

Case Report

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From Globe Trotting to Gut Stopping: A Tale of Post-Travel Ileus

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Abstract

This study aims to highlight the diagnostic challenges of acute abdominal presentations in children with overlapping infectious and obstructive features. A 7-year-old girl with recent travel history presented with vomiting, diarrhea, and reduced urine output. Examination revealed dehydration and epigastric tenderness. Laboratory investigations showed elevated inflammatory markers, with positive stool PCR for enteroaggregative *Escherichia coli* (*E. coli*), enteropathogenic *E. coli*, and norovirus. Red flag features, including bilious vomiting and absent bowel sounds, prompted further evaluation. Imaging demonstrated inflammatory changes in the right iliac fossa with partial bowel obstruction. The patient was managed with supportive care and nasogastric decompression, leading to gradual clinical improvement. She was discharged in stable condition and subsequently demonstrated full recovery with appropriate weight gain at follow-up. This case emphasizes the importance of considering mechanical obstruction. In pediatric patients presenting with presumed infectious gastroenteritis, particularly when red flag features are present, further evaluation is recommended. Early recognition and timely intervention can prevent complications and improve outcomes.

Keywords: Case reports, paralytic ileus, rotavirus infections, *Escherichia coli* infections

Introduction

Paralytic ileus, also referred to as an intestinal pseudo-obstruction, is a clinical condition resulting from a disruption in the regulatory activity of the autonomic nervous system. Some of the most common causes of this autonomic imbalance include trauma, electrolyte imbalance, bacterial or viral gastroenteritis, surgical procedures, and mesenteric ischemia¹.

Rotavirus is recognized as one of the major causes of infectious gastroenteritis globally and is well known to

cause severe diarrhea. Paralytic ileus develops as a complication of potassium losses resulting from severe vomiting and diarrhea, or secondary to the inflammation and bowel irritation caused by the infection itself. In a study conducted in Kosovo, involving 116 children infected with rotavirus, researchers reported that 9.5% of these children had documented instances of ileus².

Enteroaggregative *Escherichia coli* (*E. coli*) and Enterotoxigenic *E. coli* are known causative agents for diarrhea. However, no direct association linking the two with paralytic ileus is established so far in any medical literature.



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Case Presentation

A 7-year-old German female, accompanied by her parents, presented to the Emergency Department after returning from Sri Lanka with a 3-day history of vomiting, diarrhea, abdominal pain, and fever.

Family members had similar mild symptoms that resolved without complications. On arrival, she appeared severely dehydrated and was admitted for further management. Initially, she had frequent watery diarrhea with no evidence of blood or mucus, and non-bilious vomiting, which progressed to bilious vomiting 24 hours post-admission, accompanied by reduced urine output.

On physical examination, she was alert, oriented, afebrile, with moderate to severe dehydration and delayed skin turgor. The abdomen was soft with diffuse epigastric tenderness, non-distended, with normal bowel sounds, no palpable masses, and no right iliac fossa tenderness. She was managed with intravenous (IV) fluids, antiemetics analgesics, and was given IV metronidazole. A pediatric surgeon recommended keeping her nil by mouth (**Table 1**).

An abdominal ultrasound revealed minimal fluid collection at the right iliac fossa associated with echogenic fat smudging as well as bowel mural thickening, a computed tomography (CT) scan with contrast of the abdomen revealed presence of an inflammatory process implicating the right iliac fossa with mural thickening of the terminal ileum, cecum, and appendix with proximal small bowel loops showing multiple air-fluid levels. The transition point was seen in the mid pelvis at the level of the terminal ileum with partially collapsed distal small bowel loops and colon; the process was associated with mild bilateral paracolic gutter and pelvic free fluid, and multiple mesenteric lymph nodes (**Figures 1-4**). This confirmed the presence of a partial small bowel obstruction. She was started on IV gentamicin and received IV proton pump inhibitor therapy. A nasogastric (NG) tube was inserted for decompression. She was under continuous monitoring, including. Abdominal girth every 8 hours, daily urine and NG output, and routine blood tests throughout hospitalization.

On day 4, she developed fever despite ongoing antibiotic therapy; and a respiratory viral panel was positive for influenza A. She also developed hyponatremia, which was managed with temporary NG clamping and hypertonic saline. The NG tube was removed on day 7, and oral intake gradually improved to liquids and a soft diet. She had one episode of loose stool prior to discharge on day 8, with no vomiting. She was discharged in stable condition on a short course of oral metronidazole, oral rehydration solution, probiotics, and antipyretics, as needed.

Discussion

Functional ileus is characterized by a non-mechanical decrease or arrest of intestinal transit. Although it may mimic mechanical obstruction clinically, imaging typically reveals the absence of a physical blockage³. The pathophysiology is thought to involve a complex neuroimmune interaction that is not yet fully understood. Recognized risk factors include intra-abdominal

inflammation, hypokalaemia, and delayed NG tube placement³.

This case reports a rare and complex presentation of ileus secondary to gastroenteritis in a child with no significant past medical history, emphasizing the need for a thorough physical exam and consistent monitoring.

Differential diagnoses included infectious enterocolitis, post-infectious inflammatory bowel disease flare, intussusception, and early stages of inflammatory bowel disease. However, the acute presentation and positive travel history were more suggestive of a post-infectious inflammatory reaction, paired with electrolyte disturbances leading to ileus.

