Dieulafoy's Lesion of the Duodenum: A Case Report in the Philippines

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Abstract

Background: Dieulafoy's lesion is a rare cause of gastrointestinal hemorrhage. The most common location is the stomach along the lesser curvature but may also be seen in extra gastric locations specifically the duodenum. We reported an isolated case of Dieulafoy's lesion in the second portion of the duodenum at a private institution in the Philippines and discuss the endoscopic diagnosis and management of this uncommon lesion.

Case Presentation: An isolated case of upper gastrointestinal bleeding in a 34-year-old male known hypertensive with gouty arthritis who was on chronic NSAID use, later reported to be a case of Dieulafoy's lesion. Endoscopic diagnosis was performed and treatment was done by endoscopic sclerotherapy using epinephrine.

Conclusion: Dieulafoy's lesion is a rare etiology of gastrointestinal bleeding but may even be complicated by an unusual location such as spotting it in the duodenum hence spreading awareness about this intricate lesion by including it in our differentials, may help improve early detection and treatment.

I. INTRODUCTION

One of the most common problem encountered in the emergency department is an upper gastrointestinal bleeding (UGIB). The most common etiologies of UGIB are peptic ulcer disease, erosive gastritis, esophagitis, esophageal and gastic varices and a probable malignancy. The least common cause of UGIB is a Dieulafoy's lesion comprising of 2-5% of acute UGIB episodes [1, 4].

Dieulafoy's lesions (DL) are protruding arteries along the submusoca of the gastrointestinal tract. In 1884 it was first described by Gallard and was later named after the French surgeon Georges Dieulafoy. These lesions are mostly located in the lesser curvature of the stomach but they may be found on any part of the gastrointestinal tract. [1, 4]

We present a case of a painless abdominal bleeding who presented with melena. He was diagnosed endoscopically and treatment was rendered via sclerotherapy.

II. CASE

Our patient is a 34-year-old Filipino who is obese (BMI 33.1 kg/m2) with chronic history of nonsteroidal anti-inflammatory drug (NSAID) use for his gouty arthritis. He is hypertensive and has diabetes with no history of previous surgery. He denies any ingestions of chemicals or foreign bodies. No previous history of hematemesis and/or melena. There was no known significant gastrointestinal disease within the family.

On the day of admission patient complained of sudden onset of dizziness associated with two episodes of melena. His body temperature was 36.7°C, blood pressure was 80/40 mmHg, oxygen saturation was 95%, and heart rate was 105 beats per minute. His ECG revealed sinus tachycardia. On physical examination, he appeared pale, his abdomen was soft, and there was no tenderness or rebound tenderness noted. Bowel sounds were hyperactive. Other systemic findings were unremarkable.

His initial hemoglobin level was 87 g/dL. Other laboratory findings, including electrolytes, liver and renal function tests, and INR level, were within the normal range. Pantoprazole drip was started at 8 mg/h and normal saline were administered immediately. Repeat BP after fluid resuscitation was 100/60 mmHg. Blood transfusion was started as well. Esophagogastroduodenoscopy (EGD) was performed, and according to EGD findings, there was an active mucosal bleeding at the second portion of the duodenum and the mucosa at the side of the ampulla is edematous with suspected friable non bleeding exposed vessel. Sclerotherapy was done using epinephrine injection at the affected site.

Patient was subjected to another EGD four days after the initial EGD to better identify the source of the bleeding and for possible clipping. There was no noted active bleeding at that time but clipping was not done because of the intractable position of the noted vessel.

There was no recurrence of melena nor hematemesis during the remaining hospital days. Patient improved and was discharged.

III. DISCUSSION

Dieulfoy's lesion is an uncommon mucosal defect which has no surrounding inflammation but with a note of a protruding blood vessel in the submucosal layer [1]. It was described anatomically as a dilated, aberrant, submucosal artery that erodes overlying gastrointestinal mucosa in the absence of an underlying ulcer or aneurysm. Approximately 70% of these lesions occur within 6 cm from the gastroesophageal junction and

along the lesser gastric curve but can be found anywhere along the GI tract [5,9].

The main pathogenesis is not well understood in DL bleeding but studies suggest that there is mechanical injury to the involved mucosa by the underlying large pulsating artery that may result in a tiny mucosal ulcer which exposes the artery to gastric or bowel contents. The exposed artery eventually can be eroded chemically or mechanically which will eventually cause the massive bleeding [3,11,12].

DL is most often seen in the stomach (71%), duodenum (15%), esophagus (8%), rectum (2%), colon (2%), and jejunum (1%) [8]. The mean blood hemoglobin levels in patients presenting with DL ranged from 4 to 14 g/dL [1]. Patients with DL have a significant history of non-steroidal anti- inflammatory drug (NSAID), aspirin, and/or warfarin use. Additional stress factors include the presence of comorbid diseases such as cardiopulmonary, renal diseases, and diabetes. Patient usually presents with painless massive recurrent intermittent hematemesis associated with melena, hematochezia, and hypotension. The clinical presentations of DL patients depend entirely on the duration of bleeding, baseline condition of the patient, location of bleeding, and diameter of the bleeding vessel involved. Patients with duodenal lesions generally present with symptoms of upper GI bleeding, patients with jejunal DL on the other hand present with symptoms of lower GI bleeding [1,12].

The diagnostic modality of choice to detect Dieulafoy's lesion is endoscopy where it is seen as an active arterial pumping in an area without an associated mass or ulcer. An upper GI endoscopy can be performed readily and can reach up to the duodenum to diagnose and treat DL. However, endoscopy fails to provide physicians accurate diagnosis due to the intermittent bleeding pattern of Dieulafoy's lesion hence multiple endoscopies are often necessary to make the diagnosis [1,4,8,9].

