Intracorporeal Surgical Approach Following Failed Endoscopic & Angiographic Management of Dieulafoy Lesions: A Case Series

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BACKGROUND

- **Dieulafoy lesions (DL)** are rare vascular malformations that account for approximately 1-2% of gastrointestinal bleeds.[1]
- Recent advancements in endoscopic and angiographic techniques allow for successful treatment in up to 90% of DL. The remainder of cases often require open surgical interventions with increased morbidity.[2]
- This case series shows an **effective, minimally invasive, approach using laparoscopy after failed endoscopic & angiographic treatment attempts to treat gastrointestinal hemorrhage secondary to DL.**

CASE SERIES

- We describe two cases involving healthy 25- and 32-year-old males presenting with presyncope, hematochezia and melena.
- After resuscitation with multiple blood products, multiple attempts with upper & lower endoscopies, and negative CT angiographies, the bleeding sources were unable to be localized.
- Tagged RBC nuclear scan revealed LUQ bleeds**,** which were managed using **angiography with coil embolization** of jejunal branches of the superior mesenteric artery.
- Both patients were initially stable following embolization but redeveloped bleeding several days later necessitating surgical intervention.
- **Diagnostic laparoscopy** was performed in both cases;
  - The bowels were run laparoscopically, and the previously placed **radio-opaque endovascular coils were localized using intraoperative fluoroscopy.**
  - The **mesentery was ligated** proximal and distal to the coils and the associated **jejunal portion was segmentally resected**.
  - **Intraoperative angiography demonstrated no active extravasation**, and enteral continuity was achieved via primary stapled anastomosis.
  - The resected jejunal segments were removed through the umbilical port and the fascia was closed.
- Postoperative recoveries were uneventful, and both were discharged on POD3. Pathology reports confirmed DL of the small intestines.

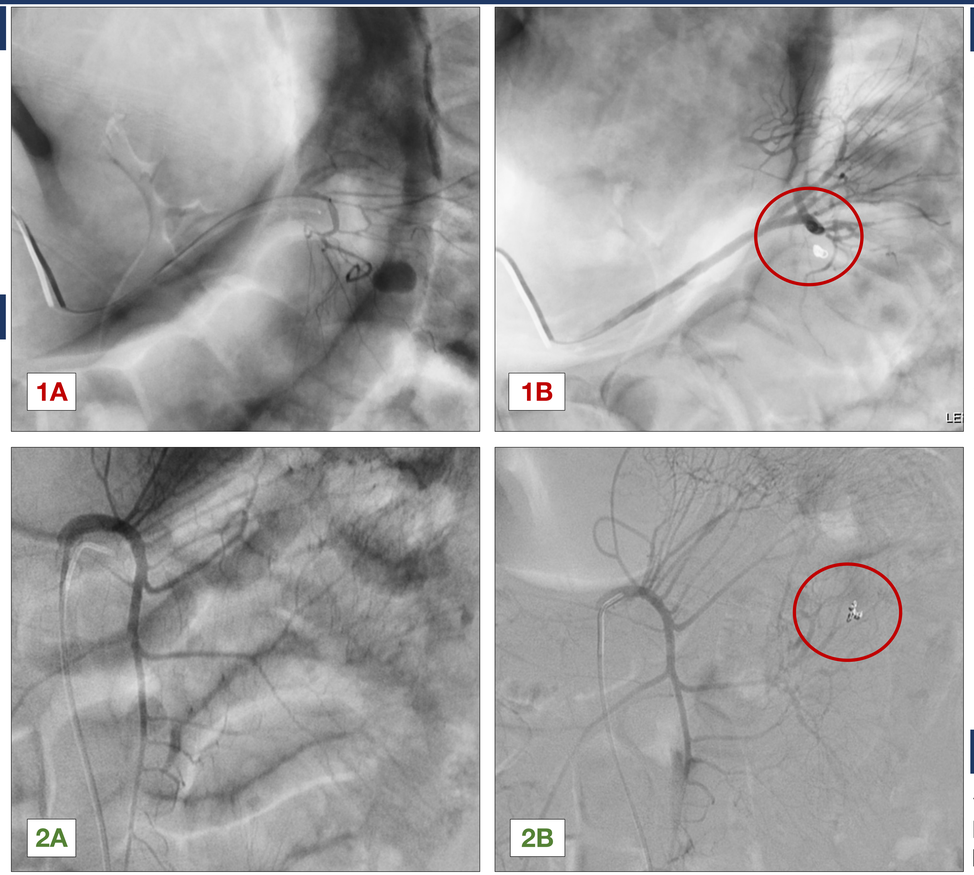


Figure 1. Patient A (32-year-old male) percutaneous angiography with embolization & microcoiling. (1A) Pre-embolization. (1B) Post-embolization with radiopaque coil placement (in red circle)
Figure 2. Patient B (25-year-old male) percutaneous angiography with embolization & microcoiling. (2A) Pre-embolization. (2B) Post-embolization with radiopaque coil placement (in red circle)

DISCUSSION

- Historically, severe DL that were unsuccessfully managed by endoscopic and angiographic techniques would require conventional explorative laparotomy with high morbidity and longer length of stay.
- **Laparoscopic approach with fluoroscopic localization reduces the risk of morbidity & mortality** associated with open surgery.
- Data indicates **length-of-stay and pain is reduced** in laparoscopy when compared to laparotomy.[2]
- Limitations includes:
  - Laparoscopic resection requires accurate localization of bleeding DL.
  - Conversion to open if active bleeding cannot be adequately controlled or accurately localized.
- This technique, albeit not entirely novel, exemplifies the importance of understanding the fundamentals of laparoscopic surgery and applying these technical skills to solve complex and unique challenges so that our patients benefit from the advantage outcomes of minimally invasive surgery.

REFERENCES

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