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Acute Massive Lower Gastrointestinal Bleeding From a Dieulafoy Lesion in the Anorectal Junction: A Case Report

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Abstract

Dieulafoy's lesions are one of the rarest causes of life-threatening gastrointestinal bleeding. These lesions account for 1-2% of the causes of gastrointestinal bleeding, especially where the source cannot be identified. We report a case of a 63-year-old woman presented with massive lower gastrointestinal bleeding secondary to an Anorectal Dieulafoy lesion. In this report, we present our experience using operative approach to control bleeding from Anorectal Dieulafoy lesion after failure of endoscopic approach, along with review of literature.

Keywords: Dieulafoy lesion; Anorectal bleeding; Suture ligation

Introduction

Dieulafoy's disease is one of the rarest causes of life-threatening gastrointestinal bleeding, characterized by a submucosal arterial lesion associated with mucosal defect [1]. The first Dieulafoy's lesion was described by Paul Georges Dieulafoy (1839-1911), most commonly occurring in the stomach and less commonly in the rectum, colon, small bowel and anorectal junction [2]. Anorectal Dieulafoy has increasingly been recognized as an important cause of rectal bleeding. It can be diagnosed with different methods, like endoscopy, red cell scan and angiography studies [2]. Treatment options depend on the mode of presentation, site of the lesion, and availability of expertise. The conventional method of treatment is stitching the bleeding source, but the treatment of choice is endoscopic haemostatic procedure with a success rate reaching up to 90% [3].

We present a case of massive rectal bleeding secondary to an anorectal Dieulafoy-like lesion in elderly women. The

management started with the endoscopic treatment but failed and haemostasis was achieved by suture ligation of the bleeding vessel in the operation room.

Case Presentation

A 63-year-old female patient known case of diabetes and hypertension admitted with the diagnosis of pituitary adenoma communicating hydrocephalus underwent trans-sphenoidal hypophysectomy and insertion of right-sided external drainage. Her hospital stay was complicated with hydronephrosis, seizures, and a decrease in GCS 3/15; therefore, she was intubated and admitted to the intensive care unit (ICU).

In the ICU, she developed massive lower gastrointestinal bleeding and hypovolemic shock. On local examination by anoscopy, there was a mix of blood clots and fresh blood per rectum with no local cause. Resuscitation was started with 4 units of PRBC, followed by EGD which was negative for upper GI bleeding. Furthermore, colonoscopy failed to localize and control the lower GI bleeding due to poor bowel preparation and massive active bleeding. Next, the patient was shifted to the radiology department to have a CT angiography where they localized the bleeding from a small rectal arteriole but failed to embolize it due to technical difficulty. Therefore, the decision was made to take the patient to the OR for examination under anesthesia as she became unstable and resuscitation was continued with a total of 13 units of PRBC. Intraoperatively, a submucosal bleeding arteriole at the anorectal junction was identified at 2 o'clock with no other obvious sources of bleeding. The bleeding arteriole was controlled with over-sowing suture. Eventually, the patient was resuscitated properly and stabilized. Then, she was transferred back to the ICU. Her haemoglobin became normal with no further drops. Unfortunately, the patient died due to her pre-existing co-morbidities [4].

Discussion

Dieulafoy's lesion is a well-recognized cause of gastrointestinal bleeding and is twice common in male than female. It can occur at any age, but more commonly in the elderly in association with co-morbidities, like cardiopulmonary diseases and renal failure [5].

Dieulafoy's lesion is characterized by large tortuous arteriole most commonly in the sub-mucosa of the stomach wall that erodes and bleeds [1]. It can cause gastric haemorrhage, but it is relatively uncommon. There are different theories on the pathophysiology of Dieulafoy's lesion. One theory of spontaneous bleeding is that sub-mucosal venous pulsation damages the epithelium and leads to local ischemia. Erosion and vascular rupture follow this pathology. Another theory is arterial thrombosis which results in necrosis and bleeding. It has been shown that also the solid content in the intestine and rectum causes the development of mucosal ulceration and submucosal artery dilatation, and this result in bleeding. Furthermore, mucosal atrophy dependent on old age contributes to this process [6,7].

Patients with this ailment commonly present with upper gastrointestinal bleeding due to gastric Dieulafoy's which is considered to be the commonest type. Fortunately, with the recent advances in the diagnostic and therapeutic methods, we started to recognize more of Anorectal Dieulafoy's lesions presenting with lower gastrointestinal bleeding [8].

There are different methods to diagnose this lesion, for instance, endoscopy, computed tomography angiography, and RBC scan. The endoscopy is the gold standard for diagnosis and management of these lesions.

For anorectal Dieulafoy's lesions, visualization can be achieved by anoscopy or sigmoidoscopy. Due to the limitation of the CT angiography scan in reaching the internal iliac artery, anorectal Dieulafoy's lesions can be missed. Therefore, internal iliac arterial visualization is necessary to detect bleeding from the inferior rectal artery.

The endoscopic criteria to diagnose Dieulafoy's lesion necessitate the presence of a mucosal defect 2-5 mm (averaging <3 mm) occurring in combination with one of the following: a protruding small blood vessel (1-2 mm), active arterial bleeding, fresh adherent clot with narrow attachment point, or inactivity with evidence of recent bleeding [8].

Managing Dieulafoy's lesions is challenging due to the encountered difficulty in localizing the sight of bleeding. Therapeutic endoscopy is the procedure of choice for managing the Dieulafoy's lesions. There are variable endoscopic techniques to control the lesions, such as laser photocoagulation, injection sclerotherapy, bipolar-monopolar electrocoagulation, hero clipping, band ligation, and Adrenaline injections [2]. The

management options vary depending on the sight of the lesion. In less than 5%, we can use surgical ligation when endoscopic treatment fails. Finally, angiography is used after falling of endoscopic and surgical treatment [2].

In the aforementioned case, colonoscopy was done but failed to visualize the bleeding sight due to massive bleeding. Then, mesenteric angiography was done and extravasation was visualized at the anorectal junction and defined as an arterial bleeding which was too small to be immobilized by angioembolization. Moreover, the patient was taken to the operating room for examination under anesthesia. Intra-operatively, an anoscope was used and we found a sub-mucosal arterial bleeder at 2 o'clock at the anorectal junction. The lesion was over-sewn trans-anally and the bleeding was controlled.

Conclusion

Dieulafoy's lesions are unusual cause of lower gastrointestinal bleeding, and can be easily missed in the lower rectum. Dieulafoy's lesions should be included in the differential diagnosis with high index of suspicion in any gastrointestinal bleeding [9]. Endoscopy has proven to be a highly effective tool to diagnose and manage this type of lesions.

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