digestive and Vascular Surgery Center, The First Affiliated Hospital, Xinjiang Medical University, China.

*Corresponding author: Musitapa Zhayier, Department of Hepatobiliary and Echinococcosis Surgery, Digestive and Vascular Surgery Center, The First Affiliated Hospital, Xinjiang Medical University, China


Received Date: 26 April 2024; Accepted Date: 30 April 2024; Published Date: 02 May 2024

Abstract

Patient concerns: In October 2023, a male patient aged 87 was referred to our department for a comprehensive physical examination. The reason for the referral was the presence of abdomen pain, jaundice and itchy skin that had been observed.

Diagnosis: The Enhanced CT of the abdomen displayed a cyst situated in the liver, and confirmed hepatic-portal vein fistula.

Interventions: An open surgery was conducted on the patient to puncture the hepatic and repair the hepatic-portal vein fistula.

Outcomes: The patient underwent a successful operation and demonstrated positive recovery after the 3-month follow-up period.

Introduction

Hepatic cysts consist of various clinical causes, with the majority being benign, uncommon, and typically without symptoms. Symptoms may arise in cases of abdominal pain, hemorrhage, obstructive jaundice, or a consumptive coagulopathy. The most suitable surgical approach for hepatic cysts, such as laparoscopic cyst fenestration, depends on the size and location of the cyst. Hepatic cysts are a diverse group of clinical conditions, with the majority being benign, uncommon, and typically not causing any symptoms. However, in cases where symptoms do occur, they can manifest as abdominal pain, hemorrhage, obstructive jaundice, or a consumptive coagulopathy. The surgical approach to managing symptomatic hepatic cysts depends on factors such as the size and location of the cyst. One common method is laparoscopic cyst fenestration, which involves creating a small opening in the cyst wall to drain fluid and alleviate symptoms [1].

Case Report

87 years old male was admitted to the hospital in October 2023 due to progressive painless yellow staining of the skin and sclera for more than half a month, accompanied by skin itching, strong tea colored urine, no fever, abdominal pain, and other discomforts. The patient did not receive treatment, and the above-mentioned skin and sclera yellowing and skin itching gradually worsened upon arrival at the hospital. Physical examination in the hospital: The skin and sclera of the whole body are significantly yellow stained, the abdomen is flat and soft, and there is slight tenderness under the xiphoid process in the right upper abdomen and upper abdomen, without rebound pain. Murphy’s Sign (-), Courvoisier’s Sign (-). Ultrasound of liver, gallbladder, spleen, and pancreas: Multiple cysts in the liver, widened intrahepatic bile ducts, and thickened gallbladder wall. Liver biochemical examination: TBL 418.41 μ Mol/L, DBL 385.32 μ Mol/L, ALT 77.60 U/L, AST 108.77 U/L. Hepatitis virus markers negative; Tumor marker CA19-9 349.93U/mL. Blood routine and coagulation function are generally normal. I reported discovering a liver cyst 15 years ago, and it has been increasing year by year since re examination. However, it has not been treated. Chronic cholecystitis, liver
Hepatic cysts can be categorized into three main types: simple benign non-parasitic cysts, parasitic cysts, and neoplastic cysts. There are different classifications for hepatic cysts, including those that are benign and non-parasitic, those caused by parasites, and those that are neoplastic in nature [2]. Hepatic cysts are typically classified as either simple benign non-parasitic cysts, parasitic cysts, or neoplastic cysts, each with their own distinct characteristics and implications for treatment. There are various classifications for hepatic cysts, which are cysts that occur in the liver. These classifications include simple benign non-parasitic cysts, which are harmless cysts that do not involve any parasites [3]. Another classification is parasitic cysts, which are cysts caused by parasites. Lastly, there are neoplastic cysts, which are cysts that are associated with tumors or cancerous growths. By categorizing hepatic cysts into these different types, medical professionals can better understand and diagnose the specific characteristics and potential risks associated with each type of cyst. Non-parasitic liver cysts are the most common benign cystic tumors of the liver in clinical practice, mostly solitary and with rare clinical symptoms, usually only having large cysts. Liver cysts can only cause symptoms such as abdominal pain, bloating, and vomiting due to compression of adjacent organs, and there are few reports of jaundice [4]. Previous reports have also mostly focused on the compression of bile ducts caused by giant liver cysts or polycystic liver disease.

