Clostridioides difficile Infection Recurrence Trends and Characteristics at a Community Medical Center

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Background

- Updated IDSA *C. difficile* Infection (CDI) guidelines recommend fidaxomicin as preferred therapy for initial or recurrent infection.
- Fidaxomicin presents a pharmacoeconomic challenge to many patients and vancomycin is an acceptable alternative.

OBJECTIVES

- To evaluated the incidence and characteristics of CDI recurrence in a community medical center to assess feasibility of implementing new CDI treatment recommendations.

METHODS

Study Design	• Multicenter, retrospective study conducted at Scripps Health from 1/1/2019 - 12/31/2019
Population	• Adult patients with an initial CDI diagnosis (EIA *C. difficile* antigen+/toxin+)
Inclusion Criteria	• Age ≥ 18 years old, clinical diagnosis (EIA *C. difficile* Antigen+/Toxin+) and treatment of CDI
Exclusion Criteria	• Pregnant or breastfeeding, receiving prophylaxis for CDI, Diagnosis of toxic megacolon based on surgical or radiological reports, EIA Antigen+/Toxin-, *C. difficile* Toxin PCR+
Primary Outcome	• Clinical cure, defined as no recurrent episodes of CDI one year after treatment
Secondary Outcome	• Evaluation of baseline characteristics and treatment between patients experiencing recurrence or no recurrence
Statistical Analysis	• Outcomes were assessed using count and proportion for descriptive data and Chi-Square, Fisher's Exact and Logistic Regression for categorical data.

RESULTS

Table 1: Baseline Characteristics

Total Patients (N= 223)		
Characteristics		**N (%)**
Age	≥65 Years	141 (63.23)
Sex	Female	136 (60.99)
Ethnicity	Non-Hispanic	176 (79.92)
Severity	Non-Severe	144 (64.57)
Class	Inpatient	181 (81.17)
Treatment	Vancomycin	193 (86.55)
	Metronidazole	9 (4.04)
	Vancomycin + Metronidazole	17 (7.62)
	Fidaxomicin	4 (1.79)
Comorbidities	Cerebrovascular Disease	38 (17.04)
	Chronic Kidney Disease	86 (38.57)
	Cardiovascular Disease	67 (30.04)
	Diabetes Mellitus	75 (33.63)
	Malignancy	115 (51.57)
	Pulmonary Disease	48 (21.52)

Figure 1: Efficacy (No Recurrence)

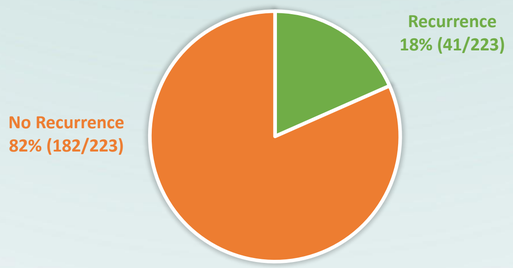


Table 2: Difference in Recurrence Rate Based on Baseline Characteristics

Total Patients (N= 223)				
Characteristics		**No Recurrence 182 (81.61%)**	**Recurrence 41 (18.39%)**	**P-value**
Age	≥65	115 (63.19)	26 (63.41)	0.978
Sex	Female	111 (60.99)	25 (60.98)	0.999
Ethnicity	Non-Hispanic	148 (81.32)	28 (68.29)	0.065
Severity	Non-Severe	122 (67.03)	60 (32.97)	0.106
Class	Inpatient	145 (79.67)	36 (87.80)	0.229
Treatment	Vancomycin	155 (85.16)	38 (92.68)	0.202
	Metronidazole	9 (4.95)	0 (0)	0.217
	Vancomycin + Metronidazole	15 (8.24)	2 (4.88)	0.463
	Fidaxomicin	3 (1.65)	1 (2.44)	0.730
Comorbidities	**Cerebrovascular Disease**	**24 (13.19)**	**14 (34.15)**	**0.001**
	Chronic Kidney Disease	68 (37.36)	18 (43.90)	0.437
	Cardiovascular Disease	55 (30.22)	12 (29.27)	0.904
	Diabetes Mellitus	59 (32.42)	16 (39.02)	0.419
	Malignancy	92 (50.55)	23 (56.10)	0.521
	Pulmonary Disease	39 (21.43)	9 (21.95)	0.741

RESULTS

Figure 2: Difference in Recurrence Rate Based on Treatment Option of Initial CDI

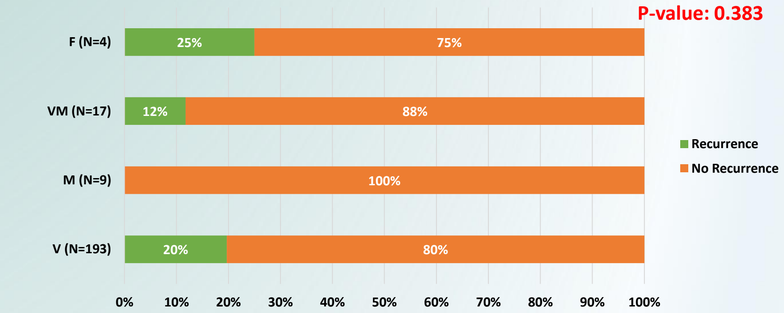
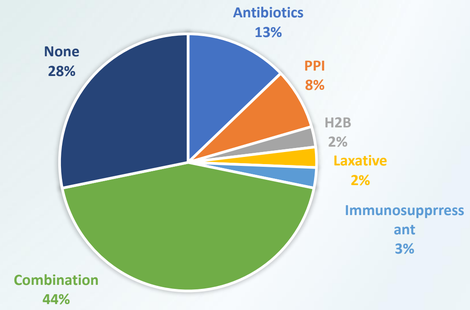


Figure 3: Presence of Medications Which May Increase Risk of CDI in Patients Treated with Vancomycin And had Recurrent CDI



CONCLUSIONS

- Presence of cerebrovascular disease was the only characteristic associated with a higher incidence of CDI recurrence.
- Majority of patients were treated with oral vancomycin, and there was no difference in recurrence based on treatment although there were low numbers in non-vancomycin cohorts.
- Vancomycin is an acceptable alternative for the management of CDI in our population.