CASE REPORT

Periampullary Dieulafoy’s Lesion: An Unusual Cause of Gastrointestinal Bleeding

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ABSTRACT
Context Dieulafoy’s lesion is an unusual cause of gastrointestinal bleeding with the most common location being the stomach. A periampullary location is rare for a bleeding Dieulafoy’s lesion. Case report We present the case of a 52-year-old female who presented with intermittent painless melena. Her upper gastrointestinal endoscopy and colonoscopy were normal. She was a diagnostic challenge as no definite lesion could be identified on capsule endoscopy. However, as there was presence of fresh blood in the proximal jejunum, a push enteroscopy was performed which revealed the presence of fresh blood in the duodenum and proximal jejunum. But no bleeding lesion could be identified. A side view endoscopy was performed which revealed a bleeding periampullary Dieulafoy’s lesion. Immediate hemostasis was achieved with an injection of adrenalin. Other episodes of bleeding occurred and the patient was finally treated surgically. Conclusion A periampullary Dieulafoy’s lesion presenting with obscure gastrointestinal bleed is a diagnostic challenge and can be missed on capsule endoscopy.

INTRODUCTION
Dieulafoy’s lesion (exulceratio simplex, cirrhotic aneurysm or caliber-persistent submucosal vessel) is an unusual but important and potentially life threatening cause of gastrointestinal bleeding responsible for up to 5% of acute upper gastrointestinal bleeds [1, 2, 3]. A Dieulafoy’s lesion can occur anywhere in the gastrointestinal tract. The most common location is the stomach (64-82% of cases) and the proximal lesser curvature within 6 cm of the gastroesophageal junction is the classic site [3]. The duodenum is the second most common site for a Dieulafoy’s lesion (14-18% of cases) and the majority of these lesions are located in the duodenal bulb (53%) followed by the third part of the duodenum (29%) and the junction of the first and second parts of the duodenum (18%) [3, 4, 5]. A periampullary location is rare for a bleeding Dieulafoy’s lesion and has rarely been reported in the published literature [6]. We report a patient with a periampullary Dieulafoy’s lesion who presented with obscure overt gastrointestinal bleeding; it was a diagnostic challenge since this lesion could not be identified on capsule endoscopy.

CASE REPORT
A 52-year-old female presented with a history of intermittent painless melena of 6 months duration. She had been evaluated at a private health centre and had received multiple blood transfusions. Her upper gastrointestinal endoscopy and colonoscopy were normal. Renal function, liver function tests and ultrasound of the abdomen were normal. Capsule endoscopy (Given Imaging Ltd., Yoqneam, Israel) was performed after overnight fasting and preparation with polyethylene glycol ingestion and revealed the presence of fresh blood in the proximal jejunum along with a pool of fresh blood with no underlying ulcer (Figure 1). The major papilla was not identified on the capsule endoscopy. A push enteroscopy was subsequently performed which revealed the presence of fresh red blood in the distal duodenum and proximal jejunum. No bleeding lesion was identified. The push enteroscope was immediately withdrawn and a side viewing endoscope (TJF 160,
Olympus Optical Co. Ltd., Tokyo, Japan) was inserted. On side view endoscopy, a pool of fresh blood was localized near the papilla (Figure 2). Using a cannula, the area was washed with distilled water and revealed an ooze of fresh blood from a pinpoint defect in the periampullary region. There was no surrounding ulcer or reddish area suggestive of a Dieulafoy’s lesion (Figure 3). Immediate hemostasis was achieved with an endoscopic injection of adrenaline.

An episode of bleeding occurred two days after adrenaline injection and a repeat side view endoscopy was performed which revealed fresh bleeding from an periampullary Dieulafoy’s lesion; immediate hemostasis was achieved by the application of a hemoclip (Figure 4). After remaining asymptomatic for one week, another episode of bleeding occurred and an urgent angiography was performed. The angiogram obtained after selective catheterization of the superior mesenteric artery revealed an area of abnormal vascular blush in the second part of the duodenum.
arising from the gastroduodenal artery (Figure 5). As the feeder vessels were of very small caliber, super selective catheterization and embolization was not feasible. Therefore, the patient underwent surgery and oversewing of the abnormal vessel was carried out. The patient had an uneventful postoperative course and is asymptomatic with no recurrence of gastrointestinal bleeding at 18 months of follow-up.

**DISCUSSION**

Although the duodenum is the second most common site after the stomach for a Dieulafoy’s lesion because of its unique blood supply which consists of end arteries, a periampullary location is very rare for a Dieulafoy’s lesion and has rarely been reported [6, 7]. A Dieulafoy’s lesion is difficult to diagnose and repeated endoscopies may be necessary for diagnosis because of the small point of bleeding, intermittent bleeding or the small lesion being covered by a clot or blood [3]. Endoscopic hemostatic therapy is the treatment of choice in endoscopically accessible Dieulafoy’s lesions with more than 90% hemostasis rates [1, 2, 3, 8, 9, 10]. Endoscopic hemostatic therapy includes monotherapy with an injection of epinephrine, sclerosant, alcohol, glue or hypertonic saline or the use of thermal probe monotherapy. These therapies can also be used in combination for better results. Other endoscopic hemostatic measures include mechanical hemostasis using bands or clips. Endoscopic ultrasound can show the dilated pulsating submucosal artery and can also help to guide endoscopic treatment [11]. Angiography and embolization can also be attempted for hemostasis in a bleeding Dieulafoy’s lesion, although some studies have shown disappointing results with high rebleed rates [3, 12, 13, 14, 15]. Surgery is the last resort for a bleeding Dieulafoy’s lesion and, in spite of the high success of endoscopic therapy, 3-16% of the patients still required salvage surgical therapy according to published studies [1, 3, 8, 12, 13].

Capsule endoscopy has improved our ability to diagnose small intestinal diseases and has thus helped considerably in the management of patients with obscure gastrointestinal bleeding [16]. However, the study by Clarke et al. [17] and an earlier study by Kong et al. [18] have stressed the fact that capsule endoscopy does not visualize the major papilla in the majority of the cases. The visualization rate of the major papilla varied from 10.4% in the Clarke et al. study to 43.6% in the Kong et al. study [17, 18]. As a result of the poor visualization rates of the major papilla on capsule endoscopy, it has been suggested that a non-diagnostic capsule endoscopy should not be interpreted as evidence of a normal small bowel especially if periampullary lesions are suspected. The case presented of a periampullary Dieulafoy’s lesion also points out the limitation of capsule endoscopy in detecting periampullary lesions, although, in our case, the capsule endoscopy enabled us to detect the presence of fresh blood in the proximal small bowel, thus locating the source of the bleeding.

**Conflict of interest** The authors have no potential conflict of interest

**References**


