Effects of Gastrointestinal Comorbidities on Mortality in Patients Admitted for Systemic Lupus Erythematous

Alexander Le, MD[1]; Anmol Mittal, MD[1]; Sushil Ahlawat MD[1,2]
[1]Rutgers New Jersey Medical School – Internal Medicine, [2]Department of Gastroenterology and Hepatology

Introduction

- Systemic Lupus Erythematosus (SLE) is a chronic autoimmune inflammatory disease with multi-organ involvement. Gastrointestinal manifestations typically arise as a result of adverse reactions, therapeutic agents or infections.
- SLE gastrointestinal involvement is important to identify because undertreatment can lead to life threatening complications such as lupus mesenteric vasculitis, protein losing enteropathy, and acute pancreatitis[1].

Objective

Our project aims to look at the effects of gastrointestinal comorbidities on the mortality of patients admitted for SLE

Methods

- Retrospective analysis of National Inpatient Sample (NIS) Database from 2001 to 2013
- Primary diagnosis of SLE using ICD-9 code
- Comorbidities of the following queried with ICD-9 codes
  - Gastrointestinal bleeding (GIB)
  - Dysphagia
  - Gastroesophageal reflux disease (GERD),
  - Celiac disease
  - Crohn's disease
  - Ulcerative colitis
  - Serositis
  - Pancreatitis
  - Malabsorption
- A propensity-matched multivariable logistic regression analysis was performed to analyze the correlation of patients against their healthy counterparts and the effect on mortality. Propensity matching was performed to adjust for baseline patient and hospital demographics. All significance levels of $p<0.01$.

Results

Variable	P Value	95% Confidence Interval
Age	Reference	
19 to 29	0.553	1.864 (0.238 – 14.627)
30 to 50	0.581	1.785 (0.228 – 13.962)
51 to 61	0.352	2.663 (0.338 – 20.985)
≥61	0.301	3.193 (0.354 – 28.764)
Race		
Caucasia	Reference	
African American	0.694	0.867 (0.425 – 1.767)
Hispanic	0.803	0.902 (0.400 – 2.031)
Asian, Pacific Islander, Native American	0.493	1.365 (0.561 – 3.318)
Gender		
Male	Reference	
Female	0.079	0.604 (0.344 – 1.061)
Insurance status		
Private Insurance	Reference	
Medicaid	0.044	2.173 (1.020 – 4.629)
Medicare	0.658	0.867 (0.461 – 1.631)
No insurance	0.795	1.218 (0.274 – 5.413)
Other insurance status	0.568	1.549 (0.344 – 6.964)
Hospital Region		
Northeast	Reference	
South East	0.826	0.921 (0.422 – 1.920)
South West	0.490	0.800 (0.424 – 1.508)
West Coast	0.524	1.244 (0.636 – 2.434)
CCI Severity Index Score		
0	Reference	
1-2	<0.001	2.692 (1.606– 4.512)
≥3	0.002	3.305 (1.528 – 7.150)
GI Bleeding	0.003	3.849 (1.585 – 9.346)
GERD	0.300	0.760 (0.452 – 1.278)
Dysphagia	0.367	1.483 (0.629 – 3.496)
Celiac	0.999	0 - 0
Crohn's	0.999	0 - 0
Ulcerative Colitis	0.999	0 - 0
Serositis	0.340	2.997 (0.314 – 28.586)
Pancreatitis	0.999	0 - 0
Malabsorption	0.999	0 - 0

- After adjusting for age, race, median income, insurance status, hospital region, and Charlson Comorbidity Severity, it was found that GIB was significantly associated with mortality.
- Patients with GIB admitted for SLE were 3.85 times more likely to die compared to those without GIB.
- GERD, dysphagia, Celiac disease, Crohn's disease, Ulcerative colitis, serositis, pancreatitis, and malabsorption were not significantly associated with mortality in SLE patients

Discussion

- SLE patients who present with GIB are more likely to die compared to those without SLE. This may be due to SLE patients having prolonged bleeding times[2].
- Additionally, many SLE patients have renal involvement and chronic kidney disease which may further exacerbate coagulation and hemostasis problems. SLE patients are also at risk for lupus mesenteric vasculitis, a potential life-threatening cause for bleeding[1].
- Accurate diagnosis and early treatment of GIB in SLE patients is necessary to reduce mortality risk. Future studies should investigate factors that increase GIB risk in SLE patients.

Discussion

All Authors have no disclosures

Contact

Alexander Le, MD
Rutgers New Jersey Medical School – Internal Medicine
Email: alexander.md.le@Rutgers.edu
Phone: (443) – 840 - 0601

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