

## Endoscopic ultrasound-guided vascular intervention for pancreaticojejunal variceal bleeding

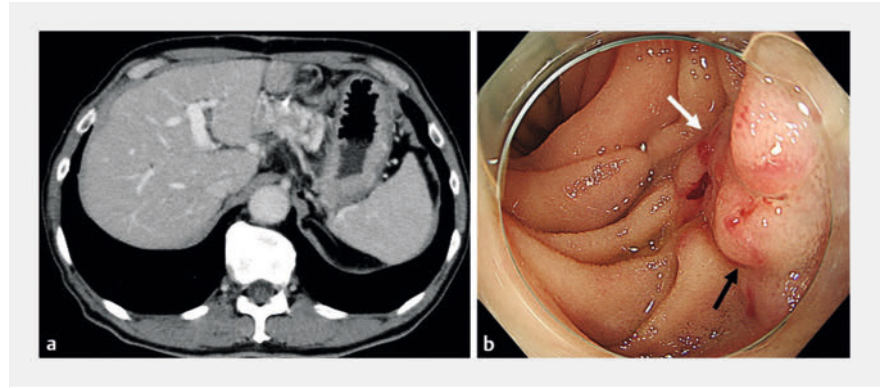
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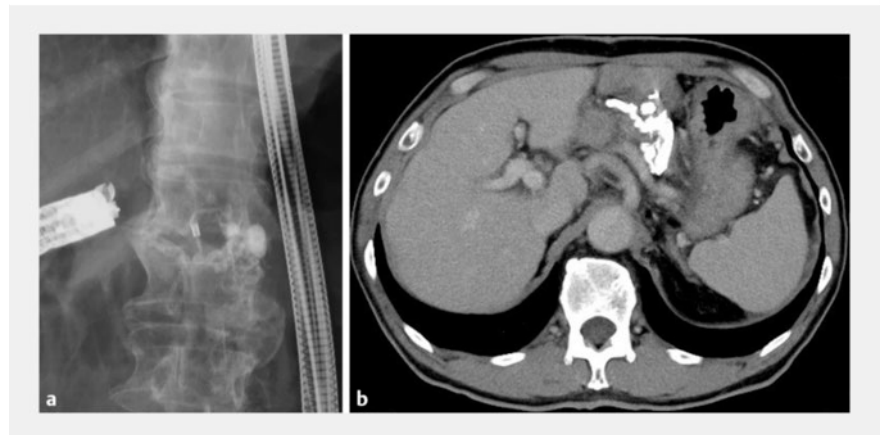
**▶ Video 1** Endoscopic ultrasound-guided vascular intervention is performed for the treatment of recurrent pancreaticojejunal variceal bleeding.

Ectopic variceal bleeding is rare, only accounting for up to 5% of all variceal bleeding [1]; however, a previous study reported a higher risk of bleeding and mortality for ectopic varices than for esophageal varices [2]. Endoscopic treatment can be difficult because of difficulty in identifying the location of the bleeding [3]. Endoscopic ultrasound (EUS)-guided vascular intervention has recently been reported to be particularly useful in situations where traditional approaches may be challenging or ineffective [4].

A man in his 70s was admitted to our hospital for the third time with tarry stools and anemia. He had undergone pancreaticoduodenectomy for intraductal papillary mucinous neoplasm 3 years previously. It was possible to reach the site of the pancreaticojejunostomy with a colonoscope and pancreaticojejunal varices were detected. Twice previously, the patient had undergone endoscopic clipping and had received a blood transfusion before being discharged; however, he was readmitted within 1.5 years, at which time a computed tomography (CT) scan



**▶ Fig. 1** Pancreaticojejunal varices are seen on: **a** computed tomography, with varices evident near the site of the pancreaticojejunostomy; **b** endoscopy, with visible blood vessels (white arrowhead) and nodular vascular dilatations (black arrowhead) at the pancreaticojejunal anastomosis.

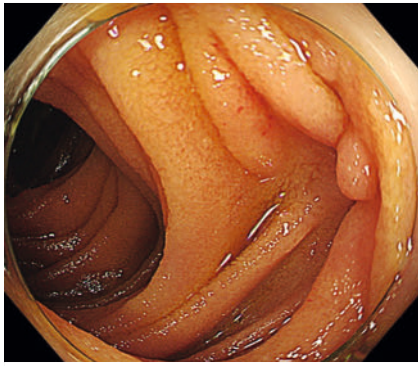


**▶ Fig. 2** Complete occlusion of the varices after injection with a mixture of Histoacryl and Lipiodol is shown on: **a** fluoroscopy; **b** a plain computed tomography scan performed the following day.

and endoscopy revealed pancreaticojejunal varices (▶ **Fig. 1**). Because of his recurrent bleeding, we planned to perform EUS-guided vascular intervention (▶ **Video 1**).

We changed the scope to a forward-viewing linear echoendoscope (TGF-UC260 J; Olympus, Tokyo, Japan), which was passed through the afferent jejunal limb. EUS was used to detect the pancreaticojejunal varices using color Doppler. We punctured the varices with a

19G needle (EZ shot 3 plus; Olympus) before injecting a mixture of 1.5 mL of Histoacryl and 0.5 mL of Lipiodol (2 mL in total). Post-treatment fluoroscopy confirmed successful occlusion of the varices (▶ **Fig. 2a**). Plain CT performed on the following day also showed complete variceal occlusion (▶ **Fig. 2b**). No adverse events, such as pancreatitis, were observed, and the patient was discharged on the fourth day after the procedure. Follow-up endoscopy, 1 year



► **Fig. 3** Image during follow-up endoscopy, 1 year later, showing the obliterated varices.

later, revealed obliterated varices (► **Fig. 3**). No further bleeding has occurred in more than 1.5 years.

To the best of our knowledge, this is the first report of EUS-guided vascular intervention for pancreaticojejunal variceal bleeding. This procedure will be one of the options in future.

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### Conflict of Interest

The authors declare that they have no conflict of interest.

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### Bibliography

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