

The Nightmare of the Gastroenterologist: Bleeding Duodenal Varices

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ABSTRACT

Background: The management of hemorrhage from duodenal varices remains controversial. Available treatment methods include endoscopic, radiological, and surgical techniques, with endoscopic therapy being the most commonly used modality.

Case Report: We describe a case of a patient who underwent band ligation for large duodenal varices. Hemostasis was achieved for forty-eight hours, but the patient later suffered from severe rebleeding. Tragically, the patient passed away after surgical salvage treatment due to decompensation and infection.

Conclusion: In light of a review of pertinent literature, we advise against the sole use of endoscopic band ligation for large varices. It should be complemented with other treatment modalities, ideally radiological interventions such as transjugular intrahepatic portosystemic shunt or transvenous obliteration.

Keywords: Duodenal varices, ectopic varices, endoscopic band ligation, transjugular intrahepatic portosystemic shunt, transvenous obliteration.



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INTRODUCTION

Portal hypertension is a consequential manifestation of liver cirrhosis. It is characterized by the gradual formation of portosystemic collaterals, primarily at the oesophagogastric junction (EGJ), abdominal wall, and rectum. The term “ectopic varices” refers to varices located outside the EGJ.¹ Ectopic varices are relatively rare, accounting for approximately 5% of all variceal hemorrhage cases. Among these, duodenal varices represent about 17% of the total cases of ectopic varices and are responsible for 25–33% of instances of ectopic bleeding. A rupture of these varices can cause severe bleeding, with a mortality rate reaching up to 40%.^{2,3}

CASE REPORT

A 72-year-old male patient presented to the emergency room exhibiting symptoms of hematemesis and melena. He had a known history of cirrhosis due to hepatitis B, which had been diagnosed three years prior. In that period, he underwent esophageal variceal band ligation on two separate occasions. Following a drop in his hemoglobin concentration from 10.4 g/dL to 9.3 g/dL, he was admitted to the gastrointestinal ward. He was initiated on proton pump inhibitors and somatostatin via the parenteral route and was advised against oral intake. Endoscopic examination revealed polypoid lesions covered by normal mucosa, resembling enlarged duodenal varices, located in the third



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Figure 1. Large polypoid lesions suggestive of duodenal varices based on the patient's medical history (endoscopic view).

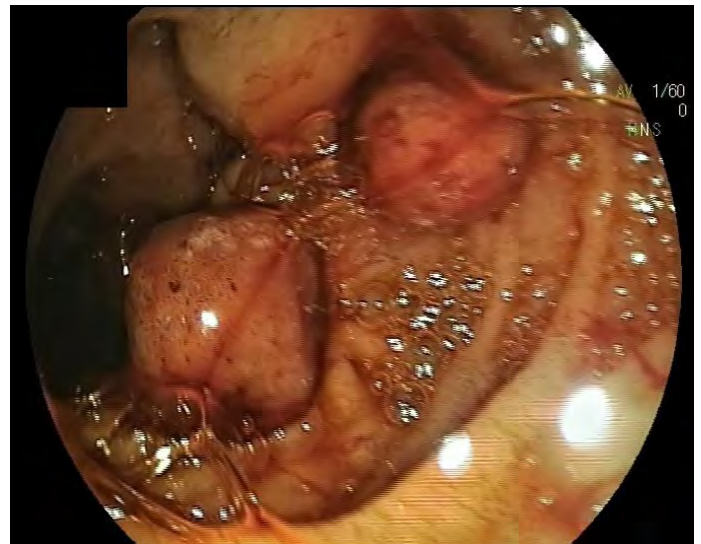


Figure 3. View of varices after band ligation (control endoscopy).

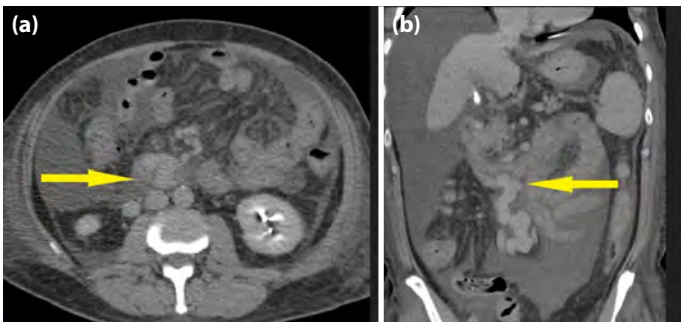


Figure 2. Computed tomography revealing a vascular structure in the duodenal wall **(a)** - transverse plane; **(b)** - coronal plane in venous phase.

segment of the duodenum (Fig. 1). Corroborating our findings, a computed tomography portal phase showcased prominent venous structures near the duodenum (Fig. 2). Moreover, there was thrombosis in the portal vein extending to its confluence, accompanied by notable ascites. In the setting of emergent medical care, endoscopic band ligation was performed due to the recurrence of bleeding, evidenced by symptoms of hematochezia and a drop in hemoglobin levels to 5.9 g/dL (Fig. 3). However, bleeding resumed after a two-day interval. Due to severe hypotension and grade 3 hepatic encephalopathy, the patient was shifted to the intensive care unit. Given the limited availability of interventional radiology resources, the general surgery department performed a duodenotomy to oversee the duodenal varices. Sadly, twelve days post-operation, the patient passed away from infection and hepatic decompensation.