Endoscopic criteria for DLs include: an active arterial spurting or micropulsation streaming from a tiny mucosal defect on a normal surrounding mucosa, visualization of a protruding vessel with or without active bleeding within a tiny mucosal defect or through the normal surrounding mucosa, and/or a fresh densely adherent clot(s) with a narrow point of attachment to a tiny mucosal defect or to normal appearing mucosa [1,4,8].

Early endoscopic intervention is needed because duodenal DL cannot always be controlled on the first attempt once the lesion is localized. Endoscopies performed within the first 12 hours have a high success rate for diagnosing DLs because of their capability to pinpoint the bleed location. Duodenal DLs located in the periampullary area and in the second portion of the duodenum are sometimes not readily seen hence the need for a more crucial review with the endoscopic procedure. In the case of our patient the first attempt in performing endoscopy was successful in determining the active bleeding area. [1,3,12].

Life threatening bleeding from a DL were treated surgically before 1990. Therapeutic endoscopy has evolved as the modality of choice for the initial treatment of DLs and has replaced surgery since then. Epinephrine injection has been used as sole therapy or it may be in combination with other endoscopic modalities which resulted in an optimal treatment for acute bleeding episodes because of the temporary hemostasis it provides without the risk of mucosal perforation [1,6,7]. Injection therapies mainly aim to stop bleeding from vessels by injection of several agents such as vasoconstrictors (epinephrine) or sclerosants (ethanol) [1]. The other newer endoscopic hemostatic techniques apart from epinephrine injection include bipolar and monopolar electrocoagulation, heater probe, laser photocoagulation, injection sclerotherapy, hemoclipping and endoscopic band ligation (EBL) [1,6,9,12].

Fig 1. EGD done on the day of admission after stabilization of the patient. Bleeding noted at the vessel protruding on the intricate area of the second portion of the Duodenum, Dieulafoy's lesion (arrow)

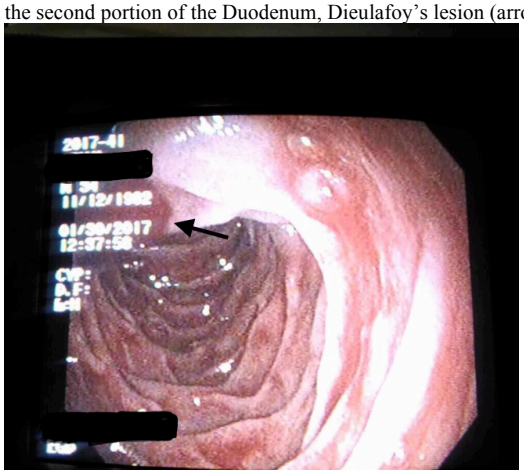


Fig 2. Bleeding noted at the submucosal vessel on the second portion of the Duodenum, Dieulafoy's lesion (arrow)

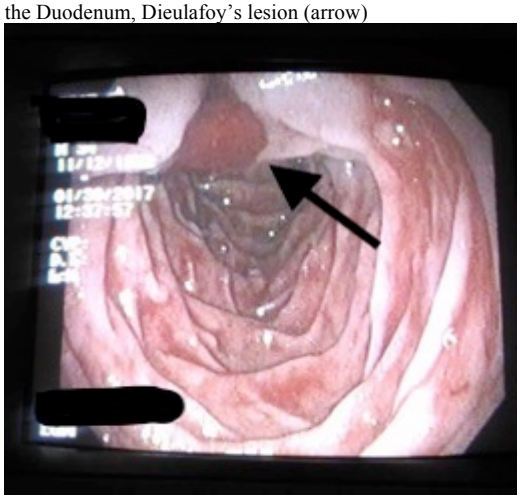
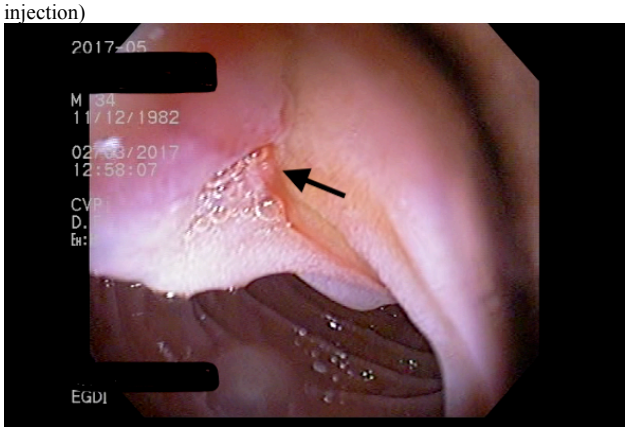


Fig 3. EGD four days after sclerotherapy (epinephrine injection)



IV. CONCLUSION

Dieulafoy's lesion is a rare etiology of gastrointestinal bleeding but may even be complicated by an unusual location such as spotting it in the duodenum hence spreading awareness about this intricate lesion by including it in our differentials, may help improve early detection and treatment.

An aggressive multidisciplinary approach such as clinically evaluating the patient, appropriate management of the ongoing bleeding, immediate endoscopy should be performed. Due to the advances in endoscopic techniques, endoscopy play a major role in the diagnosis and treatment of Dieulafoy lesion bleeding.

In conclusion, in our case, Dieulafoy's lesion was diagnosed through endoscopy and successful treatment was done with epinephrine injection during the procedure. History of chronic NSAID use may have predisposed the patient to greater risk of bleeding.

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