Spontaneous Superior Mesenteric Vein Tear

Alexandra McMillan PGY1, Dustin Williamson PGY2, Stefan Iverson PGY5, Burt Katubig, MD

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Background

- Non-traumatic injury of the superior mesenteric vein (SMV) is an extremely rare but potentially fatal injury.
- Hemoperitoneum from blunt abdominal trauma has been well documented in the literature; however, hemorrhage from a ruptured SMV has been rarely reported.
- There are case reports describing non-traumatic rupture of the SMV are secondary to patients with underlying conditions such as portal hypertension and hepatic cirrhosis or acute pancreatitis.[1,2,3]
- However, our patient did not express any of these findings.

Objective

We present a case of spontaneous SMV tear in a patient who presented with a one-day history of abdominal pain with no underlying comorbidities or history of trauma.

Case Presentation

- Patient is a 46-year-old female with a past medical history of ADHD and anxiety who presented to the emergency department for worsening abdominal pain.
- On first evaluation, the patient's labs were unremarkable and CT abdomen and pelvis did not show any acute abnormalities (Figure 1). Patient's symptoms were attributed to gastritis. She was discharged home with Bentyl and Prilosec with recommendation for GI follow-up.
- Upon leaving the ED, she had several episodes of emesis and became lethargic; therefore, she represented six hours after discharge to the emergency department.
- On presentation, she was hypotensive with pressure of 91/56, tachycardic to 108, hypothermic at 33.4.
- Repeat CT abdomen and pelvis showed a hematoma measuring 9.2 x 7.4 x 12.6 cm with presence of contrast blush along the medial portion of hematoma, possibly communicating with a branch of SMV (Figure 2).
- The patient was consented via spouse for an emergent exploratory laparotomy.
- In the OR, there was a large volume hemoperitoneum immediately evacuated. There was active bleeding at the root of the small bowel mesentery and a large right abdominal retroperitoneal hematoma.
- The vascular surgeon was able to isolate the bleed, which appeared to originate from a proximal branch of the SMV. The tear was primarily repaired with 5-0 prolene suture.

Imaging



Figure 1. CT abdomen and pelvis on initial presentation. No acute abnormality was identified given the history of abdominal pain.



Figure 2. CT abdomen and pelvis shows a hematoma measuring 9.2 x 7.4 x 12.6 cm with presence of contrast blush along the medial portion of hematoma, possibly communicating with a branch of the superior mesenteric vein.

Discussion

- An intraoperative cause of a superior mesenteric vein tear could be due to retraction, but this is unlikely in this case as there was already an identified hemorrhage stemming from the mesenteric root.
- In a case report published in 1992, non-traumatic rupture of the SMV with hemoretroperitoneum was discovered on autopsy along with acute pancreatitis and thrombosis of the superior mesenteric artery.[2]
- Another case of massive and fatal intraperitoneal hemorrhage occurred from ruptured superior mesenteric varices secondary to portal hypertension and hepatic cirrhosis, confirmed by postmortem angioradiography.[3]
- Compared to the case reports above, our case is unique as there are no underlying risk factors present in this patient for a SMV rupture that have been currently identified in the literature.
- Intractable emesis was the only differentiating variable between initial presentation and representation.

Conclusion

- Superior mesenteric vein rupture is rare and can be associated with cirrhosis, pancreatitis and trauma.
- This case is unique as there are no underlying risk factors present in this patient for a superior mesenteric vein rupture that have been currently identified in the literature.
- Further research on risk factors for non-traumatic spontaneous superior mesenteric vein rupture might shed light on the etiology of this case.

References

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