

# Ectopic Duodenal Varices in a Noncirrhotic Patient With Inferior Vena Cava Occlusion

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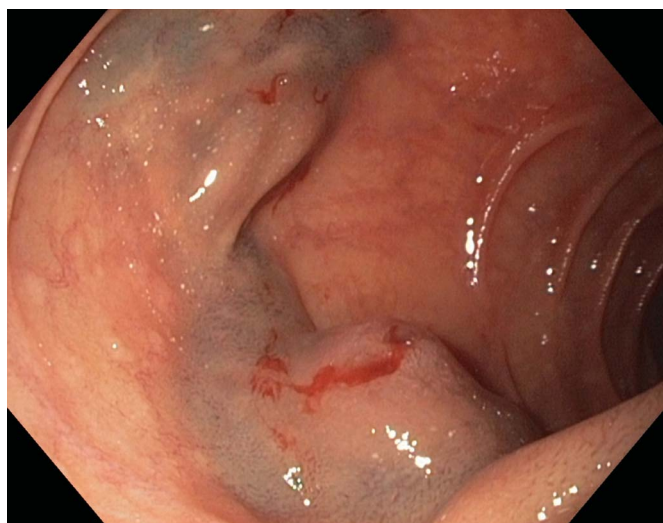
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## CASE REPORT

A 58-year-old woman with a medical history significant for end-stage renal disease requiring a kidney transplant presented to the hospital with a complaint of melena. Initial physical examination revealed pallor and tachycardia (110 beats/minutes) and blood pressure of 90/60 mm Hg. The admission laboratory results revealed hemoglobin 6.5 g/dL, white blood cell count  $13.0 \times 10^3$  cells/ $\mu$ L, platelet count  $240 \times 10^3$  cells/ $\mu$ L, aspartate aminotransferase 38 U/L, alanine aminotransferase 50 U/L, alkaline phosphatase 68 U/L, total bilirubin 0.5 mg/dL, prothrombin time of 13 seconds, international normalized ratio 1.0, creatinine 1.36 mg/dL, and blood urea nitrogen 38 mg/dL. She underwent esophagogastroduodenoscopy that revealed isolated large duodenal varices with fresh blood in the duodenum (Figure 1). Abdominal ultrasound showed the liver normal in size and morphology. A triple-phase abdominal computed tomography scan showed numerous varices within and adjacent to the duodenum with complete occlusion of the suprarenal inferior vena cava (IVC) (Figure 2). She underwent digital subtraction angiography with balloon angioplasty with an endograft placement (Figure 3). Digital subtraction angiography of the IVC after stent deployment showed no evidence of stenosis, and no flow is seen in the varices or collateral vessels (Figure 4). Postprocedure, the patient improved with no further drop in hemoglobin.

Ectopic varices (EV) are complex pressurized portosystemic collaterals that can occur anywhere in the gastrointestinal tract apart from gastroesophageal regions and account for 2%–5% of all variceal bleeding.<sup>1,2</sup> Duodenal varices are the most common small bowel



**Figure 1.** Esophagogastroduodenoscopy showing large duodenal varices with fresh blood in the duodenum.



**Figure 2.** Triple-phase abdominal computed tomography scan showed numerous varices within and adjacent to the duodenum with termination of the inferior vena cava superior to the renal veins suggestive of complete occlusion of the suprarenal inferior vena cava.



**Figure 3.** Digital subtraction angiography with balloon angioplasty with the placement of an endograft.

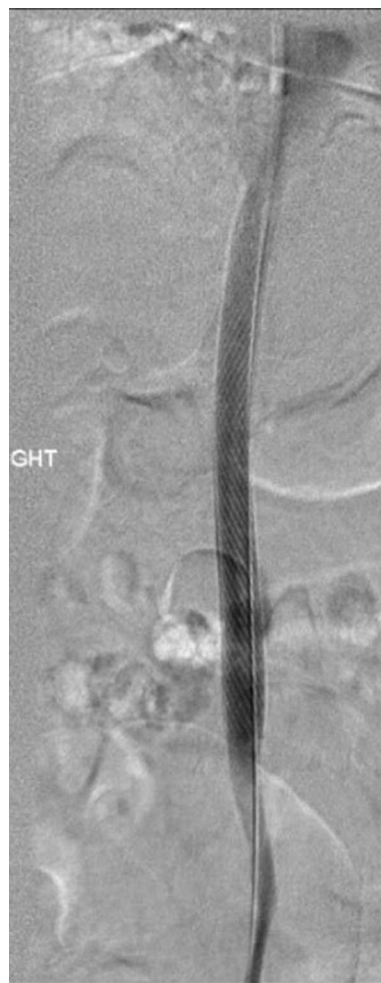
varices and are frequently seen in patients with cirrhosis.<sup>2</sup> EV has a 4-fold higher risk of bleeding when compared with gastroesophageal varices and can present with massive hemorrhage with mortality rates as high as 40%.<sup>1,2</sup>

Unfortunately, no treatment guidelines have been established for EV management because the literature is limited to case reports and small case series. Our patient did not have any identifiable hypercoagulation disorder and more likely developed EV due to IVC thrombosis. In the literature, endoscopic therapy (sclerotherapy, band ligation, or glue injection), percutaneous transcatheter embolization, transjugular intrahepatic portosystemic shunt, and transvenous obliteration through either retrograde or antegrade, percutaneous mesocaval shunt, and surgical procedures have been described for the management of EV.<sup>1-3</sup> In the absence of stigmata of chronic liver disease, further investigation revealed IVC obstruction as a cause of EV that was treated with balloon angioplasty and endograft placement. Although rare, IVC obstruction should be considered as a differential in a noncirrhotic patient with ectopic duodenal varices. The ideal management of EV is to ensure prompt hemostasis and identify and address the etiology of the EV.

## DISCLOSURES

**Author contributions:** JP Kothadia and A. Aleem wrote the article. A. Raza revised the article for intellectual content. JP Kothadia is the article guarantor.

**Financial disclosure:** None to report.



**Figure 4.** Digital subtraction angiography of the inferior vena cava after stent deployment showed no evidence of stenosis, and no flow is seen in the varices or collateral vessels.

Informed consent was obtained for this case report.

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## REFERENCES

1. Bhat AP, Davis RM, Bryan WD. A rare case of bleeding duodenal varices from superior mesenteric vein obstruction -treated with transhepatic recanalization and stent placement. *Indian J Radiol Imaging.* 2019;29(3): 313-7.
2. House T, Webb P, Baarson C. Massive hemorrhage from ectopic duodenal varices: Importance of a multidisciplinary approach. *Case Rep Gastroenterol.* 2017;11(1):36-41.
3. Helmy A, Al Kahtani K, Al Fadda M. Updates in the pathogenesis, diagnosis and management of ectopic varices. *Hepatol Int.* 2008;2(3): 322-34.

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