

CHRONIC DIARRHEA DUE TO *CAMPYLOBACTER* INFECTION IN AN IMMUNOCOMPETENT HOST: A CASE REPORT

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ABSTRACT

Chronic campylobacteriosis or *Campylobacter* colonization has been reported in immunocompromised patients but rarely occurs in the immunocompetent population. The symptoms include abdominal pain, and chronic diarrhea that can be bloody or non-bloody. Thorough history-taking and careful evaluation of other possible causes of chronic diarrhea is paramount. Treatment involves oral azithromycin or ciprofloxacin for 3 days. Intravenous administration and/or a longer duration of treatment may be required in patients refractory to oral antibiotics.

INTRODUCTION

- Campylobacter* infection is a foodborne illness transmitted by ingestion of contaminated food or water.
- It is responsible for roughly 1.5 million infections annually in the U.S.
- Typical symptoms include acute diarrhea (<2 weeks) that can be bloody or non-bloody, periumbilical pain, fever, and body aches.
- The gastroenteritis is often self-limited in immunocompetent hosts. Subacute or chronic diarrhea can be observed in immunocompromised patients, but rarely in immunocompetent hosts.
- We present a case of chronic diarrhea in an immunocompetent host that was identified to have been caused by *Campylobacter* and required treatment with antibiotics.

CASE PRESENTATION

- A 58-year-old male with a history of Korsakoff syndrome and anoxic brain injury was admitted with chronic diarrhea, severe metabolic acidosis, and acute kidney injury.
- The patient had been experiencing five to six episodes of large-volume watery diarrhea daily for two months. The diarrhea was persistent despite supportive care.
- The diarrhea did not improve with fasting. The patient did have underlying chronic pancreatitis due to prior alcohol dependence; however, he had been abstinent for 3 years and had never had diarrhea of this severity until two months prior. Despite initiating on pancreatic enzyme and vitamin supplementation, the patient continued to experience symptoms.
- Notably, there was serum leukocytosis with 17.2 K/mcL (Table 1). Serum and stool inflammatory markers were elevated. Fecal immunochemical test was negative for blood. Stool culture was positive for *Campylobacter* antigen. Stool testing for other infectious agents was unremarkable.
- CT abdomen showed numerous mildly enlarged mesenteric root lymph nodes without pericolic fat stranding (Figure 1).
- Screening for celiac disease, HIV, and viral hepatitis was unremarkable.
- In addition to chronic pancreatic insufficiency, *Campylobacter* was determined to be the culprit of the chronic diarrhea. The patient received treatment with IV azithromycin for 10 days, after which both the diarrhea and the lymphadenopathy resolved.



Figure 1: Left: CT abdomen without contrast (axial) showing mesenteric lymphadenopathy, lymph node measuring 1.2cm x2.4 cm (arrow). Right: Resolution of lymphadenopathy after completion of the 10-day course of azithromycin.

Table 1: Laboratory profile of the patient

Test	Result	Reference Range
Stool Studies		
Stool culture	Campylobacter sp	Negative
WBC	Positive	Negative
Calprotectin	447	Normal <50 mcg/g
Pancreatic Elastase 1	<15	Normal >200 mcg/g
C. Difficile PCR	Negative	Negative
Giardia antigen	Negative	Negative
Fecal sodium	114	N/A
Fecal potassium	14.0	N/A
Fecal chloride	73	N/A
Fecal Osmolality	437	275-295 mOsm/kg
Fecal Osmotic Gap	34	Secretory diarrhea: <50 mOsm/kg Osmotic diarrhea: >75 mOsm/kg
Fecal Fat (Qualitative)	Abnormal (positive)	Normal
Ova and parasites	Negative	Negative
Serum Studies		
WBC	17.2	4.8-10.8 K/mcL
ESR	62	<20 mm/hr for men over 50 years
CRP	95	0-7.5 mg/L
Lipase	7	22-51 U/L
HIV 1 and 2 antibody	Nonreactive	Nonreactive
Celiac panel (tTg IgA)	Negative	Negative
Total IgA	293	47-310 mg/dL
Blood cultures	Negative	Negative

DISCUSSION AND CONCLUSION

- Long-term *Campylobacter* colonization, also known as chronic campylobacteriosis, is rare in immunocompetent hosts. It is confirmed by persistent *Campylobacter*-positive feces in the setting of prolonged diarrhea.
- It is typically treated with oral azithromycin or ciprofloxacin for 3 days. However, our patient required intravenous route and longer course since his symptoms were refractory to oral antibiotics.