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Recurrent variceal bleeding in a young woman

一名年輕女性復發性靜脈曲張出血病例

Congenital hepatic fibrosis is an uncommon fibrocystic disorder affecting the intrahepatic bile ducts. It has autosomal recessive inheritance. The main consequence of this condition is portal hypertension and it is often misdiagnosed as cirrhosis. Patients with congenital hepatic fibrosis usually present during childhood or early adolescence with oesophageal variceal bleeding. Portosystemic shunt surgery is the treatment of choice for these patients as the risk of postoperative hepatic encephalopathy is low. We report a patient with congenital hepatic fibrosis who presented with oesophageal variceal bleeding at the age of 16 years, initially misdiagnosed as having cryptogenic liver cirrhosis. The patient experienced two further episodes of oesophageal variceal bleeding in subsequent years. She eventually underwent portosystemic shunt surgery. One year after the operation, the shunt remained patent on Doppler ultrasonography, and there had been no further episodes of variceal bleeding post-surgery.

先天性肝纖維化是一種罕見的纖維囊腫病，會影響肝內膽管，屬體染色體隱性遺傳病。這種情況的主要後果是門腔靜脈高壓，但很易被誤診為肝硬化。先天性肝纖維化病人在童年或青春早期會出現食道靜脈曲張出血。門腔靜脈分流手術是其中一種治療方法，原因是手術後出現肝病變腦部症的風險屬低水平。本文報告一名患有先天性肝纖維化的病人，她在16歲時出現食道靜脈曲張出血，最初被誤診為原因不明肝硬化，但隨後再發生兩次食道靜脈曲張出血。最終她接受了門腔靜脈分流手術，一年後超聲波檢查顯示分流器並無閉塞，亦再沒有發生靜脈曲張出血。

Key words:
Cholangiography;
Hypertension, portal;
Liver cirrhosis;
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關鍵詞：
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Introduction

Congenital hepatic fibrosis (CHF) is a fibrocystic disorder of the intrahepatic bile ducts, with autosomal recessive inheritance. It is uncommon, having an estimated incidence of 1:100 000.[1] The main consequence of this condition is portal hypertension. Patients with CHF usually present during childhood or early adolescence with oesophageal variceal bleeding. A few patients present with hepatomegaly and/or splenomegaly accompanied by hypersplenism with thrombocytopenia or pancytopenia. Congenital hepatic fibrosis is often misdiagnosed as cirrhosis because of the lack of awareness of this condition. We report a patient with CHF who presented with oesophageal variceal bleeding at the age of 16 years, and was initially thought to have cryptogenic liver cirrhosis.

Case report

A 25-year-old Chinese woman was referred to the United Christian

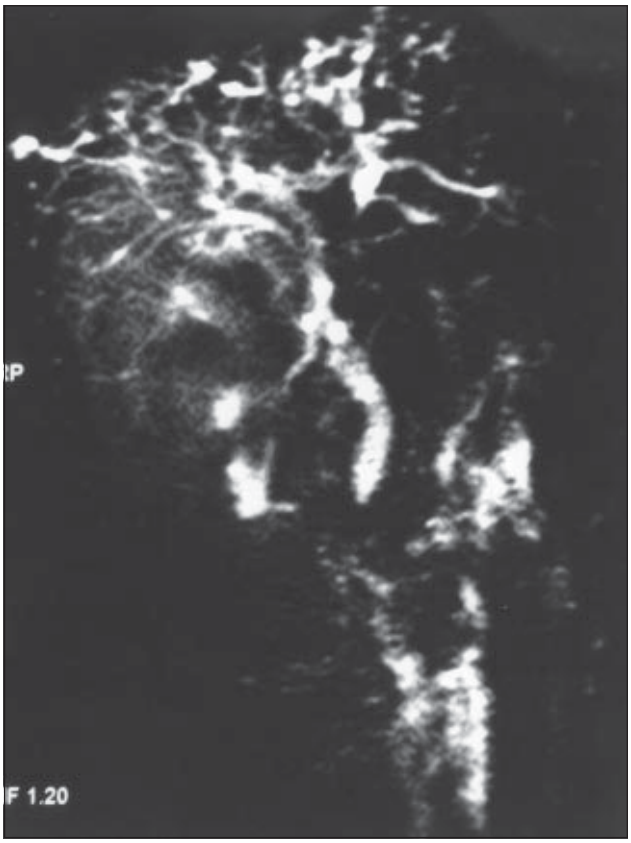

Fig 1. Magnetic resonance cholangiogram demonstrating cystic dilation of the intrahepatic ducts

