

Dieulafoy's Lesion of the Duodenum: The Management of This Unusual Location

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Abstract

Dieulafoy lesion (DL) is a rare source of gastrointestinal tract bleeding that can affect any site of the gastrointestinal tract, particularly the stomach and less commonly the duodenum. Early endoscopy during a bleeding episode is essential for an accurate diagnosis and sometimes multiple endoscopies are needed to establish the diagnosis. In this report, we describe a case of duodenal DL detected and treated by endoscopy. We report the case of a 65-year-old patient admitted for massive upper gastrointestinal bleeding due to a Dieulafoy lesion of the duodenum. Endoscopic diagnosis and treatment were possible and hemostasis was achieved by injecting adrenaline and placing 3 clips. Various effective endoscopic techniques are available to control bleeding, the combination of injection therapy and mechanical therapy reduces the risk of recurrence.

Keywords

Dieulafoy's Lesion, Endoscopy, Hemostatic Clips

1. Introduction

Dieulafoy's lesion (DL) is an uncommon source of gastrointestinal tract bleeding that can affect any site in the gastrointestinal tract. It accounts for 1% - 5.8% of acute gastrointestinal bleeding [1]. The most common location of this lesion is the stomach, and only 15% occur in the duodenum [2].

The diagnosis and prognosis of patients with these lesions was poor, with a mortality rate ranging from 23% to 79% before advances in endoscopy [2]. Currently, upper gastrointestinal endoscopy allows not only the diagnosis but also the treatment of DL of the duodenum.

Although, it is a life threatening condition, there are no standard guidelines

and only a few reports about duodenal lesions. In this report, we describe a case of duodenal DL that is detected and treated by endoscopy after obtaining the patient's consent.

2. Case Presentation

65-year-old patient has a history of diabetes, arterial hypertension, end-stage chronic renal failure and a previous episode of melena. An endoscopic exploration of the melena was carried out, returning in favor of a cecal angiodysplasia treated by argon plasma coagulation with a good evolution.

He was admitted to the hepato-gastroenterology department after three days of isolated melena without hematemesis evolving in a context of anemic syndrome. The initial clinical evaluation found a conscious patient, pale, hypotensive at 10/6 mmHg, tachycardic at 100 bpm, the abdomen was soft, without pain on palpation, and without signs of portal hypertension or peritoneal irritation. A rectal examination showed melena.

Hemoglobin at admission was 4.3 g/dl, and he received 4 units of packed cell transfusion. The rest of the Laboratory investigations were without abnormality, in particular the renal function and the prothrombin level.

After patient stabilization (conditioning, vascular filling, transfusion, etc.), an upper endoscopy was performed demonstrating a massive active bleeding from the duodenum hampering optimal exploration. We doubted that it was a duodenal Dieulafoy lesion and we put a single clip with difficulty because of the importance of the bleeding. Even if the endoscopic treatment was performed, the patient still had fresh melena with deglobulization, hence the need to perform a second endoscopy.

The second upper endoscopy showed normal mucosa in the esophagus, the presence of red blood in the stomach and bulb, active bleeding in the genus superiorus of the duodenum that was compatible with Dieulafoy's lesion (**Figure 1**), adrenaline solution was injected and three hemostatic clips were placed ensuring good hemostasis (**Figure 2**).

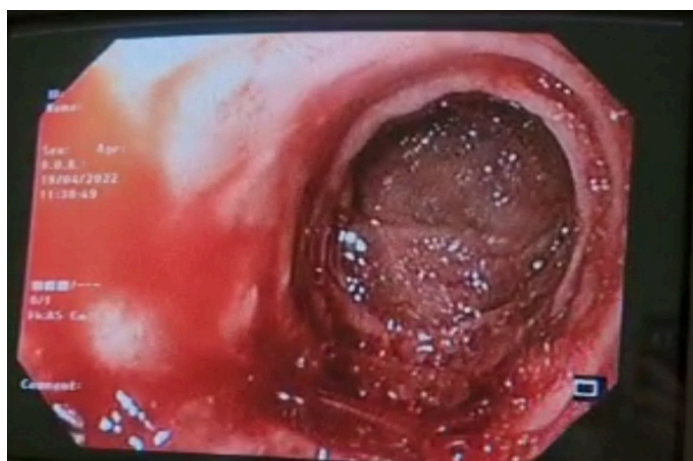


Figure 1. Dieulafoy's lesion: active bleeding from the duodenum.



