Cannabis Use is Associated with an Increased Risk of Intestinal Obstruction in Patients Hospitalized with Diverticulitis

RUTGERS New Jersey Medical School
DEPARTMENT OF MEDICINE

Daniel Rim[1], Alexander Kaye[1], Siddharth Verma[2]
[1]Department of Medicine, Rutgers New Jersey Medical School, Newark, NJ
[2]Division of Gastroenterology and Hepatology, East Orange Department of Veteran's Affair, East Orange, NJ

Background

- Several studies have shown associations between outcomes of diverticulitis and tobacco, caffeine, or alcohol use respectively.
- Some studies have suggested that smoking is associated with increased risk of complications of diverticulitis.
- However, there is a lack of data on the effect of cannabis use on the outcomes of diverticulitis.
- Thus, we aim to assess the outcomes of diverticulitis in patients with history of cannabis use.

Methods

- Patients hospitalized with diverticulitis from the National Inpatient Sample, Healthcare Cost and Utilization Project, Agency for Healthcare Research and Quality in the year 2014 were selected.
- Patient demographics and outcomes of diverticulitis were compared between the groups with and without history of cannabis use.
- The outcomes of interest were inpatient mortality, length of stay, total hospital charge, hypotension/shock, intestinal abscess, intestinal obstruction, intestinal fistula, intestinal perforation, and colectomy.

Table 1. Patient Demographics and Characteristics

	Cannabis	Without cannabis	P-value
N = 48,214	N = 447	N = 47,767	
Patient age, mean (SD)	45.81 (11.40)	60.57 (15.32)	**<0.05**
Sex			**<0.05**
Female (%)	114 (25.50%)	27913 (58.47%)	
Male (%)	333 (74.50%)	19827 (41.53%)	
Race, N (%)			**<0.05**
White	262 (60.09%)	35323 (77.34%)	
Black	107 (24.54%)	3711 (8.12%)	
Hispanic	51 (11.70%)	4986 (10.92%)	
Asian or Pacific Islander	*	426 (0.93%)	
Native American	*	177 (0.39%)	
Other	*	1052 (2.30%)	
Length of stay, in days (SD)	4.26 (3.91)	4.69 (4.35)	**<0.05**
Total hospital charges, in $ (SD)	36572.87 (56238.25)	38567.60 (54258.98)	0.448
Inpatient mortality	0 (0%)	178 (0.37%)	0.196
Charlson comorbidity index (SD)	1.06 (1.39)	2.50 (2.14)	**<0.05**

*Exact number not included in the table due to small sample sizes

Table 2. Multivariate Regression Analysis of Outcomes

Outcomes	Adjusted Odds Ratio	Confidence Interval	P-value
Shock/hypotension	1.721	0.420-7.054	0.451
Colectomy	0.807	0.593-1.098	0.173
Intestinal abscess	1.195	0.941-1.518	0.144
Intestinal obstruction	1.713	1.060-2.766	**<0.05**
Intestinal fistula	0.509	0.126-2.056	0.343
Intestinal perforation	0.645	0.089-4.649	0.663

Results

- Among 48,214 patients with diverticulitis identified in the study, 447 patients had history of cannabis use.
- Among patients hospitalized with diverticulitis, those with cannabis use had shorter length of stay (4.3 days vs. 4.7 days, $p < 0.05$).
- There were no statistically significant differences in inpatient mortality and total hospital charge (all $p > 0.05$).
- Cannabis use was an independent risk factor for intestinal obstruction (OR 1.71, 95% CI: 1.06-2.77, $p < 0.05$).
- However, adjusted odds ratios of shock/hypotension, colectomy, intestinal abscess, intestinal fistula, and intestinal perforation were not statistically significant (all $p > 0.05$).

Conclusion

- Our study indicates that patients hospitalized with diverticulitis with history of cannabis use are more likely to have intestinal obstruction.
- Inhibition of gastrointestinal motility by cannabis in the setting of diverticular inflammation may explain this finding.