Comparing Recurrence Rates of Clostridioides Difficile Infection (CDI) in Patients with Inflammatory Bowel Disease after Low, Medium, and High Doses of Oral Vancomycin for the Initial Episode of CDI

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INTRODUCTION

- Inflammatory bowel disease (IBD) patients are at higher risk of Clostridioides difficile infection (CDI) and subsequent complications including recurrent CDI (rCDI).
- While newer treatment guidelines recommend fidaxomicin as first line therapy for CDI, oral vancomycin (OV) is still routinely used first line.
- There are no guidelines as to what dose of OV should be used in IBD patients with a first episode of CDI.
- In this study, we sought to compare rCDI rates in IBD patients treated with different doses of OV for the first episode and to evaluate risk factors for rCDI in these patients.

METHODS

- Reviewed 1100 patient records retrospectively from an existing IBD database to identify patients with a history of a first episode of CDI and subsequent rCDI between 11/1/2018 - 6/01/2021.
- rCDI is defined as a relapse of CDI symptoms within 2 - 8 weeks of successful treatment of the initial episode
- The following data were obtained:
  - baseline demographics
  - details of IBD history including medication use
  - treatment of first CDI including dose of OV (low = 125mg, medium=250mg, and high=500 mg), and rCDI.
- Categorical variables were analyzed using the Chi-Square test
- Unadjusted regressions were observed individual factors without accounting for-co-variables
- All statistical analyses were performed using STATA statistical software version 14.2.

RESULTS

- A total of 42 IBD patients (3.8%) with a diagnosis of CDI were identified
- 52% female, 76% white race
- Median age was 46 yrs [range 24-84])
- 8 of these patients had rCDI
- 23 patients (54.8%) had CD and 19 patients (45.2%) had UC
- Majority of patients were on biologics (27/42, 64%)
- 28 patients (66.7%) were on low dose, 8 (19.0%) on medium dose, and 6 (14.3%) on high dose OV
- No difference in risk of rCDI in patients treated with either medium dose OV (p=0.16) or high dose OV (p=0.88) when compared to low dose OV.
- The use of biologics (p=0.91), gender (p=0.17), race (p=0.93), and UC diagnosis (p=0.28) did not increase risk of rCDI (Table 1).

Table 1. Predictors of recurrent Clostridioides difficile infection

Predictors	Unadjusted OR	95% Confidence Interval		P-value
Female	3.38	0.59	19.16	0.17
White	0.92	0.15	5.51	0.93
Ulcerative colitis	2.38	0.49	11.63	0.28
Biological therapy	0.91	0.18	4.48	0.91
Vancomycin dosage				
low	1.00			
medium	3.60	0.61	21.35	0.16
high	1.20	0.11	13.15	0.88

DISCUSSION

- Neither medium dose nor high dose OV compared to low dose OV for the first episode of CDI decreased the risk of rCDI.
- Use of biologics and IBD subtype did not increase risk of rCDI.
- This may have been due to a small sample size and a low number of rCDI cases in our cohort.
- Future prospective study in a larger cohort of patients is necessary to confirm this finding.
- Also, despite the recent guideline change recommending fidaxomicin as first line therapy for CDI, OV continues to be a reasonable alternative as first line therapy for CDI
- We also aim to compare the efficacy of fidaxomicin and OV in IBD patients treated for CDI in a larger cohort of patients.

REFERENCE

- Johnson S, Lavergne V, Skinner AM, Gonzales-Luna AJ, Garey KW, Kelly CP, Wilcox MH. Clinical Practice Guideline by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA): 2021 Focused Update Guidelines on Management of Clostridioides difficile Infection in Adults. Clin Infect Dis. 2021 Sep 7;73(5):e1029-e1044. doi: 10.1093/cid/ciab549. PMID: 34164674.