

RACIAL VARIATION IN MYELOSUPPRESSION HOSPITALIZATIONS AMONG INFLAMMATORY BOWEL DISEASE PATIENTS

Ryan Suk¹, Ashish A. Deshmukh¹, Kalyani B. Sonawane¹, Jihee Song², Jinhai Huo²

¹The University of Texas Health Science Center at Houston; ²University of Florida

Background

Thiopurine therapy is used as a standard of care in inflammatory bowel disease (IBD), but it might cause fatal myelosuppressive adverse events that require hospitalization. While racial disparities in IBD treatment and management has been well-documented in the US, whether these racial disparities have caused high risk of myelosuppression hospitalizations in minority population is still unknown.

Methods

- We used Nationwide Inpatient Sample (NIS) from 2003 to 2014.
- We identified patients who were hospitalized with a primary diagnosis of IBD, or IBD-related complications.
- Primary outcomes: The prevalence of hospitalizations from myelosuppressive adverse events (neutropenia/leukopenia, drug-induced anemia, or thrombocytopenia) among the IBD patients. The urgent admissions among the myelosuppression hospitalizations.
- We used multivariable logistic regression to examine the association between sociodemographic and hospital-level factors and the risk of primary outcomes.

Results

- We found significantly higher odds of being hospitalized for the myelosuppression among the non-Hispanic blacks (aOR=1.3; 95% CI [1.2-1.4]), Hispanics (aOR=1.6; 95% CI [1.4-1.7]), and Asian/Pacific Islanders (aOR=2.3; 95% CI [1.9-2.8]) compared to the non-Hispanic whites.
- Among those patients diagnosed with myelosuppression, the non-Hispanic blacks (aOR=1.7; 95% CI [1.2-2.3]) and Hispanics (aOR=1.6; 95% CI [1.1-2.2]) had significantly higher odds of getting admitted urgently compared to the non-Hispanic whites.

	Myelosuppression Hospitalizations Adjusted Odds Ratios (95% CI)	Urgent admission Adjusted Odds Ratios (95% CI)		Myelosuppression Hospitalizations Adjusted Odds Ratios (95% CI)	Urgent admission Adjusted Odds Ratios (95% CI)
Race			Neighborhood median house income	<i>(continued)</i>	<i>(continued)</i>
White	Ref	Ref	1 st quartile	Ref	Ref
Black	1.3 ^a (1.2 to 1.5)	1.9 ^a (1.4 to 2.5)	2 nd quartile	1.1 ^a (1.01 to 1.2)	1.0 (0.8 to 1.4)
Hispanic	1.5 ^a (1.4 to 1.6)	1.6 ^a (1.1 to 2.2)	3 rd quartile	1.1 ^a (1.1 to 1.2)	1.2 (0.9 to 1.6)
Asian/PI	2.1 ^a (1.7 to 2.6)	1.0 (0.6 to 1.8)	4 th quartile	1.2 ^a (1.1 to 1.3)	0.9 (0.7 to 1.3)
Others	1.4 ^a (1.2 to 1.6)	0.6 ^a (0.4 to 0.9)			
Age group			Hospital regions		
0-20	Ref	Ref	West	Ref	Ref
21-30	0.7 ^a (0.6 to 0.8)	1.4 ^a (1.1 to 1.8)	Northeast	0.7 ^a (0.6 to 0.8)	1.1 (0.8 to 1.6)
31-45	0.5 ^a (0.5 to 0.6)	1.2 (0.9 to 1.6)	Midwest	0.7 ^a (0.6 to 0.8)	0.6 ^a (0.4 to 0.9)
46-64	0.5 ^a (0.4 to 0.5)	1.2 (0.9 to 1.6)	South	0.8 ^a (0.7 to 0.8)	0.5 ^a (0.4 to 0.7)
≥65	0.6 ^a (0.5 to 0.7)	1.4 (0.9 to 2.1)			
Gender			Charlson comorbidity		
Female	Ref	Ref	0	Ref	Ref
Male	0.9 ^a (0.8 to 0.9)	1.0 (0.9 to 1.2)	1	0.6 ^a (0.6 to 0.7)	1.4 ^a (1.1 to 1.7)
Primary payer			2	0.5 ^a (0.5 to 0.6)	1.3 (0.9 to 1.8)
Private	Ref	Ref	≥3	0.6 ^a (0.6 to 0.7)	2.5 ^a (1.6 to 3.8)
Medicare	0.8 (0.7 to 0.9)	1.3 (0.9 to 1.8)			
Medicaid	1.0 (0.9 to 1.1)	1.4 ^a (1.1 to 1.8)	IBD-related surgery		
Self-pay	1.1 (1.0 to 1.2)	3.6 ^a (2.2 to 5.9)	Yes	Ref	Ref
No Charge	1.3 ^a (1.1 to 1.7)	8.8 ^a (1.6 to 48.4)	No	2.1 ^a (1.9 to 2.4)	15.0 ^a (11.5 to 19.7)
Other	1.2 ^a (1.1 to 1.4)	0.8 (0.5 to 1.3)			

- Besides the racial factors, primary payer type and IBD-related surgery status during hospitalization were the biggest associated factors.
- The patients with Medicaid (aOR=1.4) self-pay (aOR=3.6) and no charge (aOR=8.8) had significantly higher odds of getting admitted urgently compared to those with private insurance (statistically significant).
- The patients who did not undergo IBD-related surgery had significantly higher odds of myelosuppression hospitalization (aOR=2.1) and getting urgently admitted (aOR=15.0) compared to those who underwent IBD-related surgery during the hospital stay (statistically significant).

Conclusion

- The risk of myelosuppression hospitalizations is greater in minority patients diagnosed with IBD in the US population than in non-Hispanic whites.
- Future studies are needed to investigate factors that are driving these racial variations.

Contact: ryan.suk@uth.tmc.edu