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Gastric Varices with Remarkable Collateral Veins in Valpronic Acid-Induced Chronic Pancreatitis

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Key Words
Gastric varices · Valpronic acid · Chronic pancreatitis ·

Abstract
Valproic acid (VPA) is a commonly prescribed and approved treatment for epilepsy, including Angelman syndrome, throughout the world. However, the long-term administration of drugs like VPA is associated with the possible development of gastric varices and splenic obstruction as a result of chronic pancreatitis. Such cases can be difficult to treat using endoscopy or interventional radiology because of hemodynamic abnormalities; therefore, surgical treatment is often necessary.

Introduction

Angelman syndrome is characterized by the deletion of 15q11.2–q13 and is characterized clinically by psychomotor retardation, a happy disposition with paroxysms of laughter, and epileptic seizures [1]. Valproic acid (VPA) is often prescribed for the epileptic seizures associated with this syndrome. Although VPA-induced pancreatitis is relatively uncommon, serious adverse effects – including diabetes, pancreatic cancer and pseudocysts – have been reported. Splenic vein obstruction can also arise as a complication of chronic pancreatitis [2, 3]. Here, we report a case with remarkable collateral veins caused by splenic vein obstruction associated with chronic pancreatitis.

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Case Report

A 36-year-old man had been followed for VPA-induced chronic pancreatits for 17 years, and intravenous hyperalimentation nutrition had been administrated. In 2006, the patient presented at the emergency department with upper gastrointestinal bleeding. Abdominal CT and CT angiography showed multiple pancreatic calculi, splenic vein obstruction, and perigastric and subphrenic dilated collateral veins into the superior mesenteric vein (fig. 1). An upper gastrointestinal endoscopy revealed stomach varices (Lg-f,F2,RC+) on the posterior wall of the gastric body (fig. 2). Gastric varices caused by splenic vein obstruction as a result of chronic pancreatitis were diagnosed, and these varices were thought to be the cause of the upper gastrointestinal bleeding. Endoscopic treatment and catheterization with balloon-occluded retrograde transvenous obliteration were difficult to perform because of the Lg-f varices, and no vein approach from the inferior vena cava was available; therefore, surgical treatment was indicated. A total gastrectomy, splenectomy, and enterostomy were performed, and the patient has not experienced any further episodes of bleeding since the operation.

Discussion

Although VPA-induced pancreatitis is very rare, it has been estimated to occur in 1:40,000 patients [4]. It is a fact that many causes exist for pancreatitis, however VPA is most suspected as a cause of pancreatitis in this case. Furthermore, it is suggested that numerous pancreatic complications and/or pancreatitis-associated diseases may affect the course and determine the prognosis of chronic pancreatitis, and biological markers and/or imaging procedure development were needed to detect chronic pancreatitis at its reversible stage [5, 6]. Thrombosis of the splenic vein has been reported in 7–20% of patients with chronic pancreatitis. Additionally, bleeding occurs in approximately 5–10% of patients with chronic pancreatitis [7–9]. The causes of gastrointestinal bleeding associated with chronic pancreatitis include splenic vein obstruction, sinistral portal hypertension, rupture of a pseudoaneurysm, bleeding from a pseudocyst, and peptic ulcer arising from chronic alcohol use or the loss of exocrine function [10]. Splenic obstruction may result from the following [11, 12]: (1) extrinsic compression by a pseudocyst, (2) fibrosis of the pancreatic parenchyma, and (3) injured endothelia and thrombosis as a result of perivenous inflammation from pancreatitis. In patients with cirrhosis, the collaterals are hepatofugal; this often leads to the formation of gastroesophageal varices. In contrast to generalized portal hypertension, the collaterals are hepatopetal in splenic vein thrombosis. Splenoportal collaterals decompress the short gastric veins through both the gastric coronary vein into the portal vein and via the gastroepiploic arcade into the superior mesenteric vein [13, 14]. Splenic vein obstruction leads to isolated varices in the fundus of the stomach or hypersplenism, without associated varices in the esophagus. New therapeutic agents have been shown to retard the progression of chronic pancreatitis in a mouse model and may be useful in the treatment of drug-induced pancreatitis [15]. If the long-term administration of a drug like VPA is needed, the possibility of gastric varices or splenic obstruction arising from chronic pancreatitis should be considered.

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Fig. 1. CT angiography showing multiple pancreatic calculi, splenic vein obstruction, and perigastric and subphrenic dilated collateral veins into the superior mesenteric vein.

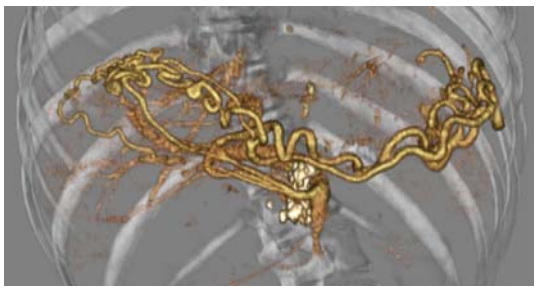
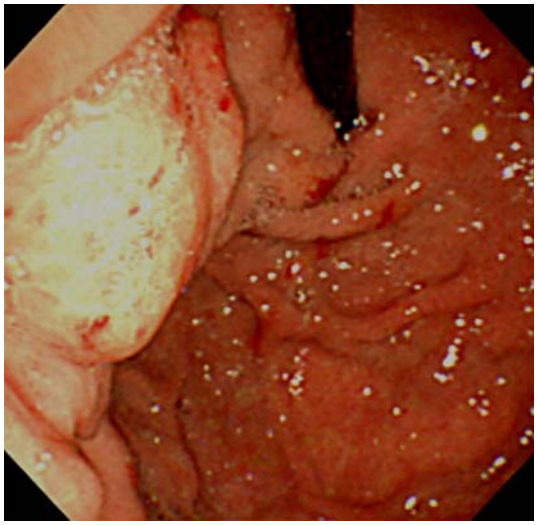


Fig. 2. Upper gastrointestinal endoscopy revealing stomach varices (Lg-f,F2,RC+) on the posterior wall of the gastric body.



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