Endovascular Foam Sclerosis for Refractory Bleeding Rectal Varices via a Para-umbilical Approach

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Purpose

Interventional Radiologists perform many percutaneous endovascular interventions within the portal system.

We highlight a case of rectal variceal embolization which demonstrates the safety and efficacy of access for intervention via a para-umbilical approach.

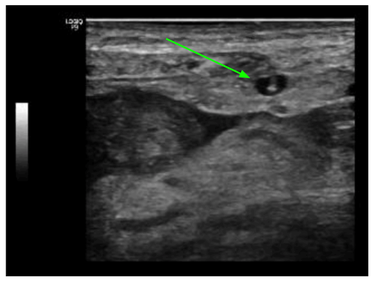


Figure 1:
Grayscale ultrasound image shows percutaneous, sonographic-guided access into the portal venous system via a recanalized para-umbilical vein.

Materials and Methods

We present the case of a 75 year-old female with history of cryptogenic cirrhosis and portal hypertension with extensive varices, on Eliquis for recent non-occlusive portal vein thrombosis, who presents with recurrent rectal bleeding refractory to endoscopic management. The patient was admitted a month prior with rectal bleeding and was managed with colonoscopy which demonstrated slowly bleeding rectal varices, for which a hemostatic clip was placed. Upon current admission, the patient presented with recurrent bleeding and an acute drop in Hemoglobin. Of note, her MELD score was 25, which made her a suboptimal candidate for a TIPS procedure. Interventional Radiology was consulted for possible endovascular embolization.

Materials and Methods

The patient was brought down to the Interventional Radiology (IR) suite for intervention. Initially, 3L of ascites was drained percutaneously with a 5F Yueh catheter. The portal venous system was then accessed via a recanalized para-umbilical vein with a 21G needle and micropuncture set (Figure 1). Venography was performed via the micropuncture catheter, demonstrating a tortuous recanalized para-umbilical vein.

A 4F vascular sheath was then placed over an 0.035-inch guidewire. A 4F Berenstein catheter was used to reach the main portal vein and ultimately the inferior mesenteric vein (Image A). Venography was performed (Image B), which demonstrated retrograde flow with an enlarged superior rectal vein (red arrow) and dilated rectal varices (green arrow).

A 2.4F Progreat microcatheter was then advanced into the hypertrophied distal superior rectal vein. From this location, variceal sclerosis was performed (Image C) using 3cc of STS/Gelfoam slurry (2cc STS, 2cc of air, 3cc of contrast, 1 cc of Gelfoam). The microcatheter was retracted and repeat venography demonstrated stasis of contrast within the rectal varices and distal superior rectal vein.

Coil embolization of the distal superior rectal vein was then performed above the sclerosant, with two 8.0 mm x 30 cm Concerto detachable coils (Image D). The microcatheter was retracted and repeat venography demonstrated complete stasis of contrast within the distal superior rectal vein, and no further filling of the rectal varices was observed (Image E). Upon follow-up, the patient was stable without immediate complications and there was no further bleeding.

Conclusion

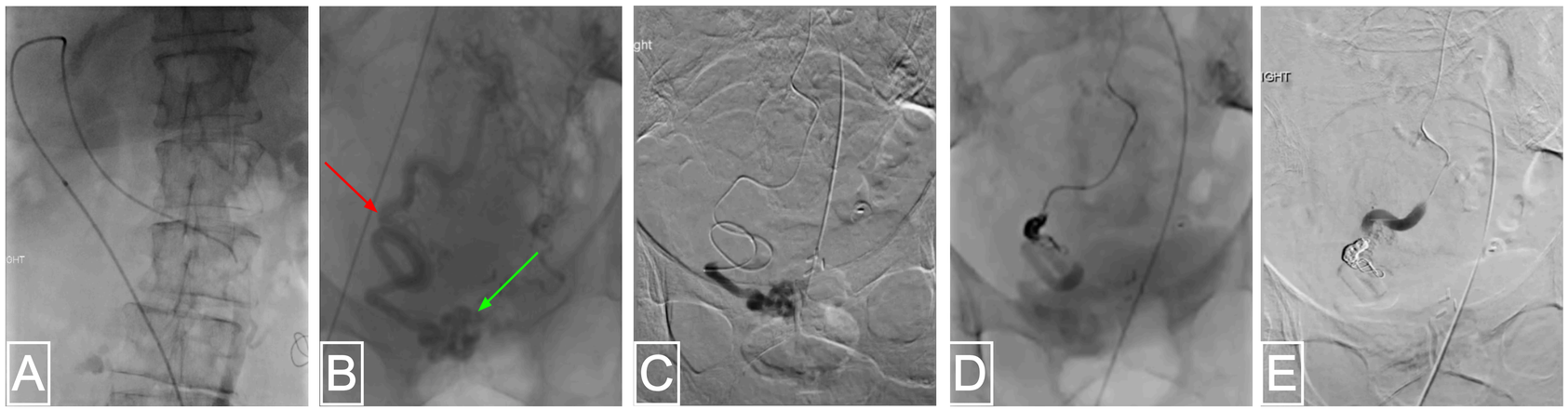
There are many different ways to manage variceal bleeding, including conservative, surgical, endoscopic, or endovascular management. Interventional Radiologists can perform a transjugular intrahepatic portosystemic shunt (TIPS), balloon-occluded retrograde transvenous obliteration (BRTO), or percutaneous endovascular embolization, depending on the patient's anatomy and MELD score.

Percutaneous access into the portal system may be achieved by a transhepatic approach (limited by presence of portal venous thrombus or large volume ascites), transplenic approach (increased risk of bleeding), by direct mesenteric vein puncture or via a pre-existing TIPS.

This case highlights a rectal variceal embolization achieved by percutaneous access of a recanalized para-umbilical vein, which was first described in the literature in 1982 but has since been scarcely described[1].

A retrospective analysis in 2014 of 7 patients demonstrated 100% technical success and high clinical success in variceal embolization via a recanalized para-umbilical vein approach, with no immediate complications[2].

Access via a recanalized para-umbilical approach should be considered as a safe and technically feasible option in patients who require percutaneous endovascular intervention within the portal system.



References

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