SEVERE NOROVIRAL GASTROENTERITIS LEADING TO SMALL BOWEL ISCHEMIA IN AN ELDERLY PATIENT

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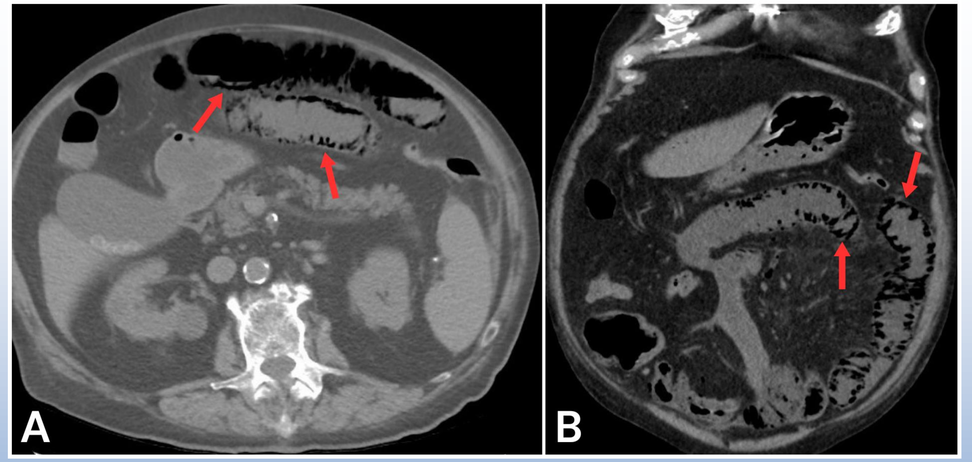
Introduction

Norovirus is a predominant cause of acute viral gastroenteritis worldwide, particularly affecting vulnerable populations such as children, the elderly, and immunocompromised individuals. The typical clinical course is self-limiting, with symptoms including nausea, vomiting, and diarrhea. However, in rare instances, norovirus can lead to severe complications, such as small bowel ischemia, which poses significant diagnostic and therapeutic challenges. This report details an uncommon case of norovirus- induced small bowel ischemia in an elderly male emphasizing the need for awareness of this potential complication and the critical role of timely surgical intervention.

Case Report

An 88-year-old male presented to the emergency department with a 3-day history of abdominal pain, nausea, vomiting, chills, and reported ten episodes of non-bloody diarrhea since the prior day. Notably, the patient had been in contact with his grandson, who experienced similar symptoms and was managed with supportive care for gastroenteritis. Stool polymerase chain reaction (PCR) testing confirmed the presence of norovirus. Conservative management was trialed with bowel rest and intravenous fluid resuscitation, with initial clinical improvement. However, on hospital day three, the patient reported worsening abdominal pain. His condition rapidly deteriorated, with new onset of bloody bowel movements and physical signs of peritonitis including diffuse abdominal tenderness, guarding, and rebound tenderness.

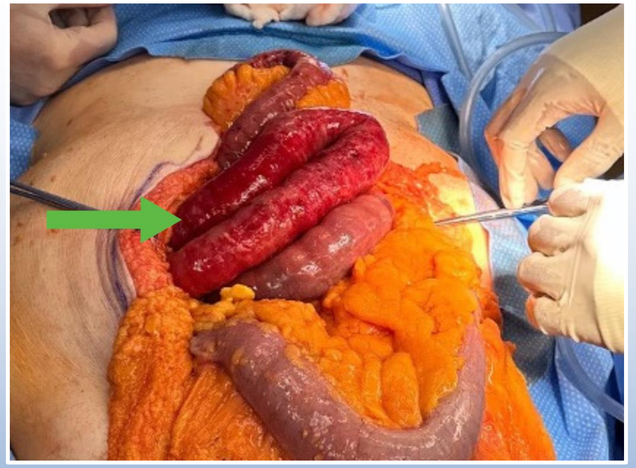
Figures 1A and 1B.



Results

Figure 1 shows a computed tomography (CT) scan of the abdomen and pelvis with IV contrast demonstrating pneumatosis intestinalis, or the presence of gas within the wall of the small bowel (red arrows), in (**A**) axial and (**B**) coronal views. Portal venous gas was also noted on CT, all findings consistent with small bowel ischemia. An emergency exploratory laparotomy was performed, revealing necrotic, ischemic small bowel (**Figure 2**) with extensive pneumatosis extending from 40 cm distal to the ligament of Treitz to 40 cm proximal to the ileocecal valve. In total, 220 cm of jejunum and ileum were resected, leaving approximately 80 cm of viable small bowel. A second-look laparotomy was performed the following day, during which a side-to-side anastomosis was created. The patient tolerated the procedure well and was discharged to a skilled nursing facility on post-operative day 20.

Figure 2.



Conclusion

This case highlights a rare but serious complication of norovirus gastroenteritis — small bowel ischemia — in an elderly patient. The clinical course underscores the importance of considering norovirus as a potential etiological factor in cases of unexplained small bowel ischemia, particularly in at-risk populations. Early recognition, vigilant monitoring, and prompt surgical intervention are crucial in managing such cases and improving patient outcomes. Further research is necessary to elucidate the pathophysiological mechanisms behind this complication and to establish evidence-based guidelines for its management.