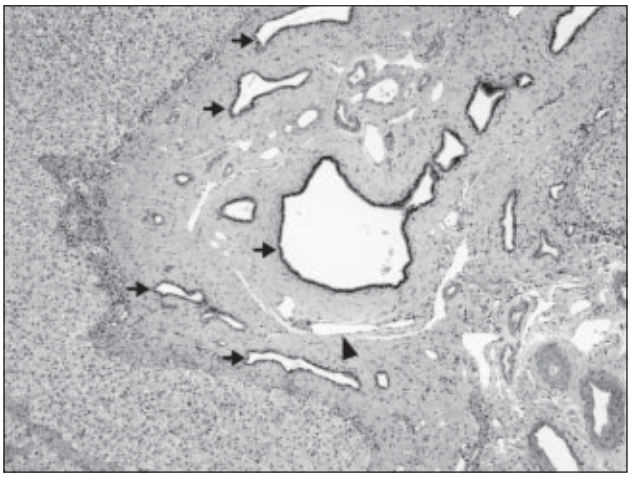

Fig 2. Photomicrograph of the liver biopsy specimen showing typical lesions of ductal plate malformation: fibrosis and enlargement of the portal tracts, ectatic and dilated interlobular bile ducts within the portal tracts (arrows), hypoplasia and compression of portal vein branches (arrow head) [H&E, x40]

Hospital in December 2001 for continued management of cryptogenic liver cirrhosis. She had previously presented to another hospital at the age of 16 years with oesophageal variceal bleeding, which was treated by repeated endoscopic band ligation. Investigations at that time, including testing for hepatitis B surface antigens, hepatitis C antibodies, anti-nuclear antibodies, and smooth muscle antibodies, were all negative. Serum α-1 anti-trypsin, ceruloplasmin, and her iron profile were also normal. The patient had no alcohol intake, and there was no known family history of liver disease. Since her first presentation, she had had two further episodes of oesophageal variceal bleeding treated by repeated endoscopic band ligation.

Physical examination revealed hepatomegaly and the spleen was palpable 17 cm below the costal margin. There was no jaundice or ascites. A full blood count showed pancytopenia with profound thrombocytopenia: haemoglobin, 95 g/L; white blood cell count, 2.5 x 10^9/L; and platelet count, 32 x 10^9/L. Both prothrombin time and activated partial thromboplastin time were normal, and serum biochemistry and liver function tests were also normal. Transabdominal ultrasonography showed an enlarged liver with coarse echotexture, massive splenomegaly, prominent portovenous collaterals, patent hepatic and portal veins, and the absence of ascites. Upper endoscopy was performed, revealing two columns of oesophageal varices which were treated by endoscopic band ligation.

Given the normal liver function tests, the absence of ascites, and the time-course of the condition, non-cirrhotic portal hypertension, rather than liver cirrhosis, was suspected. The presence of significant thrombocytopenia precluded safe transcutaneous liver biopsy, and a computed tomographic (CT) scan of the abdomen was thus performed. This demonstrated hepatosplenomegaly, extensive portosystemic collaterals, and dilated intrahepatic ducts. Magnetic resonance cholangiography confirmed cystic dilation of the intrahepatic ducts (Fig 1). The overall clinical and radiological features supported a diagnosis of CHF. Consequently, CT scanning of the abdomen was arranged for her three younger siblings, which revealed hepatomegaly with dilated intrahepatic ducts and splenomegaly in two siblings. This essentially confirmed the diagnosis and the patient was referred for surgical portosystemic shunting. An interposition H-graft portacaval shunt procedure was performed, using a 10-mm polytetrafluoroethylene graft. Histological examination of a liver specimen obtained intra-operatively demonstrated fibrosis and enlargement of the portal tracts, ectatic and dilated interlobular bile ducts within the portal tracts, and hypoplasia and compression of portal vein branches

(Fig 2). These are typical lesions of ductal plate malformation, the underlying abnormality in CHF. The postoperative period was uneventful and the patient did not show any signs of hepatic encephalopathy.

