Evaluation of Persistent Diarrhea and Recurrence Following Fecal Microbiota Transplantation for Recurrent *Clostridioides difficile* Infection

Noah Boton MD, Jiaqi Ni, Anthony Mack, Gregory Eschenauer, PharmD, BCPS (AQ-ID) Twisha Patel, BCPS, BCIDP, John Y. Kao, MD, Krishna Rao, MD, MS
University of Michigan Hospital, Ann Arbor, MI

botonno@med.umich.edu
(734)-936-5582

Background

- Recurrent *C. difficile* infection (CDI) is common following recovery from CDI.
- Fecal microbiota transplantation (FMT) is highly effective for treatment of recurrent CDI.
- FMT is generally safe, though there are serious risks to consider.

Aim: To determine what patient and disease factors are associated with negative outcomes following FMT

Methods

- We performed a retrospective cohort study of all patients at a large academic center who received their first FMT for recurrent CDI.
- Outcomes included recurrent CDI and persistent non-CDI related diarrhea within 90 days of FMT.
- Statistical analysis was performed with unadjusted and adjusted logistic regression.

Conclusions

FMT is **effective** for treatment of recurrent CDI.

Patients with **higher BMI** and **longer duration of antibiotic therapy prior to FMT** may be **protected against recurrence.**

Patients with a history of **IBS** are more likely to have **persistent diarrhea** following FMT that is not due to CDI.

Table 3: Multivariable models of adverse outcomes following FMT for CDI

	Recurrent CDI		Persistent diarrhea	
	OR [95% CI]	*P*	OR [95% CI]	*P*
Age, years	-	-	0.98 [0.95,1.01]	.185
BMI, kg/m^2	0.73 [0.52,0.92]	.028	-	-
IBS	-	-	6.16 [1.39,34.2]	.022
# CDI episodes prior to FMT	-	-	0.68 [0.42,1.05]	.096
Duration of antibiotic therapy for CDI prior to FMT, log(days)	0.36 [0.12,0.88]	.038	-	-

Abbreviations: CDI, *Clostridioides difficile* infection; CI, confidence interval; FMT, fecal microbiota transplantation; IBS, irritable bowel syndrome; OR, odds ratio.

Results

Table 1: Patient characteristics (n=81)

Age, yr (median, IQR)	58 (41-72)
Female sex	52 (64%)
BMI, kg/m^2	25.63 ± 7.14
IBS	13 (16%)
IBD	10 (12%)
# CDI episodes	3.8 ± 1.3
Route of FMT:	
Lower GI delivery	10 (12%)
Capsules	71 (88%)

Figure 1: Length of antibiotic therapy for CDI prior to FMT

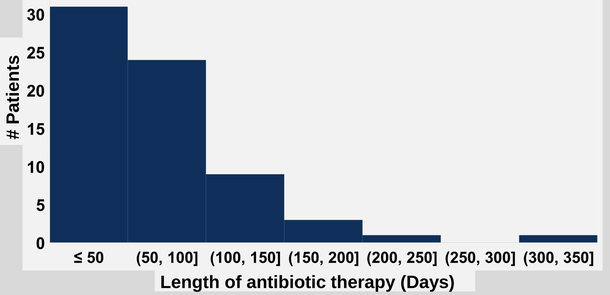

Table 2: Outcomes (within 90 days of FMT)

Recurrent CDI	9 (11%)[1]
Persistent non-CDI related diarrhea	26 (36%)[2]

[1]Percentage of all patients
[2]Percentage of patients without recurrent CDI

Table 4: Etiologies for persistent non-CDI related diarrhea following FMT (n=26)

IBS/post-infectious IBS	10 (38%)
IBD	4 (15%)
SIBO	2 (8%)
Radiation colitis/proctitis	1 (4%)
No clear etiology	9 (35%)