

# Letter: prevalence and patterns of gastrointestinal symptoms in a large Western cohort of patients with COVID-19—authors' reply

EDITORS,

We have read with great interest the article by Ianiro et al describing a prospective cross-sectional study of gastrointestinal (GI) symptoms in Western patients with COVID-19.<sup>1</sup>

Comparing Eastern data obtained during the early stage of the pandemic and Western data gained at the later stage, some studies showed that the prevalence of GI symptoms in Western patients was higher than that in Eastern patients.<sup>2</sup> We speculate that this may be related to different strains of SARS-CoV-2. The main virus spreading in Europe is a Spike G614 mutant, and patients infected by it have higher viral loads than those carrying D614 virus in China.<sup>3</sup> Besides, the S protein present in the G614 mutant binds more readily to the ACE2 receptor.<sup>4</sup>

A growing number of studies suggested that critically ill patients were more likely to have GI manifestations.<sup>5</sup> A meta-analysis of 6686 patients showed that the incidence of GI symptoms in patients with severe COVID-19 was higher than in patients with non-severe disease (OR: 1.6, 95% CI: 1.09–2.36,  $P = 0.002$ ).<sup>6</sup> GI symptoms might be a predictor of the critical clinical features mentioned by Dr Ianiro.<sup>1</sup> However, we are curious about which traits are more indicative of possible severe illness in their study. Abdominal pain was more likely to be observed in patients with severe disease (OR: 7.1, 95% CI: 1.93–26.07,  $P = 0.010$ ), but there was no significant difference in the loss of appetite, diarrhoea, nausea and vomiting between patients with severe and mild COVID-19.<sup>6</sup> We speculate that abdominal pain might be more specific than other GI symptoms in critical cases. One possible reason is that, compared to diarrhoea or nausea and vomiting, abdominal pain is a less common adverse effect caused by currently used COVID-19 therapies.<sup>2</sup> Another possible reason is that the hypercoagulable state and endotheliitis of vessels in critically ill patients<sup>7</sup> may lead to intestinal ischaemia and ulceration, which are manifested by abdominal pain. Norsa et al<sup>8</sup> enrolled seven SARS-CoV-2-positive patients diagnosed with intestinal ischaemia and found that three of them had abdominal pain with markedly elevated D-dimer. They also concluded that the mortality among patients with COVID-19-related intestinal ischaemia was 1.7-times higher (95% CI: 0.3–9.6) than

that before the COVID-19 pandemic. However, severely ill patients with abdominal pain were rare, so no conclusion could be drawn.



Although the majority of GI symptoms were mild and self-limiting, we should still be vigilant as some GI symptoms may indicate a poor prognosis.

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## LINKED CONTENT

This article is linked to Tian et al and Ianiro et al papers. To view these articles, visit <https://doi.org/10.1111/apt.15731> and <https://doi.org/10.1111/apt.15946>

Yuan Tian   
Long Rong 

Department of Endoscopy Center, Peking University First Hospital, Beijing, China  
Email: [drronglong@foxmail.com](mailto:drronglong@foxmail.com)

## ORCID

Yuan Tian  <https://orcid.org/0000-0003-0192-3037>

Long Rong  <https://orcid.org/0000-0001-5450-0535>

## REFERENCES

- Ianiro G, Porcari S, Settanni CR, et al. Letter: prevalence and patterns of gastrointestinal symptoms in a large Western cohort of patients with coronavirus disease 2019. *Aliment Pharmacol Ther.* 2020;52:902–903.
- Sultan S, Altayar O, Siddique SM, et al. AGA Institute Rapid Review of the Gastrointestinal and Liver Manifestations of COVID-19, meta-analysis of international data, and recommendations for the consultative management of patients with COVID-19 [published online ahead of print, 2020 May 11]. *Gastroenterology.* 2020;S0016-5085(20)30593-X. <https://doi.org/10.1053/j.gastro.2020.05.001>.
- Korber B, Fischer WM, Gnanakaran S, et al. Spike mutation pipeline reveals the emergence of a more transmissible form of SARS-CoV-2. Preprint. bioRxiv. 2020. Published 2020 May 05. doi: 10.1101/2020.04.29.069054.
- Daniloski Z, Guo X, Sanjana NE. The D614G mutation in SARS-CoV-2 Spike increases transduction of multiple human cell types. Preprint. bioRxiv. 2020. Published 2020 Jun 15. doi: 10.1101/2020.06.14.151357.

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5. Jin XI, Lian J-S, Hu J-H, et al. Epidemiological, clinical and virological characteristics of 74 cases of coronavirus-infected disease 2019 (COVID-19) with gastrointestinal symptoms. *Gut*. 2020; 69:1002–1009.
6. Mao R, Qiu Y, He J-S, et al. Manifestations and prognosis of gastrointestinal and liver involvement in patients with COVID-19: a systematic review and meta-analysis. *Lancet Gastroenterol Hepatol*. 2020;5:667–678.
7. Varga Z, Flammer AJ, Steiger P, et al. Endothelial cell infection and endotheliitis in COVID-19. *Lancet*. 2020;395:1417–1418.
8. Norsa L, Pietro B, Indriolo A, Valle C, Aurelio S, Sironi S. Poor outcome of intestinal ischemic manifestations of COVID 19 [published online ahead of print, 2020 Jun 19]. *Gastroenterology*. 2020;S0016-5085(20)34842-3. <https://doi.org/10.1053/j.gastro.2020.06.041>.
9. Tian Y, Rong L, Nian W, He Y. Review article: gastrointestinal features in COVID-19 and the possibility of faecal transmission. *Aliment Pharmacol Ther*. 2020;51:843–851.