CASE REPORT

Successful surgical treatment of a Dieulafoy's lesion of the jejunum localized with intraoperative endoscopy: a case report

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ABSTRACT

Gastrointestinal (GI) bleeding can be a life-threatening condition. Obscure GI hemorrhage is occult bleeding from a location difficult to find with standard investigations. One cause of obscure GI bleeding is Dieulafoy's Lesion (DL), a very rare cause that can become potentially lethal. A DL is a normal vessel that has an abnormally large caliber (constant width of 1-3 mm). It runs a tortuous course within the submucosa and typically this vessel protrudes through a small opening in the mucosa, which has fibrinoid necrosis at the base. The location of DL is usually in the stomach with smaller frequency in the duodenum and colon. Other locations have been reported with smaller frequency. We present a case of an 80 year old man who presented with melena and low hematocrit. Standard investigations (upper/lower GI endoscopy, angiography) failed to locate the bleeding site. Due to hemodynamic instability an explorative laparotomy was performed with intra-operative endoscopy. An ulcer with a visible vessel at its base was found in the jejunum, consistent with Dieulafoy's lesion. Active bleeding was not present at the time. The segment of bowel containing DL was resected and the bowel was anastomosed. Pathology confirmed the diagnosis. The patient was discharged 2 weeks later in good condition.

Keywords: Dieulafoy's lesion, Jejunum, Gastrointestinal bleeding

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INTRODUCTION

Gastrointestinal (GI) bleeding can be a very serious and life-threatening condition affecting 50-150 patients per 100,000 people per year [1] and a mortality rate of 7-10 % [2]. Peptic ulcer and gastroesophageal erosions account for almost 80 % of all GI bleeds. Another 5 % of this group includes obscure GI hemorrhages. These hemorrhages are occult and difficult to find with standard investigations (endoscopy, angiography). One cause of obscure GI bleeding is Dieulafoy's Lesion (DL), a very rare cause that can become potentially lethal. It is a condition that is under recognized by physicians, causing it to be so rare. It accounts for 1-2% of all GI bleeds [3] although its true incidence is difficult to calculate as diagnosis is usually made at

presentation and even then it can pose a great challenge. We herein report a rare case of a DL of the jejunum occurring as massive hematochezia which was eventually discovered endoscopically and managed surgically.

CASE PRESENTATION

An 80-year-old male patient was transferred to our hospital from a district general hospital (due to lack of endoscopy unit) complaining of melena and having a low hematocrit of 16%. The patient was comfortable, not complaining of shortness of breath and hemodynamically stable. The patient was resuscitated with IV crystalloids and blood products due to a long list of comorbidities (cardiac failure, past myocardial infarct, atrial fibrillation, diabetes, partial right nephrectomy for renal cancer). Once resuscitation was concluded, the patient was taken to the gastroenterology department for an upper and lower GI endoscopy. The upper GI tract was clear of evidence of bleeding. Colonoscopy however showed signs of recent bleeding, without revealing a bleeding point. The hemorrhage was therefore considered to be originating from a point central to the ileocecal valve. Further investigation with percutaneous angiography failed to demonstrate a bleeding point. The patient experienced a new episode of melena and started to become tachycardic with low blood pressure. Shortness of breath and hypoxemia were also present. Considering all parameters, an explorative laparotomy was performed with intaoperative endoscopy of the small intestine through a small enterotomy near the Treitz ligament. About 80 centimeters from Treitz's ligament, an ulcer with a visible vessel at the bottom was found, consistent with dieulafoy's lesion (Figure 1). There was no active bleeding present, while smaller telangiectasias were found central to the aforementioned lesion (Figure 2).

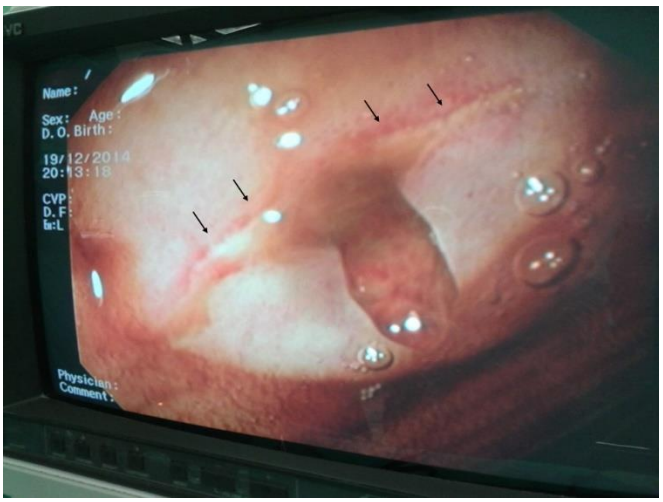

Figure 1. Dieulafoy's lesion discovered during intraoperative endoscopy in the mid-jejunum. The protruding tortuous vessel is obviously seated on an underlying small ulcer of the mucosa.

