Partial splenic embolization through endoscopic ultrasound-guided implantation of coil as a potential technique to treat portal hypertension

Partial splenic embolization (PSE) through an interventional radiology procedure has been developed to manage two common complications of portal hypertension – variceal bleeding and hypersplenism [1,2]. Here, we report the first case of endoscopic ultrasound (EUS)-guided PSE, which might offer an alternative technique for the prevention of recurrence of variceal bleeding and hypersplenism.

The 71-year-old Asian man was newly diagnosed with alcoholic cirrhosis and variceal bleeding. Management options were discussed, and the patient signed the agreement for endoscopic interventions. The fundic varices were first identified and treated with EUS-guided glue injection [3] (▶Video 1). Next, an isolated collateral outside the gut wall in a paragastric location was treated with vascular embolization via implantation of a coil under EUS-guidance, followed by glue injection (▶Fig. 1a–c). However, the patient developed left upper abdominal pain and fever 2 days later. Computed tomography scan revealed the location of the coil in a small branch of the splenic artery resulting in unforeseen coil embolization (▶Fig. 1d–f). The patient was informed about the complications of splenic infarction and agreed to be further monitored. He was discharged 2 weeks later after relief of fever and pain.

During routine follow-up over 6 months,
improved hematologic parameters were observed. Diagnostic esophagogastrroduodenoscopy showed reduced esophageal and gastric varices (▶ Video 1).

Key advances include: 1) PSE could be performed in parallel with conventional endoscopic interventions under EUS guidance to treat portal hypertension; 2) regarding the puncture route, the splenic artery is a branch of the celiac trunk, and passes deep to the stomach, giving rise to the left gastroepiploic artery and short gastric arteries before reaching the spleen. Therefore, direct access of branches of the splenic artery through the gastric wall appears to be a shorter approach than others and could be easily guided by EUS.

Competing interests

The authors declare that they have no conflict of interest.

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