

Jejunal Dieulafoy Lesion: A Rare Cause of Lower Gastrointestinal Bleed

by Natalia Khalaf, Francis Felice, Divyesh Sejpal

Dieulafoy lesions are becoming increasingly more recognized as a cause of acute gastrointestinal bleeding as advances in endoscopic techniques have improved detection and treatment of such lesions. Responsible for nearly 2% of all gastrointestinal (GI) hemorrhages, the vast majority of Dieulafoy lesions are located in the upper GI tract, particularly the stomach. Only 1-2% of such lesions are found in the jejunum; thus, these lesions are not commonly considered in the differential diagnosis of lower GI bleeds. Here we present the case of an 83-year-old woman, with a history of recurrent GI bleeding secondary to arteriovenous malformations, who presented with an acute lower GI bleed due to a jejunal Dieulafoy lesion.

CASE REPORT

An 83-year-old Caucasian woman with past medical history of hypertension, gastroesophageal reflux disease, diverticular disease, iron deficiency anemia and recurrent occult gastrointestinal (GI) bleeding secondary to jejunal arteriovenous malformations (AVMs), treated with cauterization, presented to the emergency department with a three day history of intermittent, mild epigastric pain and five episodes of black, tarry stool.

On initial examination, the patient was in no acute distress, afebrile, and had a blood pressure of 110/54 with a heart rate of 96. She had diffuse upper abdominal tenderness but normal bowel sounds and no signs of an acute abdomen; her rectal exam was significant for melena without palpable masses or bright red blood. Her laboratory work-up was significant for a hemoglobin of 9.1 g/dL, from a baseline of 14.0, with an MCV of 76 fL, a reticulocyte count of 3.2%, and an elevated blood urea nitrogen to creatinine ratio of >20:1. Complete blood count and metabolic panel were otherwise normal. The patient was fluid resuscitated, started on a proton pump inhibitor drip, and taken for emergent esophagogastroduodenoscopy due to concern for an acute upper GI bleed.

Due to her previous history of jejunal AVMs, a pediatric colonoscope was used with the intent of performing push enteroscopy if needed, as balloon enteroscopy was not available at the facility. In the

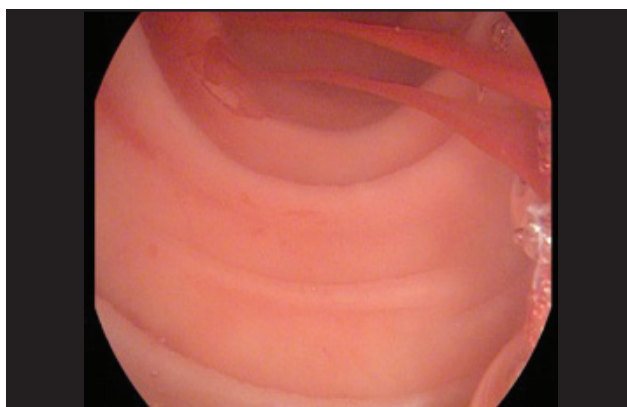


Figure 1. Endoscopic image: An actively bleeding Dieulafoy's lesion in the proximal jejunum.

proximal jejunum, an actively bleeding arterial vessel was seen. The surrounding mucosa appeared normal, without evidence of ulceration. These findings were consistent with a jejunal Dieulafoy lesion (see Figure 1). Three hemoclips were applied to the bleeding vessel, resulting in complete hemostasis (see Figures 2 and 3). Following the procedure, the patient had resolution of her abdominal pain and only one subsequent episode of melena. She was discharged on hospital day number three with stable hemoglobin above 10.0 g/dL.

DISCUSSION

Dieulafoy lesions are becoming increasingly recognized as causes of acute GI bleeds, causing nearly 2% of all GI hemorrhages.¹ Greater than 80% of these lesions are found in the upper GI tract.^{1-2,4} True prevalence is hard to establish, given the difficulty in diagnosing Dieulafoy lesions and their often asymptomatic nature. Originally described as *exulceratio simplex*, and fatal 80% of

(continued on page 56)

Natalia Khalaf MD,¹ Francis Felice BA,² Divyesh Sejpal MD,³ ¹⁻²Department of Internal Medicine, ³Department of Gastroenterology and Hepatology, Baylor College of Medicine, Houston, TX

A CASE REPORT

(continued from page 54)

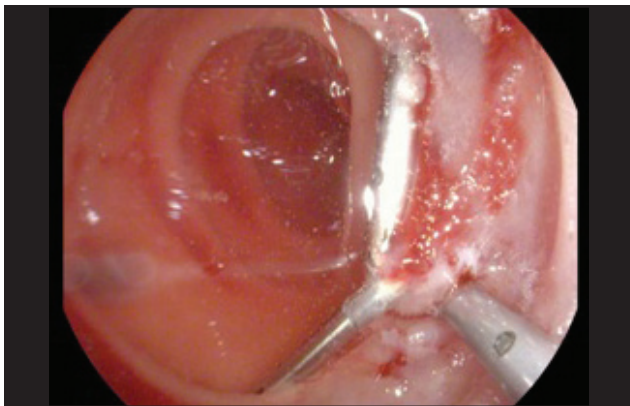


Figure 2. Endoscopic image: Application of endoscopic hemoclips to achieve hemostasis.

