

Inpatient Outcomes and Healthcare Utilization in Obese vs Non-Obese Patients Hospitalized with an Acute Crohn's Disease Flare - A Nationwide Cohort Study

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Introduction

Crohn's Disease (CD) remains a leading cause of patient morbidity and in severe cases, mortality. Given the rise in prevalence of obesity in the United States, the goal of this study is to illustrate the impact of obesity on hospitalized patients admitted for acute flares of Crohn's Disease (CD). Our primary outcome was odds of inpatient mortality. Secondary outcomes included length of hospitalization (LOS), total hospital charge (THC), and complications including sepsis, upper and lower GI bleed (UGIB)(LGIB), and acute kidney injury (AKI).

Study AIM

✓ We aim to examine the influence of obesity on Crohn's disease related hospital admissions.

Methods

The National Inpatient Sample (NIS, 2016-2018) was sourced for hospitalization data from adult patients admitted for CD flares. The queried pool of patients was stratified into obese (BMI ≥ 30), and non-obese cohorts using International Classification of Diseases, Tenth Revision (ICD-10) codes. After performing descriptive analysis on the involved cohorts, linear and multivariate regression was used to evaluate study outcomes. STATA 14 was used for data analysis.

Results

Of 232,650 admissions for CD flare, 20,100 (8.64%) had comorbid obesity. Compared to non-obese-CD patients, obese-CD patients were significantly older (45.8 vs 43.7 years, $p < 0.0001$), were more often female (65.9% vs 52.7%, $p < 0.0001$), and had greater African American representation (17.3% vs 15.4%, $p < 0.0001$) compared to non-obese patients. Obese-CD patients had more comorbid disease as measured by a Charlson Comorbidity Index score ≥ 3 (9.80% vs 5.16, $p < 0.0001$), and had more patients belonging to the poorest quartile of family income (29.0% vs 26.3%, $p < 0.0001$). No difference in adjusted odds of inpatient mortality was noted between the two groups. Obese-CD had higher rates of AKI (OR 1.17, $p = 0.011$), and had significantly increased LOS (5.04 vs 4.78 days, $p = 0.006$). There were no differences in total hospital cost, LGIB, or shock.

Conclusions

Obesity did not significantly increase inpatient mortality. However Obese-CD patients had increased odds of AKI and increased LOS relative to CD patients without obesity. Additional studies are needed to further investigate the effects of obesity in CD, and to help reduce the economic burden obesity places on the healthcare system.

Strengths and Limitations

Strengths: To the best of our knowledge, our study was conducted with the largest sample size to date for the included years

Limitations: The NIS database is limited to only inpatient data which restricted our analysis. Additionally, it is possible that not all IBD patients were identified with the used ICD-10 codes.



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