Case Report

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Viral Gastroenteritis With Bowel Obstruction: A Case Report

Urgent Message: While acute gastroenteritis is typically self-limiting, inappropriate or excessive use of over-the-counter antimotility agents like loperamide can lead to serious complications—such as bowel obstruction or ileus—highlighting the critical need for patient education on safe medication use.

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Abstract

Introduction: Acute gastroenteritis (AGE) is a common condition characterized by rapid-onset diarrhea, often accompanied by nausea, vomiting, fever, and abdominal pain. While most cases are self-limiting and viral in etiology, inappropriate use of over-the-counter (OTC) antimotility medications such as loperamide can lead to serious complications, including bowel obstruction or paralytic ileus.

Case Presentation: A 62-year-old man with a history of type 2 diabetes mellitus presented to urgent care for worsening abdominal distention following a 3-day history of abdominal pain, nausea, and multiple episodes of watery diarrhea after a restaurant meal. He denied fever, hematochezia, or recent antibiotic use. He had self-medicated with over-the-counter loperamide.

Physical Examination: His abdomen was distended with hyperactive bowel sounds. There were no peritoneal signs. An abdominal x-ray revealed dilated bowel loops with air-fluid levels, raising suspicion for small bowel obstruction (SBO) or evolving ileus.

Diagnosis: The patient was transferred to the emergency department, and a diagnosis of small bowel obstruction was confirmed.

Resolution: Following hospitalization, the patient improved and was discharged home.

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Conclusion: AGE is generally self-limited and managed with supportive care. OTC medications like loperamide may precipitate bowel dysfunction, especially when used excessively. This case underscores the importance of patient education regarding OTC medication safety to prevent medication induced complications.

Introduction

Acute gastroenteritis (AGE) presents with rapid-onset diarrhea (3 or more episodes daily or over 200g of stool), often accompanied by nausea, vomiting, fever, and/or abdominal pain.[1,2] Vomiting and diarrhea commonly co-occur but may appear separately. In emergency settings, predominant symptoms include nausea (93%), diarrhea (89%), vomiting (81%), and abdominal pain (76%).[3,4,5,6] Respiratory symptoms such as sore throat, cough, and rhinorrhea are seen in about 10% of cases, along with occasional weight loss and fatigue.[1] Fever (38.3°C to 38.9°C) is observed in roughly half of cases.[7] Patients may exhibit mild abdominal tenderness and voluntary guarding. While uncommon, dehydration may be identified through signs such as dry mucous membranes, reduced skin turgor, tachycardia, hypotension, or altered mental status, which present in less than 10% of emergency cases.[1]

A viral cause of AGE is suggested by an incubation period of 24–60 hours, illness duration of 12–60 hours, and frequent vomiting. Foodborne bacterial infections should be considered when symptoms appear within a shorter period of time after food ingestion (ie, 8–16 hours).[8] Distinguishing viral from bacterial etiologies based on symptoms alone is challenging, though norovirus tends to resolve within 2 days, rotavirus within 3-8 days, and bacterial infections like *Campylobacter* and *Salmonella* last 2-7 days.[9,10] Viral gastroenteritis does not typically cause bloody diarrhea.[6]

Diagnosis is clinical, based on rapid-onset diarrheal illness with supportive examination findings. Routine stool studies are unnecessary unless alarm signs (discussed below) suggest bacterial or inflammatory causes.[11] Persistent diarrhea in travelers or those with fecal-oral exposure additionally warrant protozoal evaluation. Recent antibiotic use should raise suspicion for *Clostridioides difficile*. Chronic conditions like colorectal cancer, inflammatory bowel disease, and malabsorption syndromes may occasionally mimic acute viral gastroenteritis.[12]

Acute viral gastroenteritis is typically self-limited and managed with supportive care, primarily fluid repletion, and an unrestricted diet. No specific antiviral treatments exist. According to the Infectious Disease Society of America (IDSA) 2017 guidelines, mild to moderate cases without dehydration can be managed with oral hydration solutions, while severe cases or those with signs of dehydration require intravenous fluids with isotonic solutions (lactated ringers or normal saline).[11] Antiemetics can help with persistent vomiting, and antimotility agents may be used in the right clinical scenario. The IDSA recommends against using antimotility agents in children under 18 years of age, patients with persistent fever, cases of bloody diarrhea, and cases where there is a risk of toxic megacolon. However, these agents may be used in healthy adults with watery diarrhea and may be combined with antibiotics for the treatment of traveler's diarrhea.

"Acute viral gastroenteritis is typically self-limited and managed with supportive care, primarily fluid repletion, and an unrestricted diet. No specific antiviral treatments exist."

