

Fidaxomicin for treatment of *Clostridioides difficile* infection in patients with Inflammatory Bowel Disease

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INTRODUCTION

Although fidaxomicin is an effective, first-line treatment for *Clostridioides difficile* infection (CDI), clinical trials demonstrating its efficacy have excluded patients with inflammatory bowel disease (IBD) and its effectiveness in this patient population is unclear.

We aimed to assess the effectiveness of fidaxomicin in patients with IBD for the treatment of CDI.

METHODS

This was a retrospective study of adult patients with IBD who were treated with fidaxomicin for CDI from 1/2017 through 12/2021 at three academic tertiary medical centers.

Patient information obtained from the electronic medical record included demographics, IBD subtype and treatments, and history of CDI and treatments.

CDI was defined as >3 loose bowel movements per day or change from baseline in active IBD and positive toxin enzyme immunoassay or PCR for toxigenic *C. difficile*.

Patients were treated with fidaxomicin 200 mg twice daily for 10 days, or twice daily for 5 days followed by an extended regimen.

The primary outcomes were treatment response, defined as resolution of diarrhea and/or negative CDI stool test, and time to CDI recurrence after fidaxomicin.

Fisher's exact test was used to evaluate the association between clinical factors and the primary outcomes

TABLE 1: DEMOGRAPHICS

Variable	
Age, years (median, range)	43.5, 19-88
Female (#, %)	23, 60.5
Caucasian (#, %)	37, 97.3

TABLE 2: HISTORY OF IBD AND PRIOR EPISODES OF CDI

Variable	#, %
Number of prior episodes of CDI before fidaxomicin treatment	
0	10, 26.3
1	7, 18.4
2 or more	22, 57.9
History of IBD	
Ulcerative colitis/ Indeterminate colitis	27, 71.1
Crohn's disease	11, 28.9
Biologic therapy at time of CDI	20, 52.6

TABLE 3: SEVERITY OF CDI TREATED WITH FIDAXOMICIN

Variable	#, %
Fidaxomicin used after other failed first-line therapy	23, 60.5
Severity of CDI	
Mild/moderate	26, 68.4
Severe	1, 2.6
Severe with complications	1, 2.6

TABLE 4: OUTCOMES

Variable	
Resolution of CDI with Fidaxomicin (#, %)	23, 60.5
Recurrent CDI after fidaxomicin treatment response (#, %)	7, 30.4
Time to recurrence, days (median, range)	63, 5-69
Hospitalization (#, %)	8, 21.1
Colectomy for severe CDI (#, %)	1, 2.6
FMT following treatment with fidaxomicin (#, %)	17, 44.7

DISCUSSION

Thirty-eight patients met inclusion criteria.

Twenty-nine (76.3%) patients had one or more prior episodes of CDI before fidaxomicin treatment.

In 23 (60.5%) patients, fidaxomicin was used after non-response to another first-line treatment.

Resolution of CDI with fidaxomicin occurred in 60.5% (23/38) of patients, and 30.4% (7/23) developed CDI recurrence after treatment response.

Nearly half (44.7%) of patients underwent fecal microbiota transplant (FMT) following treatment with fidaxomicin either due to treatment non-response or recurrence.

Patients with history of FMT prior to CDI treated with fidaxomicin had no CDI recurrence after fidaxomicin versus 8 (30.8%) patients without prior FMT ($p=0.039$).

CONCLUSIONS

In this patient cohort with IBD and CDI, approximately 60% responded to treatment with fidaxomicin, although CDI recurred in 35% of those patients.

Almost one half of patients underwent FMT after receiving fidaxomicin.

Larger controlled studies are needed to assess outcomes of fidaxomicin for CDI in IBD.