

antibiotics during the first admission, and the duration of first hospitalization were not associated with significant differences in duration of carriage. **Conclusion:** This study is the largest cohort of *C. difficile* carriers with longitudinal follow up of their colonization status. It highlights the extended duration of carrier status especially in older patients and identifies predictors of prolonged carriage. Further studies are needed to understand the underlying relationship with the predictors identified in this study.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s66–s67

doi:10.1017/ash.2024.190

Presentation Type:

Poster Presentation - Poster Presentation

Subject Category: *C. difficile*

Clinical Characteristics and Cycle Thresholds Among Discordant and True Positive Test Results for *Clostridioides difficile*

Michael Rossi, Lifespan, Warren Alpert School of Medicine; Emerald O'Rourke, Newport Hospital; Sara Geffert, Lifespan; Tao Hong, Warren Alpert School of Medicine; Andrea Collins, Warren Alpert School of Medicine; Tiffany L. Chargualaf, Warren Alpert School of Medicine and Francine Romo Touzard, Warren Alpert School of Medicine

Background: The diagnosis of *Clostridioides difficile* infection (CDI) is challenging. Despite guideline-directed, multistep testing algorithms and diagnostic stewardship, the treatment of *C. difficile* colonization persists. The testing algorithm at our system utilizes an initial real-time PCR test (PCR) for Toxin B gene, which if positive, reflexes to an enzyme

Table 1. Demographic and clinical characteristics of study population

	PCR+/EIA- (n=89)	PCR+/EIA+ (n=43)	
Age (mean)	65.2	70.5	
Male gender	44 (49.4)	23 (51.0)	
Laxative use within 48 hours of testing	12 (13.5)	6 (14.0)	
Antibiotics within 14 days of testing*	51 (57.3)	39 (90.7)	p<.05
PPI use within 14 days of testing*	36 (40.4)	28 (65.1)	p<.05
History of PCR+ test	23 (25.8)	14 (32.6)	
History of colon surgery	3 (3.4)	0 (0)	
Alcohol use disorder	22 (24.7)	5 (11.6)	
End stage renal disease	6 (6.7)	3 (7.0)	
Cirrhosis	11 (12.4)	3 (7.0)	
Inflammatory bowel disease	7 (7.9)	4 (9.3)	
Immunosuppression	12 (13.5)	3 (7.0)	
Cycle threshold (mean)*	29.27	24.28	p<.05

Characteristics	PCR+/EIA- (n=89)	PCR+/EIA+ (n=43)
≥3 Bowel movements (BM) in 24hrs	52 (58.4)	29 (67.4)
<3 BM in 24hrs	21 (23.6)	9 (20.9)
Unable to confirm BM frequency	16 (18.0)	5 (11.6)
Fever	12 (13.5)	10 (23.3)
Hypotension	17 (19.1)	10 (23.3)
CT abdomen obtained	65 (73.0)	25 (58.1)
CT consistent with CDI	21 (23.6)	13 (30.2)
Vasopressor requirement	6 (6.7)	3 (7.0)
Stool panel obtained	42 (47.2)	16 (37.2)
Stool panel positive	8	1
White blood cell count (mean)	11.86	13.98
Albumin (mean)	3.30	2.99
Serum creatinine (mean)	1.37	1.43

Table 2. Severity of illness by Ct values among discordant patients

PCR+/EIA-	Ct ≤ 26 (n=27)	Ct > 26 (n=61)
Non severe CDI	12 (44.4)	39 (63.9)
Severe CDI ^a	8 (29.6)	12 (19.7)
Fulminant CDI ^b	7 (25.9)	10 (16.4)
Severe or fulminant CDI	15 (55.6)	22 (36.1)

a) Severe: WBC >15, AKI >1.5 baseline or >.3 difference (excluding ESRD)

b) Fulminant: Severe as above with hypotension or shock, ileus, or megacolon.

Table 3. Outcomes

Outcomes & treatment	PCR+/EIA- (n=89)	PCR+/EIA+ (n=43)
Completed treatment for CDI	65 (73.0)	41 (95.3) ^a
30-day mortality	9 (10.1)	3 (7.0)
60-day readmission	28 (31.5)	14 (32.6)
Treatment within 60 days	12 (13.5)	6 (14.0)

a) Both patients not initially treated were later treated within 60 days

	Treated PCR+/EIA- (n=65)	Untreated PCR+/EIA- (n=24)
Average Ct	29.13	29.63
30-day mortality	9 (13.8)	0 (0)
60-day readmission	19 (29.2)	7 (29.2)
Tested PCR+/EIA + within 60 days	1 (1.5)	1 (4.2)
Treatment within 60 days	9 (13.8)	3 (12.5)

immunoassay (EIA) for detecting Toxins A and B. Discordant results (PCR +/EIA -) are suggestive of colonization, but the majority of patients with discordant results are treated for CDI. Correlation of *C. difficile* EIA B polymerase chain reaction (PCR) cycle thresholds (Ct) with the presence of free EIA and disease severity has been observed, but the ability to use Ct in the decision to treat patients with discordant results is unclear. Our study assesses if Ct values and other clinical characteristics favor treatment in select patients with discordant **Methods:** A retrospective chart review was performed of adult patients (≥ 18-year-old) with positive *C. difficile* PCR results that were admitted to our health system between June 01 and August 31, 2023. *C. difficile* PCR and Ct results were obtained by Cepheid GeneXpert and Toxin A and B EIA results were obtained by Meridian Bioscience Immunocard. Patients with discordant (PCR+/EIA-) and true positive (PCR+/EIA+) results were compared. We assessed demographics, past medical history, clinical characteristics, severity of illness, PCR Ct values, treatment, and clinical outcomes including: 30-day all-cause mortality and re-admission, and 60-day CDI repeat testing and treatment. Results Of the 122 patients identified, 89 patients had discordant results and 43 had true positive **Results:** Severity of illness and other clinical and laboratory characteristics were similar between both groups. Mean Ct values were significantly lower for true positive results compared to discordant results, 24.28 vs 29.27, respectively (p26 (p=.08). Of the patients with discordant results, 73 completed treatment for CDI and no difference in clinical outcomes was observed compared to patients with discordant results that were not treated. Conclusion Ct values were lower among patients with true positive results compared to patients with discordant **Conclusion:** There were no statistically significant different rates of severe or fulminant CDI among patients with discordant results and Ct values < 26, although this finding may be limited by sample size and Ct may be helpful in deciding which discordant patients to treat.

Antimicrobial Stewardship & Healthcare Epidemiology 2024;4(Suppl. S1):s67

doi:10.1017/ash.2024.191