Factors Related to Fecal Microbiota Transplant Failure in the Treatment of Recurrent C. Difficile Infection- A Single Center Retrospective Study

Fatima Warraich MD, MEHP; Syed Hamza Sohail, MD; Alexander Knee, MS; Hans Schlecht, MD; Jacob Smith, MD; Daniel Skiest MD

Department of Medicine, Baystate Health, Springfield, MA

Baystate Health | UMass Chan MEDICAL SCHOOL

INTRODUCTION

- *Clostridioides difficile* infection (CDI) is associated with high morbidity and mortality
- FMT is recommended for the treatment of recurrent CDI despite appropriate antibiotics, with success rates of 80-90%
- Beran et al meta-analysis: Predictors of inpatient FMT failure were- increased age, severe CDI, IBD, non-CDI antibiotics, hospitalizations, inpatient and poor bowel prep
- Limited data available on factors contributing to outpatient FMT failure

OBJECTIVE

- To describe factors associated with FMT failure for recurrent CDI in outpatient setting

METHODS

- Single center retrospective study
- Inclusion criteria: age >18 who underwent >1 FMTs from 12-1-2014 to 9-30-2018 at Baystate Medical Center
- Data Collection: EMR chart review including demographics, CDI related factors, comorbidities, and FMT related factors
- Analysis: exploratory with Fisher exact tests & log-binomial regression estimating unadjusted RR and 95% CI
- Predictors with p values <0.2 considered possibly clinically relevant

CONCLUSION

Among outpatients with recurrent CDI, FMT failure (up to 1 year) was associated with:

- immunosuppression,
- current or previous malignancy,
- prior CDI hospitalizations,
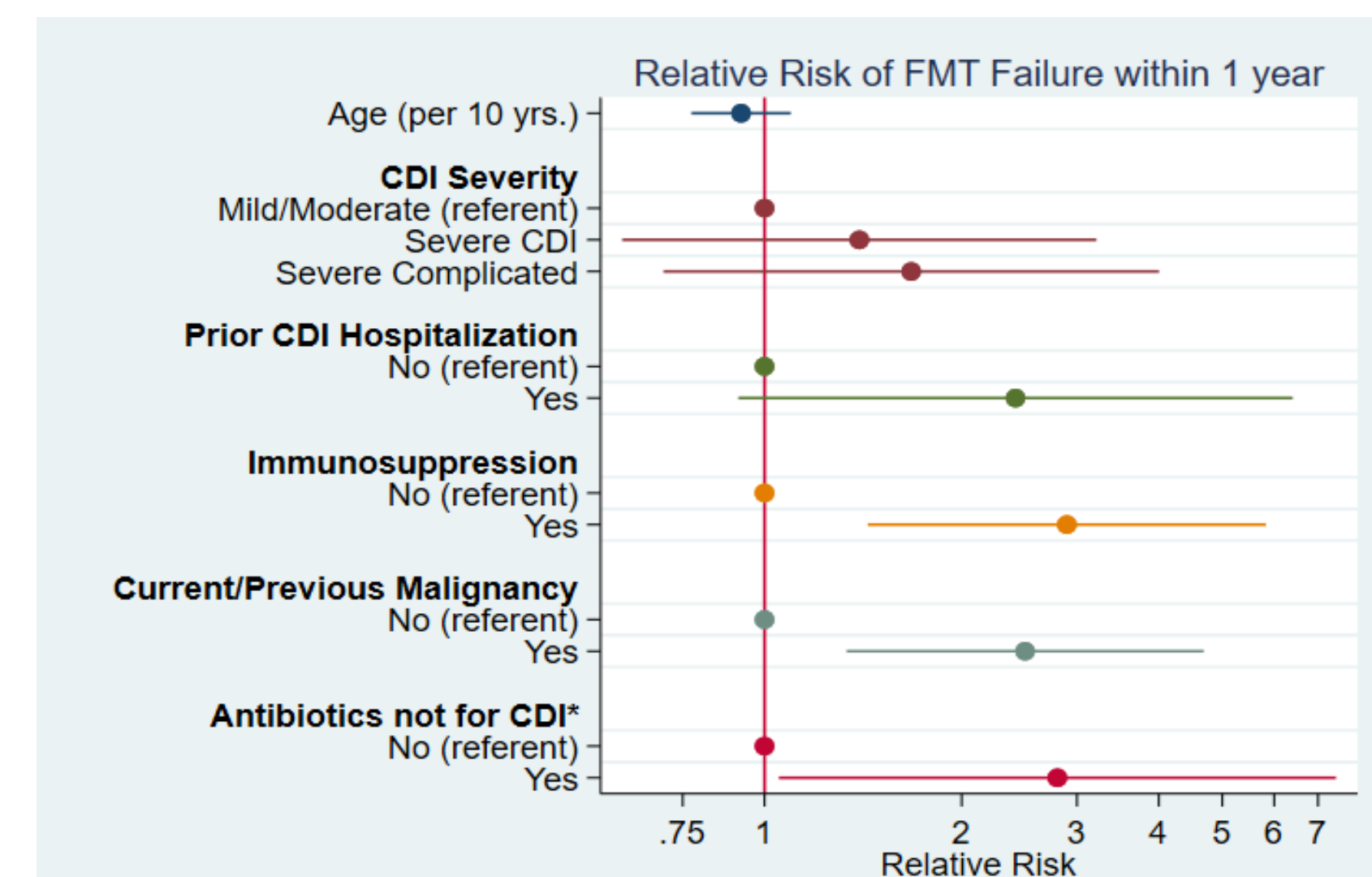- antibiotics not for CDI received within 6 months of FMT.

Consideration of these factors may help determine suitable candidates for FMT

RESULTS

- 92 Underwent FMT (78% Female)
- Median Time to Relapse: 21 days (range = 1-306)
- Indications: Recurrent CDI = 70 (76%), Recurrent/Severe CDI = 17 (19%), Other (Severe or Fulminant CDI = 5 (5%)

Table 1

		FMT Success n=67 (72.8%)	FMT Failure n=25 (27.2%)	p-value
Age(yrs) at transplant: Mean (SD)		65.1 (19.7)	60.7 (16.4)	0.319
CDI Severity				0.415
	Mild/Moderate	51 (76.1%)	16 (23.9%)	
	Severe	10 (66.7%)	5 (33.3%)	
	Severe Complicated	6 (60.0%)	4 (40.0%)	
Prior CDI Hospitalization				0.076
	No	25 (86.2%)	4 (13.8%)	
	Yes	42 (66.7%)	21 (33.3%)	
Immunosuppression				0.003
	No	48 (84.2%)	9 (15.8%)	
	Yes	19 (54.3%)	16 (45.7%)	
Current or Previous Malignancy				0.012
	No	56 (80.0%)	14 (20.0%)	
	Yes	11 (50.0%)	11 (50.0%)	
Antibiotics not for CDI (received within 6m. of FMT)				0.027
	No	28 (87.5%)	4 (12.5%)	
	Yes	39 (65.0%)	21 (35.0%)	

*Also evaluated: history of colectomy, diabetes mellitus, history of radiation therapy, appendectomy, antibiotics with high risk for CDI, probiotics, bezlotoxumab, anti-secretory medications, ICU admission, IBD, route of FMT delivery, duration from prior relapse to FMT

Relative Risk of FMT Failure within 1 year

*received within 6m of FMT