# Endoscopic therapy for bleeding small-bowel venous malformations

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An 84-year-old man was admitted to our inpatient ward with melena. He had a history of coronary artery disease treated with aspirin and clopidogrel and atrial fibrillation treated with apixaban. Initial laboratory analysis showed a hemoglobin level of 7.7 g/dL; hemoglobin level was normal 1 month before admission.

He underwent EGD and colonoscopy, neither of which revealed the source of bleeding. Video capsule endoscopy revealed many nonbleeding, submucosal, nodular venous malformations from the proximal duodenum to the distal jejunum as well as an area of fresh bleeding in the midjejunum (Fig. 1).

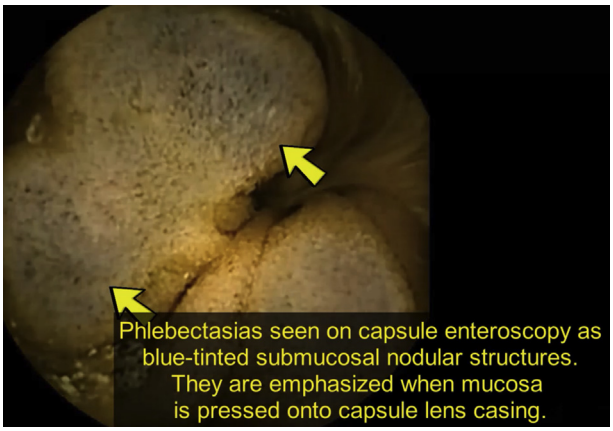


**Figure 1.** Still from video capsule endoscopy showing phlebectasias as blue-tinted, submucosal nodular structures.

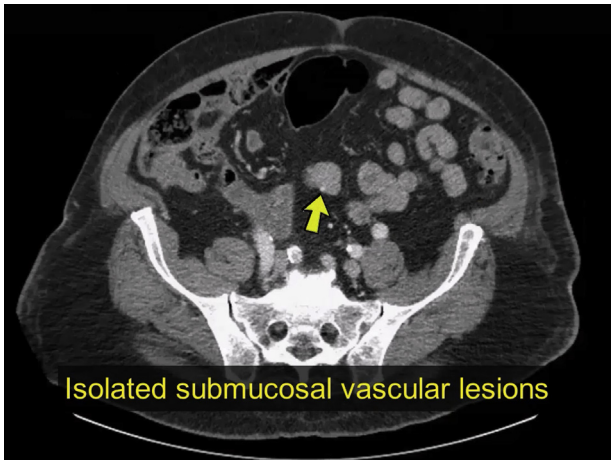


**Figure 2.** CT image of an isolated small-bowel phlebectasia.

During these evaluations, the patient had an ongoing blood transfusion requirement, requiring 1 or 2 units of packed red blood cells daily. CT angiography showed isolated submucosal vascular lesions in the duodenum and jejunum (Fig. 2). There was no obvious vascular supply to suggest varices.

Double-balloon enteroscopy revealed the same venous malformations diffusely through the distal duodenum and jejunum (Fig. 3). One of these lesions had a nipple sign and was targeted for cyanoacrylate sclerotherapy (Fig. 4). Cyanoacrylate injection was performed, as shown in Figure 5. The patient's melena ceased after this intervention, and he required no further transfusions. He was discharged on postprocedure day 2.

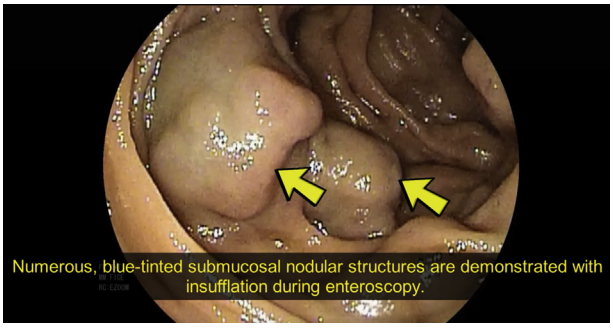


**Figure 3.** Still from balloon-assisted enteroscopy showing numerous phlebectasias that are not bleeding.


**Figure 4.** Still from balloon-assisted enteroscopy showing numerous phlebectasias with high-risk stigmata for bleeding.

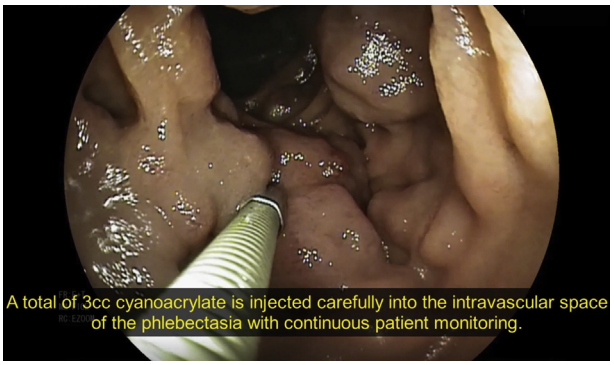


**Figure 5.** Still from balloon-assisted enteroscopy showing part of the cyanoacrylate injection process.

## DISCUSSION

Small-bowel venous malformations and phlebectasias are a rare cause of GI bleeding.[1,2] Cyanoacrylate sclerotherapy has only been described in case reports on cutaneous and soft tissue venous malformations.[3] Cyanoacrylate has been used in the small bowel specifically for venous malformations occurring as ectopic varices and in a case report on blue rubber bleb nevus syndrome.[4,5] It was unlikely this patient had the latter syndrome without presentation at a younger age and with a lack of characteristic skin findings. Vascular embolization cannot be used in these cases because no obvious vascular sources can be identified. The technique shown in Video 1 (available online at www.VideoGIE.org) may demonstrate an effective hemostatic therapy for isolated small-bowel phlebectasias.

## DISCLOSURE

*Dr Ahmed is consultant for Boston Scientific, Cook Medical, and Olympus Corporation of the Americas. Dr Kyanam Kabir Baig is a consultant for Olympus Corporation of the Americas. All other authors disclosed no financial relationships.*

## REFERENCES

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