Figure 2. Treatment of Dieulafoy's lesion with three hemostatic clips.

After performing endoscopic treatment, no active bleeding was observed after washing and oral feeding with a liquid diet was initiated on the first day post-endoscopy. The patient did not develop any complications and had no further bleeding episodes during his hospitalization.

The patient was eventually discharged to home in stable condition after 8 days of hospitalization. Recovery was achieved and bleeding has not recurred in a follow-up of two months.

3. Discussion

Dieulafoy's lesion is a rare vascular abnormality characterized by a small abnormally dilated artery that runs a tortuous course in the submucosa [1].

Studies on the history of patients with DL have described that most of these patients have a history of cardiovascular disease, chronic kidney disease, hypertension, peptic ulcer disease, diabetes mellitus, and chronic use of certain medications (anti-non-steroidal inflammatory drugs (NSAIDs) and anticoagulants) [3].

The characteristic clinical presentation is often painless, massive, recurrent, intermittent hematemesis, associated with melena, hemochezia, and hypotension [4].

Previously, the diagnosis was rarely made before surgery or autopsy. It could only be made by histological examination. Currently, endoscopic findings are often sufficient to support the diagnosis by showing an isolated protruding vessel usually surrounded by normal mucosa and the diameter of the vessel stump is usually between 1 and 3 mm. Alternatively, it may show an actively bleeding lesion or completely covered by a blood clot since spontaneous hemostasis may be produced [1].

The initial endoscopy is effective for diagnosis in almost 70% of patients while approximately 6% of patients will require three or more endoscopies to establish

the diagnosis [5]. The diagnosis can be difficult to make during the first endoscopy for many reasons: first, the small size of the lesion, the normal appearance of the surrounding mucosa, and finally, due to the intermittent nature of the bleeding [2].

There is no consensus on the treatment of a Dieulafoy's lesion. Several endoscopic treatment methods are available: local injection of epinephrine, sclerotherapy, thermal or argon plasma coagulation, banding and haemoclipping [4]. The choice of therapeutic technique will depend on the clinical presentation, lesion site, and available surgical and endoscopic expertise [2].

Injection therapy mainly aims to stop bleeding from the vessels by injecting several agents such as vasoconstrictors or sclerosants. It allows temporary haemostasis, which explains the risk of re-bleeding with this technique [2].

Thermocoagulation methods carry a risk of transmural damage due to the thin wall of the duodenum. On the other hand, some Japanese groups suggest the use of vascular clips as an effective and safe method of hemostasis in thin-walled organs such as the duodenum [6].

A comparative study of hemostasis methods in patients with Dieulafoy lesions conducted by Chung *et al.* showed that mechanical techniques such as banding and hemoclipping were superior to injection methods in terms of effectiveness either to stop bleeding or to prevent re-bleeding [6].

Angiography and embolization are indicated for inaccessible lesions that are not amenable to endoscopic and/or surgical treatment. Finally, surgical resection is reserved for 5% of cases that are refractory to endoscopic management and angiographic methods [5].

4. Conclusion

Although Dieulafoy lesions are rare, especially those located at the duodenal level, they are potentially fatal and therefore increased awareness and early endoscopy during a bleeding episode are essential for an accurate diagnosis.

Various effective endoscopic techniques are available for controlling bleeding, the combination of injection therapy and mechanical therapy reduces the risk of rebleeding.

Conflicts of Interest

The authors declare that they have no competing interest.

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