Features of AGE warranting further evaluation (red flags) include severe dehydration, electrolyte abnormalities, bloody stools, significant weight loss, prolonged symptoms (>1 week), recent hospitalization or antibiotic use, advanced age, severe abdominal cramping, comorbidities, or pregnancy.[7,11,13,14]

Dietary restrictions are not strongly supported by evidence, though bland foods may be better tolerated. The role of probiotics and zinc in treatment remains unclear and requires further study.[15,16,17,18,19,20,21,22,23,24] While viral gastroenteritis is usually self-limited, complications include dehydration and postinfectious irritable bowel syndrome (IBS). Prevention focuses on hand hygiene, infection control, and addressing contaminated food or water sources.[9]

Case Presentation

A 62-year-old male with a history of type 2 diabetes mellitus presented to the urgent care with a 3-day history of diffuse abdominal pain after eating at a new restaurant. He stated he was on no new medications or supplements and had no recent increases in current

medication dosing, recent antibiotic use, or travel out of the country. He reported non-bloody, non-bilious vomiting and multiple episodes of watery diarrhea. He denied fever, hematochezia, or melena. The patient had been taking over-the-counter loperamide 4 mg every 2-4 hours and noticed abdominal distension after using the medicine on day 3. His last colonoscopy was >10 years ago. He had no surgical history.

Vital signs included the following:

- Temperature: 37.3°C
- Heart rate: 85 beats per minute
- Respiratory rate: 16 breaths per minute
- Blood pressure: 138/87 mm Hg
- Oxygen saturation: 98% on room air
- Pain level: 4/10
- Body mass index: 32.1 kg/m^2

Pertinent physical exam findings included the following.

- General: tired appearing
- Heart: regular rate and rhythm without murmurs, gallops, or rubs
- Lungs: clear to auscultation bilaterally
- Abdomen: distended and firm; diffuse tenderness to palpation; hyperactive bowel sounds; no guarding or peritoneal signs

Initial management included ondansetron 4 mg oral dissolving tablet. Abdominal x-ray revealed dilated loops of bowel with air-fluid levels but no free air.

Medical Decision Making and Diagnosis

The history and x-ray findings raised concern for a possible small bowel obstruction (SBO), large bowel obstruction (LBO), evolving ileus, toxic megacolon, or Ogilvie syndrome among others. As such, the patient was transferred to the emergency department (ED) via ambulance for further evaluation, including advanced imaging and surgical consultation. A final diagnosis of SBO was made, and the patient made a complete recovery following hospitalization.

Discussion

Annually, there are more than 179 million cases of AGE causing more than 1 million hospitalizations with the highest incidence during the winter months.[2,25,26] Most cases are viral, self-limiting, and do not require antibiotics unless red flags are present. Antimotility agents may be used safely in the acute setting for otherwise healthy patients who are afebrile and have non-bloody diarrhea. However, use beyond these circumstances may worsen the clinical course or mask a potentially life-threatening, undiagnosed condition.[11,27,28,29] Our case study illustrates this principle: a patient developed dilated loops of bowel and SBO after excessive use of loperamide.

Loperamide is a peripheral opioid agonist which slows intestinal motility through directly affecting circular and longitudinal muscles of the small and large intestines. This in turn reduces fecal volume and increases viscosity leading to decreased stool output. In the urgent care clinic, use of history, examination, and x-rays can help identify medication complications from loperamide. It should be noted that abdominal radiographs are not highly sensitive for diagnosing acute SBO, and in 1 study, authors found sensitivities ranging from 59-93%.[30]

There are several cases in the literature that demonstrate bowel obstruction secondary to loperamide use. One case involved an 81-year-old woman with past medical history of diabetes mellitus, dementia, and chronic diarrhea who presented to the ED with abdominal pain and diarrhea. The patient became progressively obtunded, necessitating endotracheal intubation. Computed tomography (CT) imaging confirmed large bowel obstruction with bilateral hydronephrosis believed to be secondary to mass effect from the dilated sigmoid colon, attributed to excessive loperamide use. The patient was initiated on an aggressive bowel regimen. Within 12 hours, her symptoms improved and she was successfully extubated. Follow-up CT imaging demonstrated complete spontaneous resolution of sigmoid dilation and bilateral hydronephrosis.[31]

"In the urgent care clinic, use of history, examination, and x-rays can help identify medication complications from loperamide."

Another case describes a 57-year-old man who presented to the ED with abdominal pain, constipation, and nausea. The patient was self-treating his diarrhea with loperamide, which ended up causing Ogilvie syndrome (acute colonic pseudo-obstruction and/or colonic dilatation without a mechanical obstruction). After symptoms failed to improve with multiple interventions including neostigmine and endoscopic decompression, his pseudo-obstruction required a subtotal colectomy with end ileostomy.[32]

In children, similar circumstances have been reported. A 2-year-old girl was diagnosed with acute gastroenteritis with severe diarrhea, for which she was prescribed a loperamide solution. Following this she developed paralytic ileus. She was then treated conservatively with parenteral fluid and electrolytes. She started to recover after 48 hours.[33]

This urgent care case highlights the critical need to educate patients, particularly the elderly, about the potential risks of overuse of OTC medications, as they may mistakenly assume these drugs are entirely safe.[27,28,29]

Ethics Statement

Due to the need to rapidly transfer the patient to a higher level of care, patient consent and perspectives were not obtained. An effort was made to reach out to the patient; however, it was unsuccessful. Details of the case were changed to protect patient anonymity and confidentiality.

Takeaway Points

- For acute gastroenteritis, antimotility agents may be used safely in healthy patients who are afebrile and have non-bloody diarrhea. However, use beyond these circumstances may worsen the clinical course.
- Acute gastroenteritis is typically a self-limited illness that in most cases requires only supportive care.
- The use of antibiotics should be reserved for specific indications given their limited role in the management of acute gastroenteritis. ■

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