

Life-threatening jejunum bleeding of a male due to Dieulafoy's lesion: A case report

Gao-Jie Liu, Zheng Su, Ze-Jian Lv, Dong-Ming Lai, Shuang Chen

ABSTRACT

Introduction: Diagnosis and management of the Dieulafoy's lesion located in the small intestine remain a challenge for surgeons. Angiography is still the only proper methods for diagnosing this disease. Emergent excision of the bleeding or embolization of the corresponding vessel are two main methods to treat this disease. Proper methods to locate the lesion during the laparotomy could decrease the mortality. **Case Report:** We present a 19-year-old male with Dieulafoy's lesion in the jejunum whose prior extensive investigations including gastroscopy and colonoscopy failed to reveal the bleeding. Selective angiography of the superior mesenteric artery quickly identified an abnormal image of the jejunum which had not been embolized for fearing of massive intestinal ischemia. An emergency surgery was performed and the bleeding lesion was successfully resected and

pathologically identified. The patient came out within seven days without any complications. **Conclusion:** Jejunum Dieulafoy's lesion is extremely rare and life-threatening. This case highlights the importance of early diagnosis by angiography and proper methods to locate the bleeding during the laparotomy.

Keywords: Bleeding, Dieulafoy's lesion, Jejunum, Laparotomy, Selective arteriography

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INTRODUCTION

Dieulafoy's lesion (DL) represents an enlarged, thick-walled artery in the muscularis mucosa with a small submucosal defect [1]. Dieulafoy's lesion is a rare and unexplained cause of gastrointestinal bleeding which consists about 0.5–14% of upper gastrointestinal bleeding episodes [2, 3]. Most of the lesions located in the proximal stomach, while cases found in the duodenum, jejunum, colon, and esophagus were rarely reported [4]. The mechanism of the bleeding is believed to be chronic erosion of the mucosal on which an unusually large artery underlies [5, 6]. Once the artery is eroded, a massive and life-threatening hemorrhage can occur which is difficult to diagnose.

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CASE REPORT

A 19-year-old male presented from another hospital with the symptoms of loss of consciousness and passing bloody stools. He had passed black stools for three days and continuously passed black blood from the morning of admission. There was no abnormal signs of the gastroscopy and colonoscopy examination in another hospital. He was treated with hemocoagulase agkistrodon for injection, somatostatin and vitamin K and transfused 1000 mL hydroxyethyl starch, 1500 mL red blood cell, 1000 mL fresh frozen plasma and 3000 mL sodium chloride injection in-and-outside our hospital while the symptoms becomes more serious. As the other hospital cannot manage the situation, the patient was transported to us immediately. On arrival at the emergency department, the patient represented general pallor and the electrocardiography monitoring revealed tachycardia and hypotension. His abdominal examination was unremarkable besides bloating and ascites. Laboratory values included a hemoglobin concentration of 64 g/L, albumin 20 g/L, hematocrit 14%, and calcium 1.55 mmol/L. The prothrombin time and partial thrombo-plastin time were both sharply prolonged to 19 s and 85 s separately. In another hospital, he had received gastroscopy and colonoscopy and found no abnormal signs. After he was enrolled, the bleeding was so fast that the blood kept outflowing the anal, so we immediately implemented selective angiography and found a bleeding sign from a branch of the jejunum artery (Figure 1).

The patient was immediately sent to receive microcoils embolization of the bleeding vessel. While it was too challenging to embolize as the vessel was too complex. The doctor of the radiation department advised an emergency operation instead of implementing embolization. An operation was immediately performed while implementing fluid resuscitation. His intestine was seriously edema and pallor and plenty of clear ascites overflowed out of the incision when his abdomen was opened. Palpation and transillumination test of the jejunum was negative. The situation became very critical as the endoscope was not at hand. We confirmed the bleeding section at last by evacuating the blood in the intestine and clamping the jejunum segmentally. We found the bleeding lesion (Figure 2) by opening the intestine which was filled with blood as we segmented the jejunum by several bowel forceps, the bleeding segment will be filled up firstly by the blood. The jejunum including the lesion was successfully resected and pathologically identified (Figure 3). The patient recovered uncomplicatedly with no further bleed after a year of follow-up.

