A Rare Case of *Campylobacter* and *Strongyloides stercoralis* Coinfection in an Immunocompetent Host

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Introduction

- *Strongyloides stercoralis* is a parasitic nematode mainly seen in immigrants and military personals from endemic areas.
- Most cases in immunocompetent hosts are incidental findings or present with mild gastrointestinal (GI), respiratory or dermal symptoms.
- Co-infection with organisms like *Campylobacter* coupled with anatomical abnormalities such as a hiatal hernia can produce similar symptoms delaying diagnosis and treatment.

Case presentation

- A 75 year-old-woman presented with persistent watery diarrhea, nausea, dyspepsia, and non-bloody and non-bilious vomiting over the past five days. She also had an unintentional weight loss of 50 pounds over the past three months. She denied any recent travel, rashes, or fevers/chills.
- On presentation, she was hemodynamically stable with generalized abdominal tenderness on physical exam. CT of the abdomen revealed a moderately-sized hiatal hernia.
- Serologies were significant for a normocytic anemia, thrombocytosis, and eosinophilia (white blood cell count 5300, eosinophils 6.6%).
- Stool studies were ordered and came back positive for *Campylobacter.* The patient was started on azithromycin. She initially felt better and was subsequently discharged on azithromycin. She then presented three days later with complaints of nausea, and bloody emesis.
- An EGD with biopsy was done which showed a Los Angeles Grade D reflux esophagitis and duodenitis.
- Histological evaluation revealed *S. stercoralis* in the duodenal mucosa (Figure 1). Initial ova and parasite cultures from a week ago further confirmed the diagnosis. She was then started on an extended course of ivermectin with resolution of her symptoms and was discharge home.

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Results

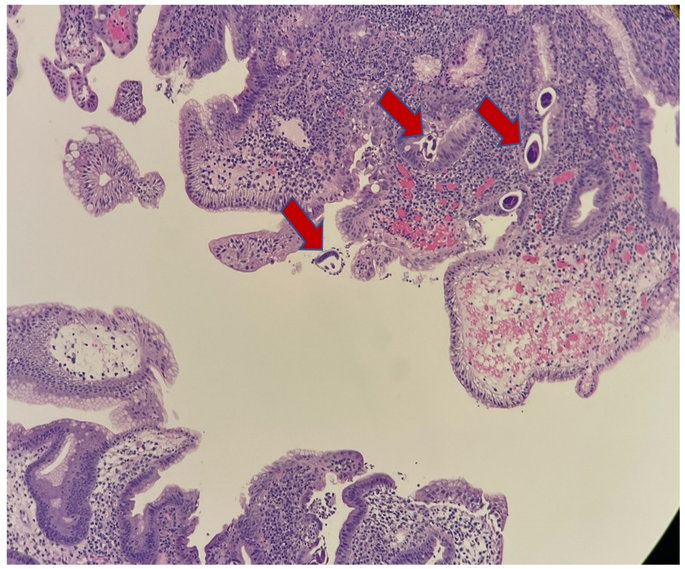

Figure 1: Hematoxylin and Eosin stain of the duodenum revealing acute duodenitis with associated *Stronglyoides stercoralis* in the intestinal crypts and lumen

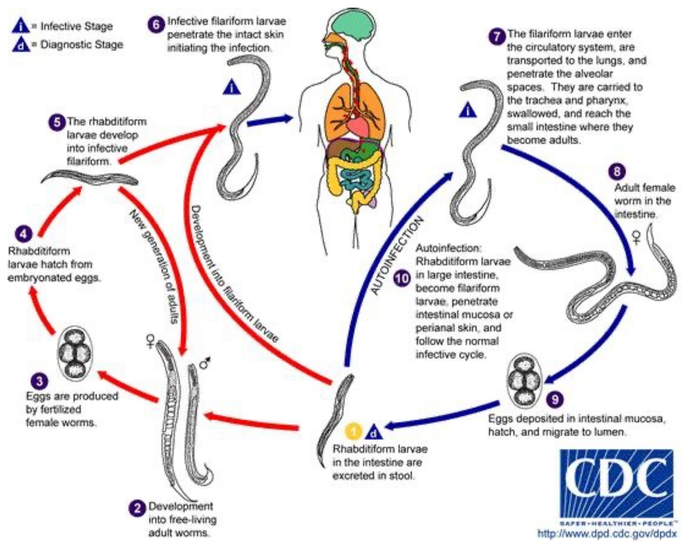

Figure 2: The unique Life cycle of *Stronglyoides stercoralis* as it replicates inside an adult human host.

Discussion

- *Campylobacter* is an enteric gram-negative bacterium that also effects the GI tract and can mimic *S. stercoralis* infection clinically.
- Co-infection with this organism occurs due to its similar mode of transmission, however, there have only been a few cases documented in literature.
- Diagnosis is made by stool testing and serology, however, stool tests are only positive in 50-60% of cases.
- Eosinophilia may or may not be present. Clinicians should be aware that despite having underlying structural abnormalities such as a hiatal hernia, an EGD with biopsy is warranted to rule out infectious etiology's especially in the presence of eosinophilia as seen above.
- Early diagnosis and treatment are essential in preventing disseminated disease, especially in immunocompromised patients.

Conclusion

- Patients who present with persistent watery diarrhea, dyspepsia and vomiting with evidence of eosinophilia, should undergo an endoscopy with biopsy to rule out possible infectious etiologies. These symptoms can also be mimicked by structural lesions.
- Early diagnosis and treatment with ivermectin are essential in preventing *S. stercoralis* disseminated disease.

References

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