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Dieulafoy's Lesion: A Rare Location for Gastrointestinal Hemorrhage

Cansu Alyeşil, İbrahim Ulaş Özturan, Nurettin Özgür Doğan

Department of Emergency Medicine, Kocaeli Universty School Of Medicine, Kocaeli, Turkey

ABSTRACT

Introduction: Dieulafoy's lesion is a rare and potentially life-threatening cause of gastrointestinal bleeding. Although relatively uncommon, Dieulafoy's lesion can cause massive upper gastointestinal bleeding, especially in elderly patients.

Case Report: We report a case of Dieuolafoy's lesion located in the esophageal diverticulum, which is a very rare location for the lesion. Emergency esophagogastroduodenoscopy was performed, and according to results, there was active bleeding in the distal esophageal diverticulum-Dieulafoy's lesion (Forrest IA).

Conclusion: We concluded that emergency physicians should be aware that Dieulafoy's lesion is an uncommon and potentially life-threatening cause of upper gastointestinal bleeding among elderly patients. Early diagnosis and intervention through emergency endoscopy can be very effective and life saving.

Keywords: Dieulafoy's lesion, gastrointestinal hemorrhage, emergency department

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Introduction

Upper gastrointestinal bleeding (UGIB) is a common problem encountered in the emergency department. Annually, approximately 100.000 patients with UGIB are admitted to US hospitals. In the United Kingdom, UGIB accounts for 70.000 hospital admissions each year, with the bleeding in the majority of cases being nonvariceal in origin (1). Peptic ulcer disease, erosive gastritis and esophagitis, esophageal and gastic varices, Mallory–Weiss Syndrome, arteriovenous malformation, and malignancy are common etiologies for UGIB. Dieulafoy's lesion is an uncommon cause of the disease, constituting 2-5% of acute UGIB episodes (2).

Dieulafoy's lesions are arteries of the gastrointestinal tract that protrude through the submucosa. It was first described by Gallard in 1884 and later named after the French surgeon Georges Dieulafoy (3). These lesions are mostly located in the lesser curvature of the stomach; however, they may be found anywhere in the gastrointestinal tract. Dieulafoy's lesion is a potentially life-threatening condition as it can cause massive gastrointestinal hemorrhage. Esophagus is a rare location for the lesion. Early diagnosis and endoscopic intervention can be very effective and life saving.

Here, we report a case of massive UGIB secondary to a Dieulafoy's lesion that was located in the distal esophageal diverticulum.

Case Report

A 75-year-old male presented to emergency department with hematemesis that had occured two hours before admission. Regarding his past medical history, he had coronary artery disease and hypertension. He had presented to another institution with episode of gastrointestinal bleeding 30 years ago, and he had been using clopidogrel, metoprolole, pantoprazol, atorvastatin, and acetylsalicylic acid before the presentation. His body temperature was 36°C, blood pressure was 146/68 mmHg,

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Address for Correspondence:
Cansu Alyeşil, Department of Emergency Medicine, Kocaeli Universty School Of Medicine, Kocaeli, Turkey
E-mail: drcansualyesil@gmail.com

oxygen saturation was 99%, and heart rate was 63 beats per minute. His ECG revealed normal sinus rhythm. On physical examination, he appeared pale, his abdomen was soft, and there was no tenderness or rebound tenderness. Bowel sounds were hyperactive. Other system findings were unremarkable.

His Hb level was 10.9 g/dL and platelet count was 239.1 × 10^3/μL. Other laboratory findings, including liver and renal function tests, electrolytes, and INR level, were within the normal range. Omeprazole 80 mg IV bolus, followed by infusion of antiemetics 8 mg/h and normal saline were administered immediately. Although his vital signs were stable and nasogastric tube was in the correct location, he started to vomit again. After a large volume of blood loss, orthostatic symptoms appeared. Blood transfusion was started immediately. Emergency esophagogastroduodenoscopy (EGD) was performed, and according to EGD findings, there was an active bleeding spot in the distal esophageal diverticulum-Dieulafoy's lesion (Forrest IA). Sclerotherapy and hemoclip application were successful in stopping the bleeding. Blood transfusion was not required after the endoscopic intervention. Four days after the admission, he was discharged with a stable condition. Informed consent was obtained from the patient.

Discussion

Dieulafoy's lesion is an uncommon cause of UGIB. It is potentially life-threatening because of massive bleeding. The lesion is mostly seen in the proximal stomach, but it can be found anywhere in the gastrointestinal tract. These lesions are more common in men than in women, at a 2:1 ratio, and the mean age at presentation is around the fifth decade of life (range 50-70 years); our patient's age was consistent with the condition (4).

Dieulafoy's lesion is a dilated, aberrant, submucosal artery that erodes overlying gastrointestinal mucosa in the absence of an underlying ulcer, aneurysm, or intrinsic mural abnormality (3). The pathogenesis of Dieulafoy's lesion is still unknown, but several theories have been proposed: The first theory suggests that the pulsations in a large submucosal vessel cause disruption of the epithelium, and this leads to localized ischemia and exposure to bowel contents, which ultimately result in erosion and rupture (3). The second theory states that gastric tear promotes thrombosis within the artery, leading to the subsequent necrosis (3). Dieulafoy's lesion mostly presents with massive, usually recurrent hemorrhage, which can take the form of hematemesis, melena, fresh bleeding per rectum, or hematochezia.

Endoscopy has become the primary diagnostic choice and the first-line treatment. Initial endoscopies are diagnostic only up to 71%, provided there is active hemorrhage of at least 0.5 mL/min (3). Lesions typically appear on endoscopy as pigmented protuberances from exposed vessel stumps, with minimal surrounding erosion and no ulceration. Different endoscopic modalities have been used, including bipolar electrocoagulation, injection sclerotherapy, heater probe, laser photocoagulation, epinephrine injection, hemoclipping, and banding (5). If endoscopy fails to diagnose the lesion, angiography may be used and the lesion may be embolized. If these approaches fail, surgical intervention is warranted. The mainstay of surgical treatment for endoscopic failures is wide wedge resection or local excision such as partial/wedge gastrectomy (6). Our patient did not need blood transfusion after the endoscopic intervention. He was discharged with a stable condition four days after admission.

Conclusion

To the best of our knowledge, this case is the second report of a Dieulafoy's lesion located in the esophageal diverticulum (7). We conclude that emergency physicians should be aware that Dieulafoy's lesion is an uncommon and potentially life-threatening cause of UGIB among elderly patients. Early diagnosis and intervention through emergency endoscopy can be very effective and life saving.

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

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