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Case report

Dieulafoy's Lesion: A Case Report with an Atypical Anatomical Variation

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Abstract

Dieulafoy's lesion is a rare and potentially life-threatening cause of gastrointestinal bleeding, resulting from vascular injury due to submucosal erosion that penetrates through the mucosa. It can lead to gastrointestinal hemorrhage with severe complications. This condition accounts for 1%–2% of gastrointestinal bleeding cases, most commonly occurring in the gastric fundus, and it typically affects individuals over 50 years of age with multiple comorbidities. This report describes a rare etiology of gastrointestinal bleeding associated with a thrombectomy and an atypical anatomical location.

Keywords

Dieulafoy's lesion, gastrointestinal bleeding, angiodysplasia, hemorrhagic shock.

INTRODUCTION

Dieulafoy's lesion is a rare but potentially life-threatening clinical entity first described in 1884 by Gallard, who, during the autopsies of two patients with massive gastrointestinal hemorrhage, identified what he termed *miliary aneurysms of the stomach*. It was not until 1897 that the French surgeon Paul Georges Dieulafoy noted that these lesions could progress into gastric ulcers, referring to them as *exulceratio simplex*[(1)]. Dieulafoy's lesion accounts for approximately 5% of gastrointestinal hemorrhages in adults[(2)]. These lesions are typically described as a form of angiodysplasia involving the submucosal exposure of a blood vessel within the gastrointestinal tract, which can erode over time and lead to severe bleeding. Most lesions (70%) occur proximally within the stomach, with the remaining distributed across the duodenum (15%), esophagus (8%), colon (2%), and anus (1%)[(3)]. The condition is associated with high mortality rates, reaching up to 80% in cases where early detection is not achieved[(4)].

We present the case of a male patient who, following thrombectomy for grade IV thrombosed hemorrhoids, experienced massive gastrointestinal hemorrhage accompanied by hemodynamic instability. Endoscopy and colonoscopy were performed, with the latter revealing an actively bleeding Dieulafoy's lesion. Hemostasis was achieved

through sclerotherapy with adrenaline and the placement of a hemostatic clip on the affected vessel.

CLINICAL CASE

The patient is a 69-year-old male with no prior comorbidities who was recently hospitalized for rectal bleeding. A colonoscopy revealed diverticulosis in the descending-sigmoid colon and inflamed, thrombosed grade IV hemorrhoids. During his hospital stay, a thrombectomy of three hemorrhoidal bundles was performed, and the patient was discharged following satisfactory clinical progress.

Five days after discharge, the patient presented to the emergency department with a two-hour history of rectal bleeding, accompanied by diaphoresis and a syncopal episode. Upon admission, vital signs indicated bradycardia (heart rate [HR]: 52 beats per minute [bpm]) and hypotension (blood pressure [BP]: 85/50 mm Hg with a mean arterial pressure [MAP] of 61 mm Hg). Physical examination revealed mucocutaneous pallor and moderate active bleeding upon digital rectal examination. Suspecting hemorrhagic shock of lower gastrointestinal origin, the patient was managed with an 80 mg bolus of omeprazole, followed by a continuous infusion at 8 mg/hour, along with fluid resuscitation using crystalloids. Initial laboratory findings were as follows: hemoglobin (7.4 g/dL), platelet count (371,000/µL), serum creatinine (1.2 mg/dL), blood urea nitrogen (24 mg/dL), lactate (2.3 mg/dL), prothrombin time (12.1 seconds), partial thromboplastin time (21.6 seconds), and international normalized ratio (1.17). The patient was transferred to the intensive care unit (ICU), where two units of red blood cells were transfused. Endoscopy, colonoscopy, and an abdominal-pelvic angiography were requested. The angiography of the abdomen and pelvis revealed findings consistent with arterial atheromatosis but showed no evidence of aortic syndrome or other abnormalities.

After 48 hours, upper gastrointestinal endoscopy and colonoscopy were performed. The endoscopy showed Forrest IIB and III gastric ulcers that required adrenaline sclerotherapy, as well as erosive duodenitis. The colonoscopy revealed grade IV internal hemorrhoids, a thrombectomy scar on the right anterior hemorrhoidal site, and an actively bleeding Dieulafoy's lesion (**Figure 1**). A hemostatic clip was applied to the base of the vessel to prevent further bleeding (**Figure 2**).

The patient maintained hemodynamic stability 48 hours post-procedure, with stable vital signs and no recurrence of bleeding. Therefore, outpatient management was deemed appropriate. An outpatient follow-up appointment with colorectal surgery and general surgery was scheduled, and the patient has remained under continuous follow-up with no recurrence of gastrointestinal symptoms since discharge.

