

Impact of Body Mass Index on Short-Term Outcomes in Inflammatory Bowel Disease

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Introduction

Body mass index (BMI) has been linked to outcomes in inflammatory bowel disease (IBD), with most studies suggesting that obesity is associated with poorer prognosis. However, there is limited data directly comparing underweight, overweight, and obese categories with normal BMI patients. Therefore, we aimed to investigate the association between BMI and clinical disease activity in patients with crohn's disease (CD) and ulcerative colitis (UC).

Methods

We conducted a retrospective cohort study of adult patients with IBD, aged 43–76 years, followed at Mayo Clinic Arizona between January 2021 and December 2024. Eligible patients had a recorded baseline BMI and at least one documented clinical disease activity assessment within 1–12 months after baseline. BMI was categorized as underweight (< 18.5), normal ($18.5 \leq \text{BMI} < 24.9$), overweight ($25.0 \leq \text{BMI} < 29.9$), or obese (≥ 30.0). The primary outcome was defined as the occurrence of the first clinical disease flare within the period of 30 days to 1 year following BMI measurement. Time-to-event analysis was performed using Kaplan–Meier survival curves, and multivariable Cox proportional hazards models were used to adjust for potential confounders, including age, sex, smoking status, diabetes, hypertension, dyslipidemia, thyroid disease, fatty liver disease, IBD medications, and baseline disease activity.

Results

Out of 1,172 IBD patients, 1,028 met the inclusion criteria (CD = 407; UC = 621). Patients with obesity (BMI ≥ 30) had

a significantly increased risk of first disease exacerbation, with an adjusted hazard ratio of 2.05 (95% CI, 1.14–3.67; $p = 0.016$) (figure 1). In contrast, being underweight or overweight was not linked to a significant increase in disease activity compared with normal BMI (adjusted HR 1.24; 95% CI, 0.46–3.31; $p = 0.70$, and adjusted HR 0.94; 95% CI, 0.50–1.78; $p = 0.90$, respectively)

Conclusion

In this IBD cohort, higher BMI (≥ 30) was independently associated with increased clinical disease activity. However, when compared with normal BMI, underweight and overweight categories did not show significant associations. These findings suggest that obesity, rather than BMI extremes in general, may play a more prominent role in influencing IBD activity.

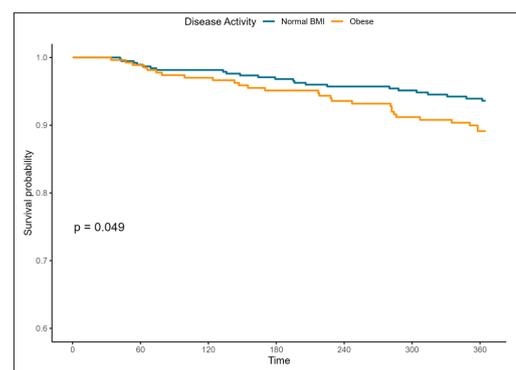


Figure 1: Kaplan–Meier Curve of Clinical Disease Activity: Obese vs Normal BMI in IBD

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