https://doi.org/10.22516/25007440.1296

Letter to the editor

Methodological Considerations for Assessing the Impact of Gastrointestinal Symptoms in Patients with COVID-19

Johan Azañero-Haro.[1*]

OPEN ACCESS

Citation:
Azañero-Haro J. Methodological Considerations for Assessing the Impact of Gastrointestinal Symptoms in Patients with COVID-19. Revista. colomb. Gastroenterol. 2025;40(2):260-261. https://doi.org/10.22516/25007440.1296

[1] Universidad Nacional Federico Villarreal, School of Medicine "Hipólito Unanue". Department of Internal Medicine. Hospital Nacional "Hipólito Unánue". Lima, Perú.

***Correspondence:** Johan Azañero-Haro. johan1675@gmail.com

Received: 30/10/2024
Accepted: 07/03/2025

To the Editor:

I would like to extend my greetings to both the journal and the authors of the recent article titled "Morbidity and Mortality in COVID-19 Patients With and Without Gastrointestinal Symptoms." This observational cohort study of hospitalized patients at the Fundación Santa Fe de Bogotá evaluates whether gastrointestinal symptoms influence adverse outcomes in COVID-19, including mortality, ICU admission, mechanical ventilation, and bacterial coinfection. The authors conclude that gastrointestinal symptoms do not represent a progression risk but recommend including liver function markers in initial assessments due to their potential prognostic value.

However, analyzing gastrointestinal symptoms as a homogeneous group may limit the accuracy of conclusions regarding their impact on COVID-19 progression. Studies suggest that specific symptoms—such as diarrhea and abdominal pain—could have differential effects on disease course due to distinct pathophysiological mechanisms. Some research links both abdominal pain and diarrhea to an increased risk of severe COVID-19, while other studies associate diarrhea with better clinical outcomes[1-3]. These variations suggest that the relationship between gastrointestinal symptoms and COVID-19 severity may be complex and mediated by additional factors. Evaluating each symptom individually could identify specific associations with disease progression and improve risk stratification in patients—a key consideration for multisystemic infections like COVID-19.

Another relevant aspect is controlling for confounders in the relationship between liver markers and COVID-19 severity. The article suggests that elevated alanine aminotransferase (ALT), aspartate aminotransferase (AST), and direct bilirubin levels are associated with higher rates of mechanical ventilation and ICU admission. However, liver dysfunction in COVID-19 patients may result not only from SARS-CoV-2 infection but also from potentially hepatotoxic medications such as lopinavir/ritonavir, remdesivir, or corticosteroids[4,5]. This warrants careful attention, as without proper adjustment for these confounders, it would be difficult to determine whether observed liver dysfunction is directly attributable to COVID-19 or to treatment side effects.

While the sample size of 414 patients is substantial, the subgroup with gastrointestinal symptoms (105 patients) may be insufficient to assess less frequent outcomes such as bacterial coinfection or mortality. This could limit the statistical power of the analyses and yield inconclusive results. Ensuring adequate sample sizes for each specific outcome

© 2025 Asociación Colombiana de Gastroenterología

would produce more robust findings and prevent potentially relevant associations from being dismissed as insignificant.

Regarding mortality, the study concludes that it is not associated with gastrointestinal symptoms or liver markers. However, existing literature suggests a possible link between liver injury and adverse COVID-19 outcomes[4], particularly in patients with severe disease. Further exploration of discrepancies between this study's findings and others could help identify additional variables influencing mortality and clarify the role of liver function in COVID-19 prognosis.

Finally, while the study appropriately recommends using ALT, AST, and direct bilirubin levels in initial COVID-19 assessments, more specific guidance on how these markers could stratify clinical risk would benefit practice. A cutoff-based approach would facilitate interpretation and improve decision-making regarding ICU management, ventilation needs, and intensive monitoring.

I appreciate the opportunity to share these observations, which I hope may contribute to strengthening future research on COVID-19 and its multisystemic manifestations.

REFERENCES

1. Zeng W, Qi K, Ye M, Zheng L, Liu X, Hu S, et al. Gastrointestinal symptoms are associated with severity of coronavirus disease 2019: A systematic review and meta-analysis. Eur J Gastroenterol Hepatol. 2022;34(2):168-176. https://doi.org/10.1097/MEG.0000000000002072
2. Matsubara Y, Kiyohara H, Mikami Y, Nanki K, Namkoong H, Chubachi S, et al. Gastrointestinal symptoms in COVID-19 and disease severity: A Japanese registry-based retrospective cohort study. J Gastroenterol. 2024;59(3):195-208. https://doi.org/10.1007/s00535-023-02071-x
3. Soto A, Quiñones-Laveriano DM, Azañero J, Chumpitaz R, Claros J, Salazar L, et al. Mortality and associated risk factors in patients hospitalized due to COVID-19 in a Peruvian reference hospital. PLoS One. 2022;17(3):e0264789. https://doi.org/10.1371/journal.pone.0264789
4. Cai Q, Huang D, Yu H, Zhu Z, Xia Z, Su Y, et al. COVID-19: Abnormal liver function tests. J Hepatol. 2020;73(3):566-574. https://doi.org/10.1016/j.jhep.2020.04.006
5. Gao S, Yang Q, Wang X, Hu W, Lu Y, Yang K, et al. Association between drug treatments and the incidence of liver injury in hospitalized patients with COVID-19. Front Pharmacol. 2022;13:799338. https://doi.org/10.3389/fphar.2022.799338