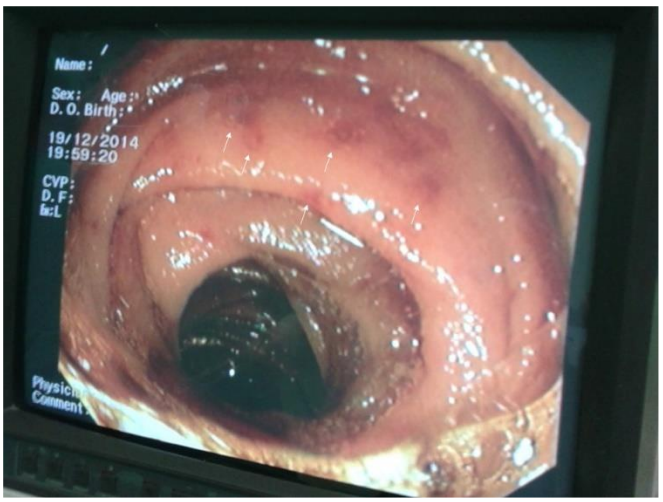

Figure 2. Several associated small telangiectasias (arrows) of the mid-jejunum.

A portion of small bowel (10 cm) was resected, and a stapled side-to side anastomosis was formed. The patient recovered well immediately after surgery and was discharged home 2 weeks later in good condition.

DISCUSSION

A Dieulafoy's Lesion (DL) is a normal vessel that has an abnormally large caliber (constant width of 1-3 mm). It runs a tortuous course within the submucosa and typically this vessel protrudes through a small opening in the mucosa, which has fibrinoid necrosis at the base. The typical location of this lesion is the stomach and most commonly on the lesser curvature, within 6 cm from the gastroesophageal junction (80-95 %). About one third of DL cases are not located in the stomach. Common extra-gastric locations include the duodenum and the colon. Other less common sites include the rectum, jejunum/ileum, esophagus and gastric anastomosis [4].

The cause of this lesion is unclear. It is thought to be an acquired condition although pathologist's reports fail to link this disease with aneurysms, atherosclerosis, arteritis or inflammation [5]. Prevalence is two times higher in males and it usually affects elderly patients, although all age groups can be affected. Patients with DL typically (>90% of all cases) have many co-morbidities, commonly cardiopulmonary and renal disease. These patients are usually taking non-steroidal anti-inflammatory drugs, warfarin or aspirin (>50%). Previous GI pathology is uncommon and these patients present with massive GI hemorrhages that might be recurrent [6].

Investigation begins with endoscopy which can identify DL in 70% of cases [7]. Success at identifying this lesion is difficult in most cases, usually due to excess amounts of intra-luminal blood (44%) and over-looking a subtle lesion (56%) [8]. Initial endoscopy may be unsuccessful and repeat endoscopies may be required. Push-enteroscopy may visualize up to 150 cm beyond the pylorus but usually requires an experienced gastroenterologist. Intra-operative enteroscopy through an enterotomy can visualize DL in 70-100% of cases but requires laparotomy. Typical endoscopic findings of DL are active arterial bleeding through a small mucosal defect (<3mm), visualization of a protruding vessel within a mucosal defect (with or without active bleeding) or visualization of a blood clot adherent to a minute mucosal defect. These three categories form the diagnostic criteria of DI on endoscopy [5].

Wireless capsule endoscopy may be useful in identifying lesions but has the disadvantage of not allowing therapeutic management. Similarly angiography can be utilized and may be helpful in lesions of the colon or rectum where the view in endoscopy may be obscured by active bleeding or poor bowel preparation. Nuclear medicine may help by using technetium-99m labeled red blood cells to demarcate the location of bleeding.