If the cyst size in this case is only 5cm and causes severe obstruction, jaundice is rare. There is currently no team report on patients with liver cysts and obstructive jaundice complicated by hepatic vein and portal vein fistula. In the early stage of diagnosis and treatment of liver cysts combined with obstructive jaundice, it is often necessary to distinguish them from congenital cholangiodilation and malignant biliary tumors. In this case, congenital cholangiodilation can be ruled out by ultrasound-guided puncture and the characteristics of the drainage fluid. Combined with continuous postoperative monitoring of the drainage fluid and dynamic monitoring of changes in CA19-9, malignant biliary tumors can be ruled out. In previous domestic and foreign reports, there have been similar confusions as in this case. The final diagnosis was made through MRCP, ERCP, or application of interventional techniques [5]. Through literature review, it was found that in 2011, Yamakawa et al. reported a case of obstructive jaundice caused by a 2cm hepatic cyst in the hepatic hilum, which is the smallest case of lesion induced jaundice to date. In 2016, Saavedra-Perez et al [2]. reported a case of a hepatic cyst in the hilar region, which had a communicating passage with the common hepatic duct. The cyst wall herniated into the bile duct, resulting in obstructive Jaundice. Report and analysis of cases of liver cysts combined with intracystic hemorrhage in the past [6]. The cause of the cyst combined with hepatic vein and portal vein fistula may be similar to that in this case. In terms of treatment, early cases of jaundice caused by huge liver cysts are often treated with cyst fenestration and drainage surgery. In recent years, ultrasound guided puncture+sclerotherapy has become increasingly widely used, with sclerotherapy mainly using...
anhydrous alcohol and polyvinylidene alcohol, and there have also been cases of using minocycline hydrochloride sclerotherapy. In this case, we considered the characteristics of the patient’s advanced age, total heart failure, and prolonged progression of the cyst condition leading to jaundice [7]. Combined with imaging prediction of the potential risk of venous fistula sclerotherapy, we did not undergo cyst sclerotherapy. This case was followed up for 6 months without any symptoms or signs of obstructive jaundice, and the effect was satisfactory. Follow up observation will continue in the future. The patient had a large central hepatic cyst that was causing obstructive jaundice. Due to concerns about the cause of the cyst, an open cyst fenestration procedure was performed. The elevated transaminitis levels on presentation indicate possible hepatocellular damage, which could be related to vascular obstruction caused by the cyst and cholangitis from biliary obstruction. It is important to conduct thorough pre-operative laboratory and imaging evaluations before deciding on surgical management for obstructive jaundice caused by a liver cyst. The size, location, and potential causes of the cyst should be carefully considered when choosing the surgical approach [8] (Figure 1,2).

**Figure 1:** Figure A Preoperative CT showed hepatic cyst and intrahepatic bile duct dilation. Figure B CT scan after puncture showed hepatic cyst collapse with no significant dilation of the interahepatic bile duct.

**Figure 2:** Figure A Ultrasound guided puncture showed the placement of trocar into a hepatic cyst. Figure B Hepatic cyst DSA Image of showed hepatic venous fistula.

**Conclusion**

The diagnosis and treatment of obstructive jaundice combined with liver cysts, the possibility of cyst compression causing jaundice should be considered, especially for cysts in the hepatic hilum area; However, it is extremely rare for liver cysts to combine with hepatic vein and portal vein fistulas. Before sclerotherapy and surgical treatment, this possibility should be considered for hepatic portal
area cysts. If necessary, diagnostic puncture and imaging should be performed to avoid blind surgery or excessive sclerotherapy causing iatrogenic bleeding, sclerotherapy injection, and other iatrogenic injuries.

Reference


