

CLINICAL VIGNETTE

A Case of Spontaneous Mesenteric Ischemia Secondary to Extensive Mesenteric Venous and Portal Venous Thrombosis

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A 25-year-old male presented to the emergency room for severe generalized abdominal pain. The pain started that day and was described as a severe, continuous sharp pain, and rated 10 out of 10 in intensity. He had associated nausea and vomiting with his last bowel movement the morning of presentation with inability to eat due to the pain. He had a similar less severe pain two weeks prior which persisted for one week.

The vital signs in the emergency room were as follows: Temp: 36.6 °C (97.9 °F), Pulse: 54, Resp: 19, BP: 134/74, SpO₂: 99%. The emergency room exam documented epigastric tenderness but otherwise soft abdomen with good bowel sounds. The WBC count was 9.4. Lipase was 34. A non-contrast CT of the abdomen and pelvis in the emergency room showed mild mural thickening of the proximal small bowel with stranding of the adjacent mesenteric fat. The patient was admitted for management of pain and gastroenterology was consulted.

Gastroenterology evaluation, 24 hours after admission, no abdominal distention, active bowel sounds and diffuse tenderness to palpation of the abdomen, with concern for mesenteric ischemia. Lactic acid level was normal 2.7 and urgent contrast CT of the abdomen / pelvis with angiogram revealed: Partially occlusive thrombus in the left portal vein, main portal vein and portal confluence; occlusive thrombus within the superior mesenteric vein and multiple jejunal and ileal branches. There was marked wall thickening of jejunal loops throughout the left and mid abdomen with engorgement of the adjacent mesenteric vessels.

The patient underwent exploratory laparotomy with hemorrhagic fluid throughout the right abdomen. The colon was viable, however, abdominal exploration showed 2 feet of viable proximal jejunum with a frankly gangrenous segment of jejunum distal to this. Approximately 102 cm segment of small intestine was removed. Pathology showed transmural hemorrhagic necrosis consistent with ischemic process. Post-operatively the patient did well and was discharged on anti-coagulation therapy. Coagulation disorder work up was completely negative.

Discussion

Mesenteric vein thrombosis (MVT) is increasingly recognized as a cause of mesenteric ischemia and accounts for 6-9% of all

the cases of acute mesenteric ischemia.¹ MVT may be acute or chronic. Acute thrombosis generally presents as abdominal pain and chronic thrombosis presents with symptoms or signs of portal hypertension. Risk factors for MVT can be acquired or congenital. Examples of acquired causes include inflammatory processes such as pancreatitis or inflammatory bowel disease, venous compression from abdominal mass, trauma, cirrhosis with portal hypertension, acquired thrombophilia (malignancy) or post-operative complications (secondary to obesity surgery).² Congenital causes include inherited thrombophilia causing a hypercoagulable states. When no cause is found, patients are regarded as having idiopathic MVT. Primary or idiopathic MVT account for 21–49%.¹

A high index of clinical suspicion is needed to make the diagnosis. When mesenteric ischemia occurs, rapid diagnosis is needed as delay in diagnosis may lead to intestinal necrosis, perforation, lactic acidosis, and sepsis. The diagnosis of MVT may be made by contrast enhanced computed tomography or magnetic resonance imaging.³ The management of MVT thrombosis involves anticoagulation, surgical thrombectomy, and emergent laparoscopic explorative laparotomy when there is evidence of bowel ischemia.¹ Endovascular recanalization and stenting is an alternative to surgical thrombectomy, particularly in patients with both acute and chronic thrombosis.³

REFERENCES

1. **Hmoud B, Singal AK, Kamath PS.** Mesenteric venous thrombosis. *J Clin Exp Hepatol.* 2014 Sep;4(3):257-63. doi: 10.1016/j.jceh.2014.03.052. Epub 2014 Apr 13. PMID: 25755568; PMCID: PMC4284291.
2. **Russell CE, Wadhwa RK, Piazza G.** Mesenteric venous thrombosis. *Circulation.* 2015 May 5;131(18):1599-603. doi: 10.1161/CIRCULATIONAHA.114.012871. PMID: 25940967.
3. **Acosta S.** Mesenteric ischemia. *Curr Opin Crit Care.* 2015 Apr;21(2):171-8. doi: 10.1097/MCC.000000000000189. PMID: 25689121.