DISCUSSION

Since Dieulafoy first characterized a gaping arteriole within the gastric mucosa which caused massive bleeding. In 1897, this vascular abnormality, which

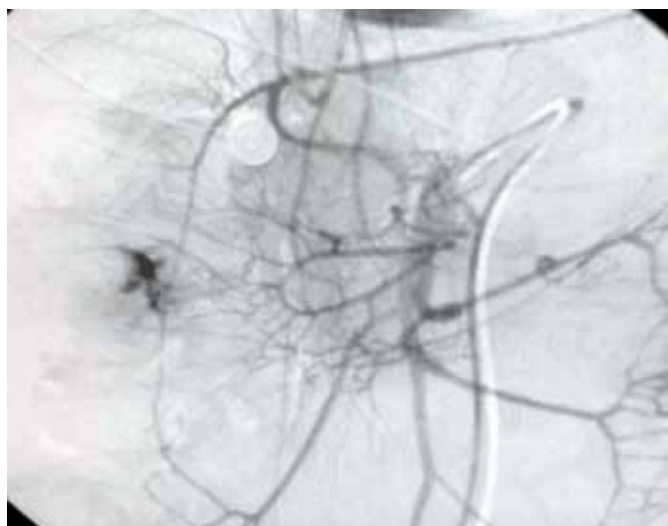


Figure 1: Angiography indicates the bleeding from the jejunum artery.



Figure 2: The bleeding found during the operation.

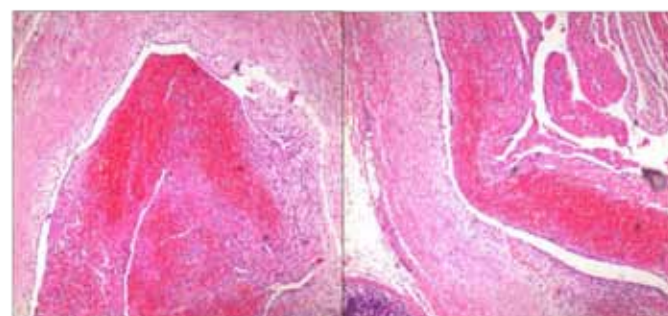


Figure 3: The abnormal vessel identified pathologically.

is now commonly called Dieulafoy's lesion, has been reported in the whole gastrointestinal tract and bronchus in the last one hundred years [4]. Between 75% and 95% of Dieulafoy's lesion cases have been reported to occur in the proximal stomach and the others were found in the rest digestive tract and bronchus [7]. The lesion in the jejunum is very rare and life-threatening as it is hard to diagnose and reach. Since the first jejunum bleeding lesion was reported, the diagnosing and treating methods had varied tremendously as the technology progresses and the situation varies. But when the condition is limited and the situation is emergent as we encountered in this case, laparotomy is still the best life-saving choice. Diagnostic of the small intestine lesion is challenging as the patients are rare to be seen and the bleeding is hard to reach in spite of recent advanced technologies. Patients can only present with chronic or recurrent gastrointestinal bleeding which poses a diagnostic dilemma as the gastroscope or coloscope cannot reach to the bleeding like we encountered in this patient. Capsule endoscopy can be of great value in diagnosing intestine lesion, especially in the part where gastric and intestinal endoscopy cannot reach. However, capsule endoscopy also has its defects of missing these small lesions if the camera happens to miss the directions and is of little use in an acute case [8]. Angiography may provide useful information especially in an emergence case when the bleeding is life-threatening. The extravasation of contrast agent into the gastrointestinal system from a ruptured artery can be diagnostic and locate the bleeding [9]. Intravascular embolization can be implied if the patient's circulation system is allowable. As in this case, the patient is extremely unstable: blood pressure is very low in spite of fluid resuscitation, the bleeding is massive as the continuing hematochezia indicated. Considering the embolization may lead to mass intestine ischemia, the interventional radiologist refused to challenge to embolize the bleeding and recommend the last resort: laparotomy. Identifying the bleeding is the key point during the operation as the lesion may be just a rupture of the vessel which is untouchable [10]. As in this case, though the bleeding was located to the jejunum through selective angiography, we still could not find the exact bleeding location in spite of palpation and transillumination test. Considering the bleeding speed, we evacuated the jejunum and then clipped it segmentally. We found the bleeding while opened the first expanded section. The section was resected and the rest intestine was examined using the endoscope. Segmental clip of the bleeding intestine is very useful in identifying the massive bleeding lesions during the emergent surgical procedure when an endoscope is not at hand.

CONCLUSION

Dieulafoy's lesion is rarely seen and challenging to diagnose which may cause life-threatening hemorrhage.

Selective angiography and surgery can be the first choice in emergency situation.

Author Contributions

Gao-Jie Liu – Substantial contributions to conception and design, acquisition of data, analysis and interpretation of data, drafting the article, revising it critically for important intellectual content, final approval of the version to be published

Zheng Su – Substantial contributions to article design, collection of data, drafting the article, approval of the version to be published

Ze-Jian Lv – Acquisition of data, interpretation of data, drafting the article, final approval of the version to be published

Shuang Chen – Acquisition of data, interpretation of data, drafting the article, final approval of the version to be published

Dong-Ming Lai – Substantial contributions to conception and design, acquisition of data, analysis and interpretation of data, revising it critically for important intellectual content, final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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