Management focused on meticulous fluid resuscitation, electrolyte replenishment, bowel rest, and NG decompression. The gradual improvement without surgical intervention highlights the effectiveness of conservative management in select cases of ileus⁴. Early involvement of a multidisciplinary team, including paediatric surgery, is integral to monitoring and decision-making. There are very few reports of ileus secondary to gastroenteritis in the paediatric population. This case contributes to the limited literature highlighting post-infectious inflammatory mechanisms leading to functional obstruction, and emphasizes the need for further research in this area.

Table 1.
Labs indicated

Test	Result	Normal range
RBC ($\times 10^6/\mu\text{L}$)	4.64	3.96-5.30
MCV (fL)	79	79-97
MCH (pg)	27	27-33
Hgb (g/dL)	11.5	12.6-17.7
Hematocrit (%)	33.7	37.5-51.0
MCHC (g/dL)	34	32-36
RDW (%)	13.7	12.3-15.4
WBC ($\times 10^3/\mu\text{L}$)	20.2	3.4-10.8
ANC ($\times 10^3/\mu\text{L}$)	13.3	2.5-6
Platelets ($\times 10^3/\mu\text{L}$)	316	150-379
Sodium (mmol/L)	130	134-144
Potassium (mmol/L)	3.6	3.5-5.2
Creatinine (mg/dL)	0.70	0.76-1.27
Albumin (g/dL)	4.2	3.5-5.5
AST (U/L)	16	0-40
ALT (U/L)	11	0-44
ALP (U/L)	126	30-120
Total bilirubin (mg/dL)	0.22	0-1.2
Direct bilirubin (mg/dL)	0.15	0-0.4
Alkaline phosphatase (U/L)	126	134-349
CRP (mg/L)	239	0-4.9
GI panel: (EAEC+EPEC); Norovirus	Tested positive for all 3 strains	-

RBC: Red blood cell, Hgb: Hemoglobin, AST: Aspartate aminotransferase, ALT: Alanine aminotransferase, CRP: C-reactive protein, EAEC: Enterotoxigenic *Escherichia coli*, EPEC: Enteropathogenic *Escherichia coli*, ALP: Alkaline phosphatase, MCV: Mean corpuscular volume, MCH: Mean corpuscular hemoglobin, RDW: Red cell distribution width, MCHC: Mean corpuscular hemoglobin concentration, ANC: Absolute neutrophil count, GI: Gastrointestinal



Figure 1. Contrast-enhanced computed tomography abdomen: Dilated small bowel loops consistent with obstruction

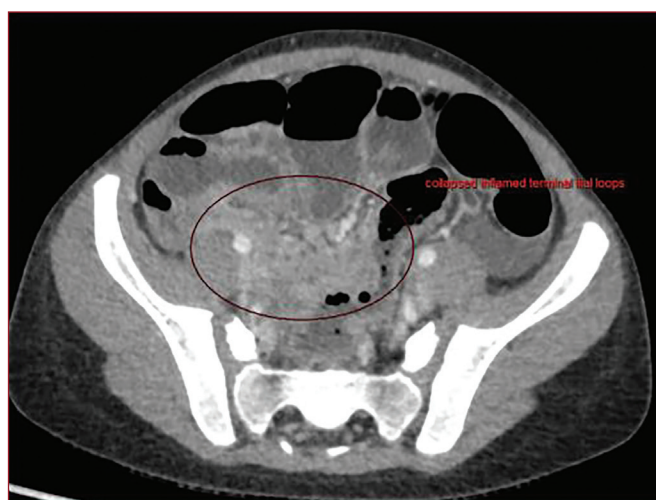


Figure 2. Contrast-enhanced computed tomography abdomen: Inflammatory changes in the right iliac fossa with collapsed terminal ileal loops (red circle)



Figure 3. Contrast-enhanced computed tomography abdomen: Paracolic gutter and pelvic free fluid (red arrow)

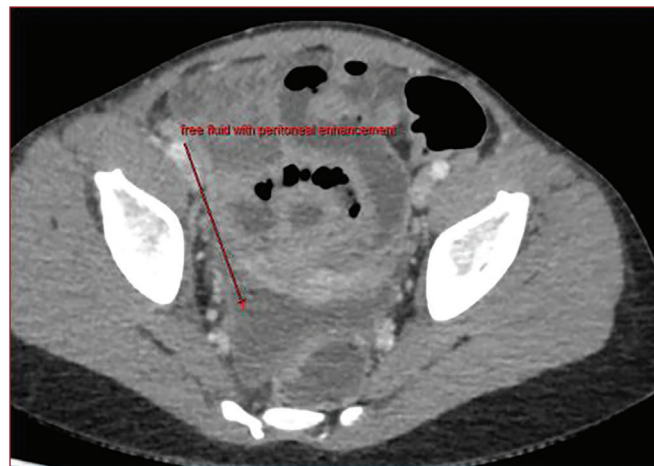


Figure 4. Contrast-enhanced computed tomography abdomen: Free fluid collection with peritoneal enhancement (red arrow)

Conclusion

The purpose of this case study is to highlight how an uncomplicated case of acute gastroenteritis could precipitate ileus due to electrolyte disturbances and severity of the infection. Although early surgical consultation is warranted in pediatric cases with suspected bowel obstruction, this report shows that conservative management and timely intervention are crucial to avoid long-term complications.

Ethics

Informed Consent: Written consent was obtained from parents for publication.

Footnotes

Author Contributions: Jossie SC: Surgical and Medical Practices, Concept, Design, Analysis or Interpretation, Data Collection or Processing, Literature Search, Writing; Kamath MG: Surgical and Medical Practices, Concept, Design, Analysis or Interpretation, Data Collection or Processing, Literature Search, Writing; Verma N: Analysis or Interpretation, Writing.

Conflict of Interest: The authors have no conflicts of interest to declare.

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