

Endoscopic ultrasound-guided hemostasis of rectal varices



► **Fig. 1** Endoscopic ultrasound showing deployment of embolization coils (yellow arrow).



► **Fig. 2** Endoscopy showing the embolization coils anchored in the rectal mucosa.

The prevalence of rectal varices in patients with cirrhosis ranges from 38% to 56% [1]. While lower gastrointestinal endoscopy can help diagnose rectal varices, endoscopic ultrasound (EUS) may be more accurate in patients with smaller varices [1]. Reports are limited, but techniques for EUS-guided hemostasis of rectal varices include: injection sclerotherapy [2], band ligation [3], embolization with coils [4], and glue injection [4,5]. Interventional radiology procedures, such as transjugular intrahepatic portosystemic shunting and balloon-occluded retrograde transvenous obliteration, are helpful only in selected patients. Here we describe a unique case of EUS-guided hemostasis of rectal varices using coils and glue.

Our patient was a 54-year-old man with a history of chronic hepatitis C (genotype 1b, treatment-naïve) who presented

with a 1-month history of hematochezia. His vital signs were blood pressure of 120/70 mmHg and heart rate of 70 beats per minute. Initial laboratory tests revealed the following results: hemoglobin 9.1 g/dL, platelets 67 000/μL, and he had a MELD score of 11.

Colonoscopy revealed large rectal varices. On EUS, a grape-like bunch of rectal varices was seen, which showed sluggish blood flow on Doppler exam. It was decided to treat the varices with embolization coils and glue. A 22-gauge EUS-guided fine needle aspiration (FNA) needle (EchoTip Ultra; Cook Medical, Limerick, Ireland) and embolization coils (MicroNester; Cook Medical, Bjaeverskov, Denmark) were used.

The EUS-FNA needle was used to puncture the feeder vessel. One 10-mm × 7-cm coil was anchored into the wall of the feeder vessel and deployed into the lumen under sonographic guidance (► **Fig. 1**). Another 10-mm × 7-cm embolization coil was similarly deployed in an adjacent feeder vessel. A further medium varix was identified, and an 8-mm × 14-cm embolization coil was deployed, giving a total of three coils deployed in two columns. Endoscopy showed the proximal end of the coil anchored in the rectal mucosa (► **Fig. 2**). Under di-

rect endoscopic view with EUS assistance, 0.8 mL of n-butyl-2-cyanoacrylate glue (Covidien SwiftSet; United Kingdom) was injected into the rectal varix at the site of coil deployment. Doppler examination confirmed a reduction in blood flow after coil placement and glue injection (► **Video 1**).

At 4-week follow-up, our patient reported no further rectal bleeding and his hemoglobin was stable. There were no procedural complications.

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Competing interests

None

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► **Video 1**

Treatment Options

- Endoscopic treatment options such as injection sclerotherapy, band ligation, and glue injection have shown limited success
- Interventional radiology procedures such as TIPS and BRTO are helpful only in selected patients
- There are limited reports of EUS-guided hemostasis for rectal varices

► **Video 1:** Endoscopic ultrasound-guided hemostasis of rectal varices with coils and glue.

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