The neglected parasite: Strongyloidiasis-induced jejunal perforation leading to systemic complications

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Abstract

Strongyloidiasis, a parasitic infestation caused by the soil-transmitted helminth Strongyloides stercoralis, can cause asymptomatic infections as well as severe life-threatening infections. Gastrointestinal manifestations are rare and can range from bleeding due to mucosal ulceration to frank perforation. We present a case of a male patient who presented with spontaneous jejunal perforation caused by a mucosal infestation of S. stercoralis, diagnosed on histopathologic examination. Strongyloidiasis leading to intestinal perforation requires emergent surgical intervention. Prompt diagnosis to start necessary treatment is crucial to prevent catastrophic outcomes. S. stercoralis infections of the gastrointestinal system ending in perforation have seldom been reported, thus our goal is to highlight the importance of a rare parasitic intestinal infection manifestation and management, as surgical correction represents only the initial phase of treatment.

Case Presentation

- 79-year-old male with a history of significant medical conditions, including hypertension, bronchial asthma, prostate cancer, and hypercholesterolemia, and surgical history of prostatectomy and inguinal hernia repair, presented with worsening abdominal pain, anorexia, nausea, and fever.
- Upon examination, he showed signs of abdominal distension and diffuse tenderness but maintained hemodynamic stability.
- Lab tests highlighted significant leukocytosis and elevated lactic acid levels.

Imaging

- CT scan revealed significant fat stranding and scattered pneumoperitoneum.
- Oral contrast extravasation was observed along the mesenteric fat near a jejunal segment in the left mid-parasagittal abdomen, approximately 54 cm from the duodenum.
- An additional perforation site was found in the lower mid abdomen, about 22 cm below the first suspected site, also showing significant oral contrast extravasation and scattered pneumoperitoneum.



Management

- An exploratory laparotomy, small bowel resection, and peritoneal lavage were performed. Two perforations on the small bowel's mesenteric border were found.
- Due to hemodynamic instability, the small bowel was not reconnected, and temporary abdominal closure was done using a Bogota bag.
- Post-surgery, the patient was moved to the Surgical Intensive Care Unit for continuous hemodynamic monitoring and stabilization.

Discussion

- Pathology results revealed a segment of the small bowel with fibrinopurulent plaques at the mesenteric resection margin and an associated bowel wall perforation measuring 0.5 cm in diameter, showing parasitic infestation consistent with Strongyloides stercoralis.
- The patient was eventually taken back to the operating room for abdominal closure and small bowel anastomosis. The stay was complicated by a COVID-19 infection, which required the patient to spend more than one month in the hospital.
- This helminth is endemic in tropical and sub-tropical regions, and poor sanitation of households as well as walking barefoot play an important role in the etiology of this infection, all of which are factors present in our patient's social history.
- High clinical suspicion is needed, and in most cases, histopathological examination as well as stool testing and serology may be needed to make the diagnosis.

Conclusion

- Data is limited regarding intestinal perforation secondary to Strongyloides stercoralis infection
- Identifying severe Strongyloides stercoralis infections presents significant difficulties, necessitating vigilant clinical suspicion. Surgical specimen examination frequently yields unexpected diagnoses. In the instance discussed, the discovery of S. stercoralis as the causative organism in the final pathology was unforeseen.

References