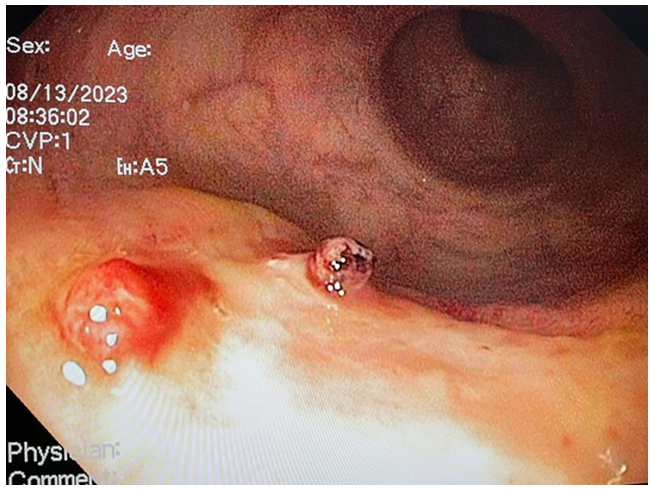

Figure 1. Colonoscopy showing the exposed vessel. Courtesy of Dr. Gilberto Jaramillo.

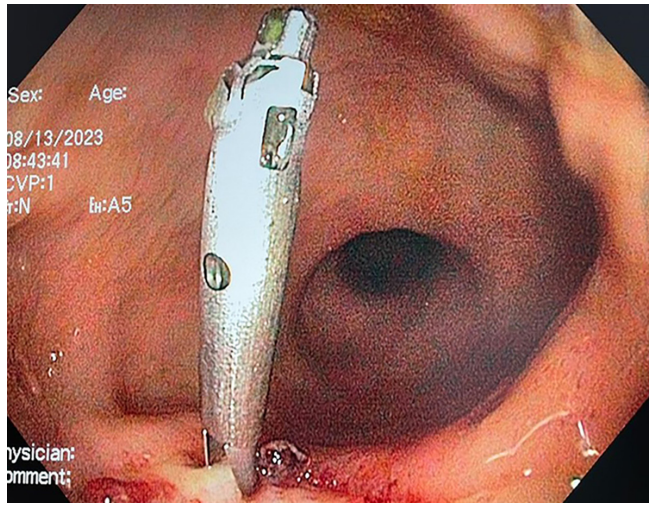

Figure 2. Hemostatic clip placed on the Dieulafoy's lesion. Courtesy of Dr. Gilberto Jaramillo.

DISCUSSION

Dieulafoy's lesion poses a significant diagnostic challenge in patients with gastrointestinal bleeding due to its rare etiology and high mortality rate. In this case, the lesion presented in an unusual location—the rectum—following a surgical procedure. Rectal location is uncommon and can be mistaken for vascular anomalies such as arteriovenous malformations or aneurysms[5]. Diagnosis must be meticulous, as in the absence of active bleeding, these lesions may be confused with other findings, such as polyps, or the culprit vessel may appear intact without erosion or ulceration[6]. The vessel may also only become visible during active bleeding or may be obscured by a clot after a prior bleeding episode[7]. Endoscopic criteria for diagnosing Dieulafoy's lesion include: active arterial bleeding with micropulsatile

flow and small mucosal defects (<3 mm) without mucosal ulceration or erosion; visible protrusion of the vessel; and the presence of clotted blood at the mucosal junction[8].

The diagnostic yield of endoscopy for Dieulafoy's lesion is approximately 70% in gastric lesions, which are the most common presentation. In some studies, this rate dropped to 49%, with up to 33% of patients requiring a second endoscopic procedure[9]. In a study evaluating rectal Dieulafoy's lesions, colonoscopy failed to diagnose 9% of patients, and surgical intervention was necessary in some cases to confirm the diagnosis[10]. Although there is no consensus on the optimal treatment approach for Dieulafoy's lesion, endoscopic management remains the first-line treatment, supported by thermal therapies, regional epinephrine injection, and mechanical methods. The use of hemostatic clips has proven to be an effective and simple technique for preventing massive bleeding and rebleeding[11]. Other diagnostic methods, such as computed tomography angiography or contrast-enhanced magnetic resonance imaging, are rarely employed for detecting rectal lesions and are typically reserved for cases in which colonoscopy fails to establish a diagnosis[12].

Surgical intervention is often the definitive method to achieve hemostasis, particularly when previous approaches fail and the patient remains hemodynamically unstable. Studies indicate that 3% to 16% of patients require surgery, primarily due to recurrent bleeding episodes following endoscopic therapy[13].

CONCLUSION

Dieulafoy's lesion is a rare condition, and rectal location is an even less common anatomical site. However, it should be considered in patients presenting with massive gastrointestinal bleeding, particularly due to the often-intermittent nature of the bleeding, which can limit diagnostic investigations. A high index of suspicion is essential, especially in patients with a history of surgical interventions, as illustrated by this case. There are no clear guidelines on the optimal therapy for rectal lesions; however, endoscopic intervention combined with argon plasma coagulation or epinephrine injection is considered the standard treatment. The use of hemostatic clips has proven to be an effective adjunct therapy in cases of hemodynamic instability, as observed in our patient. Surgical intervention should be reserved for refractory cases where all previous therapeutic approaches have failed. Given the rarity of this condition, future research opportunities remain open, including the creation of a population-based registry to systematically organize data on patients with Dieulafoy's lesion.

Conflict of Interest

The authors declare no potential conflicts of interest related to the research, authorship, or publication of this article.

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Consent for Publication

Written consent from the patients was not obtained, as this report does not include identifiable patient data.

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