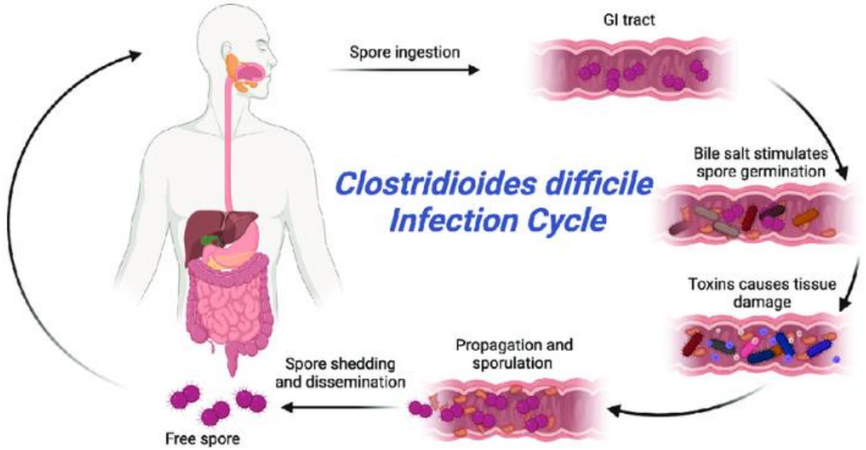
BATTLING THE BACTERIA: CLOSTRIDIUM DIFFICILE ENTERITIS A RARE BUT IMPORTANT DIAGNOSIS

Gagandeep Samra, MD; Khan Zoha, MD; Harsimran Assi, MD; Nathan Kang, MD; Christopher Abdo, MD; Maria Sava, DO; Judy Wong, MD; Craig Biegel, DO; Dmitriy Kim, DO, FACS; St. John's Episcopal Hospital

Introduction: Clostridium difficile enteritis (CDE), infection of the small bowel from gram negative spores is a rare diagnosis with mortality of 25%, therefore it must be promptly diagnosed and treated. C. difficile infection is most commonly associated with colitis, but its extension into the small bowel causing enteritis is a seldomly-reported.

Case Report: We present a 51-year-old Caucasian male with history of hypertension, hepatitis C, coronary artery disease, emphysema, and bipolar disorder, who presented with vague abdominal pain for multiple days found to have C. difficile colitis. He was treated with oral Vancomycin. On hospital day seven, the patient developed pneumoperitoneum and hemodynamic instability. He was emergently taken for an explorative laparotomy. Upon entering the peritoneal cavity, generalized feculent peritonitis was noted. Colonic perforation was noted with multi-focal necrosis along the transverse and descending colon and with multiple necrotic areas of the colon. Total abdominal colectomy was performed with an end ileostomy. Patient did well postoperatively and was discharged, but returned in two weeks with septic shock. He was admitted to the intensive care unit (ICU) with persistent leukocytosis. Ileostomy output noted to be > 1000 on admission. A stool sample from the ileostomy tested positive for C. difficile confirming the diagnosis of small bowel enteritis. The patient was started on oral Vancomycin with minimal improvement, antibiotics were further escalated to oral Fidaxomicin 200 mg every 12 hours and Vancomycin enemas every 6 hours via rectal stump which resulted in resolution of sepsis with full recovery.



Conclusion: Our case helps highlight the importance of maintaining a high level of suspicion of CDE in patients with an ileostomy. Possible reasons for increased risk of CDE in ileostomy patient populations include changes in the terminal ileal epithelium creating a similar environment to the colon and lack of an ileocecal valve which would normally prevent small bowel colonization of colonic bacteria.

Discussion: C difficile enteritis mortality were as high as 25.3-32.1%. Clinically CDE can present with high output ileostomy. Most cases are confined to the colon; but the small bowel may act as a reservoir for CDE. Alterations of the small bowel anatomy after colectomy can resemble intestinal metaplasia with upregulation of Transforming Growth Factor - Beta due to exposure to bile salts. Treatment options are similar to that of C. difficile colitis with vancomycin or metronidazole being first line, but early recognition is key to decreasing mortality and morbidity.

Image credit: https://www.researchgate.net/figure/Clostridioides-difficile-infection-cycle-Clostridioides-difficile-infection-begins-when_fig1_380991288