

Downhill esophageal varices: unusual cause of hematemesis

Saikiran Raghavapuram, MD,¹ Nayana George, MD,² Mohit Girotra, MD,³ Sameer Siddique, MD,⁴ Benjamin Tharian, MD⁵

“Downhill” esophageal varices distributed predominantly in the proximal esophagus are unusual causes of hematemesis, comprising 0.1% of all cases of variceal hemorrhage.¹ They are seen in up to 30% of cases of superior vena cava (SVC) obstruction from benign and malignant causes.¹ The pathophysiology of their formation and management is different from that of the more usual “uphill” varices commonly seen that result from portal hypertension. These varices are caused by the formation of collaterals caused by obstruction of the superior vena cava.¹ Their distribution in the esophagus varies relative to the level of SVC obstruction with the azygos vein.

Patients with end-stage renal disease (ESRD) who are receiving long-term dialysis are particularly at risk for SVC obstruction/stenosis from the sustained use of indwelling

lines and tunnel catheters and from the increased incidence of atherosclerosis or calcification, or both, of the vascular walls.² In contrast to the varices related to portal hypertension, banding in downhill varices is only a



Figure 1. Banding of esophageal varix.



Figure 2. Proximal esophageal varix.



Figure 3. CT view showing occlusion of the superior vena cava in the preazygos segment.

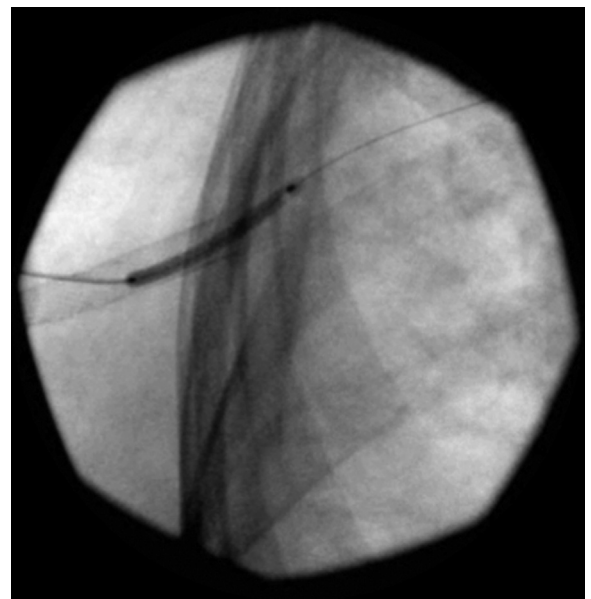


Figure 4. Angiogram showing occlusion of the superior vena cava and inability to pass stent.

Written transcript of the video audio is available online at www.VideoGIE.org.

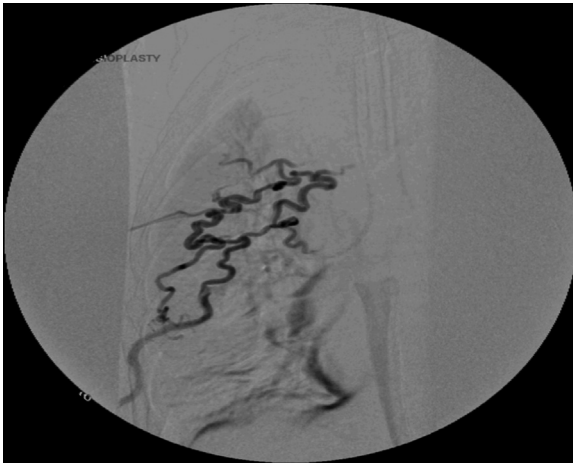


Figure 5. Angiogram showing collaterals.

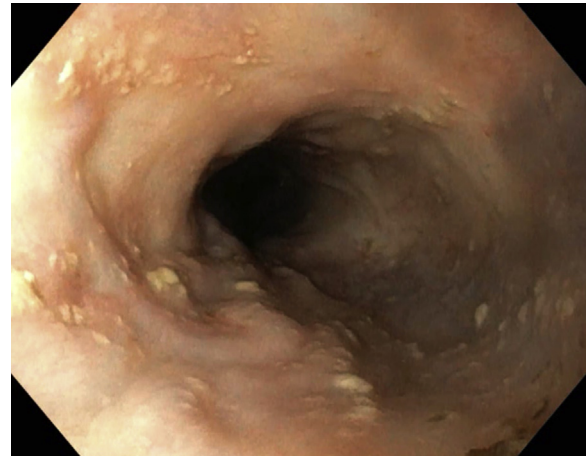


Figure 6. EGD after surgery showing resolution of the varices.

temporizing method until definite therapy to relieve the SVC obstruction is undertaken, which is usually by interventional radiology (IR)-guided angioplasty and stenting. In failed cases, vascular reconstruction is the treatment of choice, but this is obviously associated with high surgical morbidity and mortality.

We present the case of a woman with a history of ESRD who was receiving long-term hemodialysis and presented with massive hematemesis (Video 1, available online at www.VideoGIE.org). Emergent endoscopy showed large varices (Fig. 1) in the proximal esophagus (Fig. 2), which were banded (Fig. 3). An attempt at IR-guided angioplasty failed (Figs. 4 and 5). She subsequently underwent vascular reconstruction, with resolution of her symptoms, and the varices, after a 9-month follow-up (Fig. 6).

Through this case, we present an unusual cause of hematemesis with associated difficulties in management.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

Abbreviations: ESRD, end-stage renal disease; IR, interventional radiology; SVC, superior vena cava.

REFERENCES

1. Berkowitz JC, Bhusal S, Desai D, et al. Downhill esophageal varices associated with central venous catheter-related thrombosis managed with endoscopic and surgical therapy. *ACG Case Rep J* 2016;3:e102.
2. Nayudu SK, Dev A, Kanneganti K. "Downhill" esophageal varices due to dialysis catheter-induced superior vena caval occlusion: a rare cause of upper gastrointestinal bleeding. *Case Rep Gastrointest Med* 2013;2013:830796.

Division of Gastroenterology, Department of Medicine (1); Department of Internal Medicine, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA (2); Division of Gastroenterology and Hepatology, Stanford University School of Medicine, Palo Alto, California, USA (3); Division of Gastroenterology and Nutrition, Einstein Medical Center, Philadelphia, Pennsylvania, USA (4); Division of Gastroenterology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA (5).

Copyright © 2017 American Society for Gastrointestinal Endoscopy. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<http://dx.doi.org/10.1016/j.vgie.2017.02.005>