DISCUSSION

The ideal treatment for duodenal varices remains a topic of debate. The risk of rebleeding and associated complications vary depending on the chosen procedure. The endoscopic band ligation method, employed in our patient's case, is among the primary treatment options.⁴ While this method of endoscopic band ligation (EBL) is lauded for its efficacy in achieving early hemostasis and its minimal systemic side effects, a notable incidence of re-bleeding persists.⁵ Based on their research, Fayad et al.⁶ suggest that EBL might be better suited for small varices. For larger varices, it should be used in conjunction with other treatment techniques. Another endoscopic method involves glue injection into the varix. This approach is highly effective, but it is worth noting that it can cause significant complications. After glue injections (with n-butyl-cyanoacrylate being the most common agent), complications can arise, including migration to other organs and sites, recurrent hemorrhage, bone fractures, and systemic embolisms, such as pulmonary embolism.⁷ Additional therapeutic methods include transvenous obliteration (TVO) and transjugular intrahepatic portosystemic shunt (TIPS) procedures, which are typically executed by interventional radiologists. Transvenous obliteration procedures, whether performed antegrade or retrograde, along with transjugular intrahepatic portosystemic shunt interventions, have rebleeding rates ranging from 13% to 37%. This observation stems from data suggesting that approximately 25% of individuals with ectopic varices experience bleeding when the portosystemic gradient falls below 12 mmHg.² Encouraging outcomes emerged from a limited case series that involved the combined use of

Transjugular Intrahepatic Portosystemic Shunt and Transvenous Occlusion techniques. The authors described a series of five cases in which patients experienced bleeding from duodenal varices and underwent either simultaneous or asynchronous interventions involving TIPS and TVO. In all instances, hemorrhaging was successfully halted, leading to the survival of the patient.⁸ Surgical intervention should be the first option in cases where non-surgical treatments have been ineffective, liver function is preserved (Child-Pough A), there is no extrahepatic portal vein obstruction, and the medical facility boasts a significant degree of local expertise.⁴

CONCLUSION

Based on current research, we recommend endoscopic band ligation as the primary treatment choice for smaller, easily accessible varices. If endoscopic band ligation alone is ineffective, it should be combined with either Transjugular Intrahepatic Portosystemic Shunt or Transvenous Obliteration. Utilizing a combination of these therapeutic techniques is considered the most effective strategy for treating extensive varices.

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Informed Consent: Written informed consent was obtained from patient who participated in this study.

Conflict of Interest: The author have no conflict of interest to declare.

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REFERENCES

1. Bhagani S, Winters C, Moreea S. Duodenal variceal bleed: An unusual cause of upper gastrointestinal bleed and a difficult diagnosis to make. *BMJ Case Rep* 2017; 2017: bcr2016218669. [\[CrossRef\]](#)
2. Saad WE, Lippert A, Saad NE, Caldwell S. Ectopic varices: Anatomical classification, hemodynamic classification, and hemodynamic-based management. *Tech Vasc Interv Radiol* 2013; 16(2): 158–75. [\[CrossRef\]](#)
3. Almadi MA, Almessabi A, Wong P, Ghali PM, Barkun A. Ectopic varices. *Gastrointest Endosc* 2011; 74(2): 380–8.
4. Sarin SK, Kumar CKN. Ectopic varices. *Clin Liver Dis (Hoboken)* 2012; 1(5): 167–72. [\[CrossRef\]](#)
5. Gunnerson AC, Diehl DL, Nguyen VN, Shellenberger MJ, Blansfield J. Endoscopic duodenal variceal ligation: A series of 4 cases and review of the literature (with video). *Gastrointest Endosc* 2012; 76(4): 900–4. [\[CrossRef\]](#)
6. Fayad N, Nammour F, Elfant A. Endoscopic variceal ligation for bleeding duodenal varices. *J Clin Gastroenterol* 2004; 38(5): 467. [\[CrossRef\]](#)
7. Ataman E, Harputluoğlu M, Bilgiç Y, Sağlam O, Orman İ. Endoscopic treatment for duodenal variceal bleeding. *Diagn Interv Endosc* 2022; 1(2): 53–5. [\[CrossRef\]](#)
8. Saad WE, Lippert A, Schwaner S, Al-Osaimi A, Sabri S, Saad N. Management of bleeding duodenal varices with combined tips decompression and Trans-TIPS transvenous obliteration utilizing 3% sodium tetradecyl sulfate foam sclerosis. *J Clin Imaging Sci* 2014; 4: 67.