

Acute Gout Flares in Hospitalized Patients with Inflammatory Bowel Disease, a National Inpatient Sample Database Analysis

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Background: Gout attacks have been associated with numerous risk factors as identified in existing literature. These factors range from dietary changes and dehydration to more clinical circumstances like hypertension and congestive heart failure. Recent studies have highlighted an increased prevalence of gout in patients with Inflammatory Bowel Disease (IBD) (ref). Building on this finding, our study leveraged the National Inpatient Sample (NIS) database to further investigate the potential association between IBD and the incidence of gout flares in a hospitalized patient population.

Methods: Our study utilized data from the 2016-2020 NIS database, focusing on adult hospital admissions. We employed ICD-10-CM codes to identify relevant cases (Acute gout: M10, Crohn's disease: K50, Ulcerative colitis: K51). The primary objective was to evaluate the association between IBD and gout flare occurrences. Multivariable logistic regression were used to adjust for traditional risk factors and other possible confounders.

Results: In our comprehensive analysis of 148,767,786 hospitalizations, we found that 2.8% (4,215,894) of admissions involved an acute gout attack. This cohort included 994,790 patients with Crohn's disease and 609,820 with Ulcerative Colitis. Notably, among the patients who developed gout, those with IBD were typically younger (68.5 vs. 70.6 years, $P < 0.001$) and more often female (35.4% vs. 31.9%, $P < 0.001$). Upon adjusting for traditional risk factors, our analysis revealed Crohn's disease and Ulcerative Colitis independently increased the risk of gout flares (OR 1.25, 95% CI 1.21-1.29; OR 1.05, 95% CI 1.01-1.08, respectively), while neither IBD-associated arthritis nor Rheumatoid Arthritis showed a significant association with gout flare risk (Table). Our results corroborate the findings in existing literature, highlighting traditional risk factors for gout flares including age, male gender, specific ethnic backgrounds (Black, Asian, or Pacific Islander), and various comorbidities such as Congestive Heart Failure (CHF), Hypertension (HTN), dyslipidemia, Diabetes Mellitus (DM), obesity, renal insufficiency, and lymphoma/leukemia. Social factors, particularly alcohol dependence or abuse, had a significant association. We also observed an inverse relationship between smoking and the occurrence of gout flares, consistent with prior research.

Conclusions: Our study shows a significant increase in the risk of gout attacks among hospitalized patients who have inflammatory bowel disease, particularly in patients with Crohn's disease. This increased risk remains significant even after adjusting for various established risk factors. There are studies that found a higher level of uric acid in patients with Crohn's disease and Ulcerative colitis which could account for these results. Consequently, physicians should maintain a higher level of suspicion for acute gout flares in IBD patients who exhibit arthralgias or joint-related symptoms. Higher suspicion of acute gout flares should be present when evaluating patients with IBD when joint-related symptoms are present.