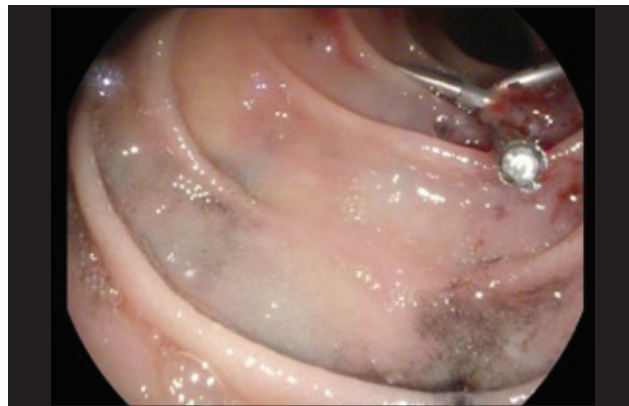


Figure 3. Endoscopic image: After endoscopic hemoclip placement, tattooing of the Dieulafoy's lesion to assist in future relocalization if needed.

the time in the era of surgical treatment,⁴ Dieulafoy lesions were initially believed to be ulcerations of the GI mucosa with resultant exposure and bleeding from an otherwise normal submucosal artery.⁵ It is now understood that these lesions are histopathologically different than normal vessels. Dieulafoy lesions are aberrant, dilated, submucosal vessels that fail to undergo normal branching and thus carry the potential to subsequently erode the overlying epithelium due to their large size and pulsatile nature.⁶

More prevalent in the elderly and those with comorbid chronic medical conditions,^{1,3} Dieulafoy lesions are unevenly distributed in the GI tract. The stomach, specifically the lesser curvature due to its highly vascular architecture, is the most common location. Studies suggest that only 1-2% of such lesions are found in the jejunum.^{1,7} Thus, our patient represents an unusual case of a jejunal Dieulafoy lesion causing acute lower GI bleed.

Endoscopic treatment is the standard of care for bleeding Dieulafoy lesions, with hemostasis approaching 80-100% depending on the method of intervention.^{2,3,8} Four methods of achieving endoscopic hemostasis are available: endoscopic hemoclip placement, band ligation, cauterization, and injection of vasoconstrictive compounds. Band ligation and endoscopic hemoclip placement are equally efficacious, with one study suggesting that banding may be preferred due to faster procedure time and shorter length of hospital stay.² For our patient, endoscopic hemoclips were the intervention of choice. Using clips avoids the drawback of needing to remove the endoscope after localization of the bleeding lesion to load the banding kit.

CONCLUSION

This case serves to heighten awareness of the commonly missed diagnosis of Dieulafoy lesion in areas outside of the stomach as a cause of obscure GI bleed. A thoughtful approach to such patients and a trained endoscopist with appropriate and specific equipment should be used to appropriately diagnose and treat this condition. Our patient's prior history of repeated upper and lower GI bleeds secondary to AVMs serves as a humble reminder that patients often have multiple risk factors and causes for GI bleed. Dieulafoy lesion should be included on the differential diagnosis of potentially life-threatening causes of acute GI bleed, as specialized and time-sensitive management is needed. ■

Acknowledgments: Jad Daye MD, Manuel Berzosa MD

References

1. Norton ID, Peterson BT, Sorbi D, et al. Management and long-term prognosis of Dieulafoy lesion. *Gastrointest Endosc.* 1999; 50: 762-767.
2. Ahn DW, Sand HL, Young SP, et al. Hemostatic Efficacy and Clinical Outcome of Endoscopic Treatment of Dieulafoy's Lesions: Comparison of Endoscopic Hemoclip Placement and Endoscopic Band Ligation. *Gastrointestinal Endoscopy.* 2012; 75: 32-38.
3. Walmsley RS, Lee YT, Sung JJ. Dieulafoy's Lesion: A Case Series Study. *World Journal of Gastroenterology.* 2005; 11: 3574-3577.
4. Goldman RL. Submucosal arterial malformation ("aneurysm") of the stomach with fatal hemorrhage. *Gastroenterology.* 1964; 46: 589-594.
5. Dieulafoy G. Exulceratio simplex. L'intervention chirurgicale dans les hematemeses foudroyantes consecutives a l'exulceration simple de l'estomac. *Bull Acad Med.* 1898; 49: 49-84.
6. Juler GL, Labitzke HG, Lamb R, Allen R. The pathogenesis of Dieulafoy's gastric erosion. *Am J Gastroenterol.* 1984; 79: 195-200.
7. Baxter M, Aly EH. Dieulafoy's lesion: current trends in diagnosis and management. *Ann R Coll Surg Engl.* 2010; 92: 548-554.
8. Romaozinho JM, Pontes JM, Lérias C, Ferreira M, Freitas D. Dieulafoy's lesion: management and long-term outcome. *Endoscopy.* 2004; 36: 416-420.