There is no gold-standard in treatment. The choice is individualized and depends on

presentation. Various endoscopic approaches have been used with success (up to 90%), providing the lesion has been identified. These include thermal ablation, injection with hemostatic agents and mechanical ligation [9]. Tattooing the lesion may help to easily identify the location when re-bleeding occurs or to facilitate minimally invasive surgical intervention. When endoscopic treatment fails, angiography with embolization of the bleeding vessel may be successful.

Although surgical intervention was once treatment of choice, now it is saved for cases when conservative measures fail. Historically gastrotomy with wide-wedge resection or gastrectomy was performed. Currently under-running of the lesion or a wedge-resection of the affected segment of the gut. More recently minimally invasive surgery has been tried with laparoscopic resection of the segment of gut which includes the lesion. Success of laparoscopic treatment however depends on accurate localization of the bleeding site [10]. This may be facilitated by tattooing the lesion or with clips during endoscopy.

Re-bleeding after endoscopic intervention has a risk of 9-40% [5]. The risk is higher when endoscopic monotherapy is used compared with combined endoscopic therapies. Re-bleeding after angiographic embolization has been reported, probably due to collateral circulation [8]. The only definitive treatment is surgical resection of DL.

ΒΙΒΛΙΟΓΡΑΦΙΑ

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ΠΑΡΟΥΣΙΑΣΗ ΠΕΡΙΣΤΑΤΙΚΟΥ

Επιτυχής χειρουργική αντιμετώπιση έλκος Dieulafoy της νήστιδας που εντοπίσθηκε διεγχειρητικά με ενδοσκόπηση: παρουσίαση περιστατικού

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ΠΕΡΙΛΗΨΗ

Η αιμορραγία του πεπτικού μπορεί να αποβεί απειλητική για τη ζωή. Η λανθάνουσα αιμορραγία είναι δύσκολα ανιχνεύσιμη με τις κλασικές τεχνικές. Μια από τις αιτίες αυτής της αιμορραγίας είναι εκείνη από έλκος του Dieulafoy, η οποία παρότι είναι σπάνια μπορεί να αποβεί μοιραία για τον ασθενή. Πρόκειται για ένα αγγείο με μεγάλη διάμετρο (1-3 mm) που διαδράμει ελικοειδώς δια του υποβλεννογονίου και τυπικά προπίπτει ενδοαυλικά από ένα μικρό άνοιγμα του βλεννογόνου με ινώδη νέκρωση στη βάση του. Η εντόπιση αυτής της βλάβης είναι συχνότερα στο στομάχι, με μικρότερη συχνότητα στο δωδεκαδάκτυλο και το παχύ έντερο, με άλλες εντοπίσεις σε μικρότερη συχνότητα. Παρουσιάζουμε περίπτωση ενός ασθενή άνδρα 80 ετών που προσήλθε στο ΤΕΠ με μέλενες κενώσεις και χαμηλό αιματοκρίτη. Οι κλασικές διαγνωστικές εξετάσεις (ενδοσκόπηση πεπτικού, αγγειογραφία) απέτυχαν να εντοπίσουν το σημείο της αιμορραγίας. Λόγω αιμοδυναμικής αστάθειας ο ασθενής υποβλήθηκε σε επείγουσα ερευνητική λαπαροτομία με την συνεπικουρία της διεγχειρητικής ενδοσκόπησης. Στη νήστιδα εντοπίσθηκε έλκος με ένα ορατό αγγείο στη βάση του, συμβατό με βλάβη Dieulafoy, χωρίς ενεργό αιμορραγία. Διενεργήθηκε εντερεκτομή του τμήματος αυτού της νήστιδας με τελικο-τελική αναστόμωση. Η παθολογοανατομική εξέταση επιβεβαίωσε τη διάγνωση. Ο ασθενής εξήλθε σε καλή γενική κατάσταση μετά από 2 εβδομάδες.

Λέξεις-ευρετηρίου: έλκος Dieulafoy, νήστιδα, αιμορραγία πεπτικού

Α. Μαρίνης, Α. Αποστολόπουλος, Σ. Βρακάς Σ. Παράβας, Μ. Μερράκος, Γ. Μπεκάκος, Σ. Τσάτσος, Ν. Μελαχροινόπουλος, Ν. Γιαννακόπουλος, Ν. Βλαχάκος. Επιτυχής χειρουργική αντιμετώπιση έλκος Dieulafoy της νήστιδας που εντοπίσθηκε διεγχειρητικά με ενδοσκόπηση: παρουσίαση περιστατικού. Επιστημονικά Χρονικά 2022; 27(2): 357-361

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