One year after the operation, the shunt remained patent on Doppler ultrasonography, and the patient had not had any further episodes of variceal bleeding. Physical examination revealed the size of the spleen had reduced. It was now palpable 11 cm below the costal margin. Liver function tests remained normal after shunt surgery. A full blood count 12 months post-surgery showed improvement in the degree of pancytopenia, with a haemoglobin level of 102 g/L, white blood cell count of 3.3 x 10^9/L, and platelet count of 70 x 10^9/L.

Discussion

Congenital hepatic fibrosis is an uncommon condition, often misdiagnosed as cirrhosis.[2] We believe this is the second reported case of CHF in Hong Kong. Lam et al[3] previously reported a case of fatal cholangitis after endoscopic retrograde cholangiopancreatography in a patient with CHF.

The fundamental abnormality of CHF is ductal plate malformation—failure of remodelling of the ductal plates into mature bile ducts in the embryonic liver—affecting the interlobular bile ducts. Liver histology is characterised by cystic dilation of the interlobular bile ducts (remnants of ductal plates), accompanied by fibrosis and enlargement of the portal tracts. Compression by fibrous bands of portal vein branches eventually leads to pre-sinusoidal portal hypertension. Cystic dilation of the intrahepatic ducts corresponding to the ectatic interlobular bile ducts may be seen on ultrasonography, CT scan, or magnetic resonance cholangiography.

Patients with CHF most commonly present with oesophageal variceal bleeding, usually between the ages of 5 and 13 years.[4] A few patients present with hepatomegaly and/or splenomegaly, accompanied by hypersplenism with thrombocytopenia or pancytopenia. Ascites is absent and liver function tests are usually normal. Other manifestations include cystic disease of the kidneys resembling autosomal recessive polycystic kidney disease, and an increased risk of bacterial cholangitis. Cholangiocarcinoma is a rare complication.[5] The prognosis for individuals with CHF is generally good. Mortality in this condition is most commonly due to uncontrolled variceal bleeding. Liver failure and death may also result from cholangitis.

The combination of a patent portal vein and well-preserved liver function makes patients with CHF ideal candidates for portosystemic shunt surgery.[1,2,4] The incidence of hepatic encephalopathy after portacaval shunt is low in patients with CHF.[6,7] Furthermore, shunt surgery is appropriate for the treatment of uncontrolled hypersplenism and severe thrombocytopenia, and is associated with improved postoperative growth parameters in the paediatric population.[8,9] Types of surgical shunt include non-selective total portosystemic shunts (eg side-to-side portacaval shunt), non-selective partial portosystemic shunts (eg portacaval H-graft shunt) that maintain some antegrade blood flow to the liver, and selective portosystemic shunts (eg distal splenorenal shunt) which decompresses the gastro-oesophageal junction and the spleen, through the splenic vein to the left renal vein. The type of shunt should be carefully chosen to optimise options for liver transplantation in later life. Both the portacaval H-graft shunt and the distal splenorenal shunt are appropriate options in this regard. The use of a transjugular intrahepatic portosystemic shunt may have a role in salvage therapy for patients with refractory acute variceal haemorrhage. However, its role in long-term prevention of variceal haemorrhage in CHF is unknown because of the high shunt occlusion rate.

Endoscopic sclerotherapy or endoscopic variceal ligation are both effective in preventing recurrent variceal bleeding in patients with cirrhosis,[10] although these endoscopic procedures have not been specifically evaluated in CHF. In patients with recurrent cholangitis and progressive liver dysfunction, liver transplantation is the optimal therapy.[1,2,4] Manipulation of the biliary tree, such as endoscopic retrograde cholangiography, must be avoided because of the risk of inducing bacterial cholangitis.

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