Rare Case of Fulminant Ischemic Pancolitis Presenting as Abdominal Compartment Syndrome

Case Report and Literature Review

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Introduction

- Ischemic colitis is common: nongangrenous (80-85%) and gangrenous (15-20%).
- Fulminant ischemic pancolitis is rare, severe, and requires operative intervention.
- Mortality is 75% in these cases.

Case Presentation

43-year-old male with poorly controlled type two diabetes, hypertension, epilepsy, bipolar disorder, and schizoaffective disorder presented to an outlying facility with abdominal pain, diarrhea, and distention.

- HR 88, BP 86/53, WBC 13.6, lactic acid of 2.9
- Contrast CT: **Significant colonic distension**. No evidence of colitis, ischemic changes, obstruction, or perforation.
- Home medications notable for an antihypertensive, opioid, and several potentially constipating drugs.

After transfer to our hospital, the patient suffered a seizure, respiratory failure requiring mechanical ventilation, and hypotension requiring pressor support. Our surgical team was consulted for development of **abdominal compartment syndrome**, as evidenced by profound abdominal distension, elevated bladder pressures, and worsening AKI.

An **exploratory laparotomy** was performed with findings of **pancolonic necrosis**. He underwent **total abdominal colectomy** with temporary abdominal closure, and with end ileostomy creation and fascial closure at subsequent takeback.

- Pathology: Mucosal necrosis and areas of full thickness bowel wall necrosis consistent with **fulminant ischemic pancolitis**.

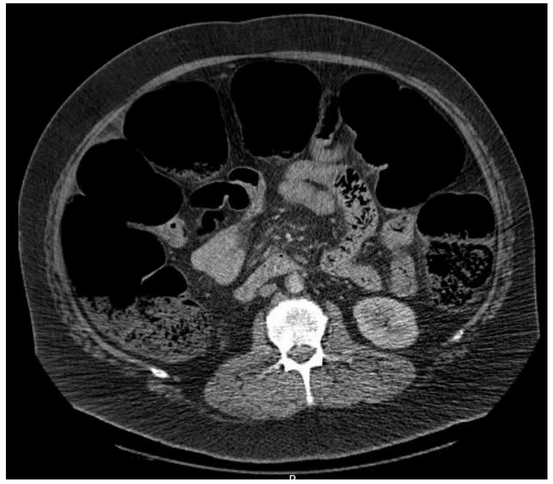


Figure 1. Presenting CT scan with colonic distention.

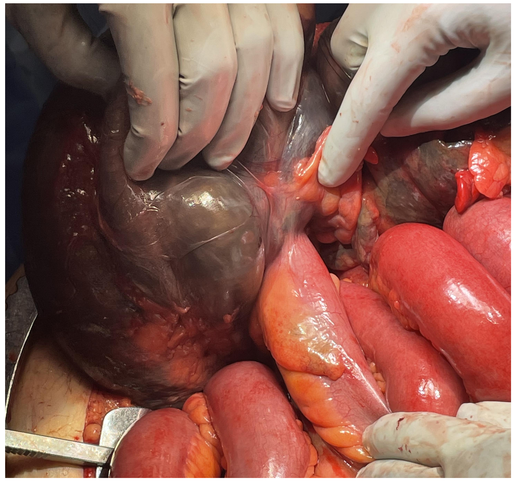


Figure 2. Ischemic demarcation at terminal ileum.

Discussion

- Fulminant ischemic pancolitis is thought to be secondary to acute nonocclusive compromise to colonic blood flow, however the inciting event is often unclear.
- Patients with ischemic colitis are typically elderly with diffuse small vessel disease and multiple comorbidities presenting with abdominal pain, diarrhea, and hematochezia.
- Hypertension, COPD, diarrhea, atrial fibrillation, congestive heart failure, diabetes, and medications, namely antibiotics, opioids, and nonopioid potentially constipating drugs, have been independently associated with colonic ischemia.
- On CT scan, the combination of bowel wall thickening, dilation, mesenteric fat stranding, free fluid, venous distention, and pneumatosis equates a >90% probability of severe ischemic colitis.
- When the presentation doesn't follow this typical pattern, the diagnosis of fulminant ischemic pancolitis requires a high clinical index of suspicion.

Conclusion

- This case of fulminant ischemic pancolitis illustrates a rare presentation of abdominal compartment syndrome without overt CT evidence of colonic ischemia in a patient with diabetes, hypertension, and multiple medications conferring increased risk of colonic ischemia in a young patient.
- Given its low incidence, this diagnosis may be delayed or missed, particularly in young patients with atypical presentations and more subtle risk factors.
- This case highlights the importance of maintaining a high index of suspicion for fulminant ischemic pancolitis given its high mortality.

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