Outcomes of Patients Hospitalized for Acute Diverticulitis With Comorbid Generalized Anxiety Disorder

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Introduction

- Diverticulosis is a common finding in adult patients. Around 10% to 25% of adult patients with diverticulosis develop symptomatic disease during their lifetime
- Diverticular disease is associated with an elevated frequency of anxiety and depressive disorders. Anxiety and depression has been studied in the setting of inflammatory bowel disease and irritable bowel syndrome; patients with these pathologies have more severe disease and more frequent flares
- Generalized Anxiety Disorder (GAD) is a common psychiatric diagnosis with a high lifetime prevalence
- Currently, little data exist on the association and outcomes of acute diverticulitis in GAD patients

Aim

- The purpose of this study is to assess the outcomes of acute diverticulitis in patients with GAD

Methods

- Hospitalized acute diverticulitis patients from the National Inpatient Sample database from 2014 were selected
- Diagnoses were identified with ICD-9 CM codes
- SPSS Premium Edition was used for analysis
- Patient demographics and outcomes of acute diverticulitis were compared between the groups with and without GAD
- The outcomes of interest were intestinal obstruction, intestinal abscess, colectomy, sepsis, acute respiratory failure, acute renal failure, myocardial infarction, hypotension/shock, and inpatient mortality
- Chi-square tests and independent t-tests were used to compare proportions and means respectively
- Multivariate logistic regression analysis was performed to determine if GAD is an independent predictor for the outcomes, adjusting for age, sex, race, and Charlson Comorbidity Index

Results

Table 1: Patient Demographics and Characteristics

Variable	With GAD	Without GAD	P-value
N = 77,520	N = 8,484	N = 69,036	
Patient age, mean (SD)	62.68 (14.62)	63.24 (15.63)	<0.05
Sex, N (%)			<0.05
Female	6,160 (72.6%)	30,033 (43.5%)	
Male	2,321 (27.4%)	38,973 (56.5%)	
Race, N (%)			<0.05
White	6,836 (83.9%)	49,907 (75.5%)	
Black	429 (5.3%)	6,292 (9.5%)	
Hispanic	678 (8.3%)	7,217 (10.9%)	
Asian or Pacific Islander	32 (0.4%)	907 (1.4%)	
Native American	21 (0.3%)	271 (0.4%)	
Other	148 (1.8%)	1,542 (2.3%)	
Length of stay, in days (SD)	4.86 (4.49)	4.53 (4.45)	<0.05
Total hospital charges, in $ (SD)	40,003 (46,844)	39,660 (53,898)	0.54
Charlson Comorbidity Index (SD)	2.89 (0.02)	2.85 (2.23)	0.15

Table 2: Multivariate Regression Analysis of Outcomes

Outcomes	*Adjusted odds ratio	95% Confidence Interval	P-value
Intestinal obstruction	1.22	1.05-1.43	<0.05
Intestinal abscess	1.19	1.10-1.29	<0.05
Colectomy	0.75	0.55-1.02	0.07
Sepsis	1.07	0.97-1.19	0.19
Acute respiratory failure	0.76	0.62-.93	<0.05
Acute renal failure	1.02	0.93-1.11	0.76
Myocardial infarction	1.05	0.78-1.40	0.77
Hypotension/shock	0.83	0.76-0.91	<0.05
Inpatient mortality	1.34	0.93-1.92	0.11

***Adjusted for age, sex, race, and the Charlson Comorbidity Index**

Discussion and Conclusion

- This study indicates that GAD is associated with an increased risk for intestinal obstruction and intestinal abscess, but a decreased risk for acute respiratory failure and hypotension/shock
- Chronic SSRI and SNRI use, common GAD therapeutics, may upregulate colonic serotonin signaling resulting in increased colonic phasic contractility, which affects colonic motility and can lead to dysmotility. Dysmotility may help explain the finding of increased risk for obstruction and abscess
- Dysregulation of the gut-brain axis due to GAD may result in altered compositions of enteric microbiota. Elevated levels of certain enteric microbiota are associated with increased intestinal inflammation which also may explain the increased risk of obstruction and abscess
- GAD and other anxiety disorders are associated with increased healthcare utilization including ED and primary care visits. Subsequently GAD behaviors may lead patients to be hospitalized earlier in the disease course, allowing for earlier interventions and reduced risks of hypotension/shock or respiratory failure

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