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been compared with patients with SARS-CoV-2 infection alone. One of the major concerns for clinicians is whether COVID-19 patients with a specific disease have a more severe illness and a worse prognosis than those without, which is not provided in the current study.

In terms of the data presented in this study, the results of HBV DNA test have not been given, and therefore the clinical stage of included patients cannot be determined clearly. Because most patients in this study are likely to be classified as patients with hepatitis B e antigen-negative chronic HBV infection,<sup>2</sup> the clinical outcomes of patients with acute HBV infection or with active HBV replication remain unclear. Furthermore, the authors described the information of patients who took oral antivirals on admission. It is not clear whether these patients continued to take antivirals during hospitalization, which may affect patients' clinical outcomes. We also found that many antivirals, antibiotics, and steroids were used for treatment in this study, and the use of these drugs may further influence the results; drug-induced liver injury cannot be ruled out in this study.<sup>3</sup>

We suspect that immune dysfunction caused by chronic HBV infection may play an important role in the progression of disease in COVID-19 patients. Several studies showed that HBV persists with virus-specific and global T-cell dysfunction mediated by multiple regulatory mechanisms.<sup>2</sup> Furthermore, depressed immunity is manifested by decreased immune cell populations, and reduced CD4 (+) and CD8 (+) T-cell counts were predictive of disease progression in patients with COVID-19.<sup>4</sup> Thus, the presence of coinfection leading to possible immune disorders and suppression may influence the disease progression in COVID-19 patients. Because the current study did not present data on patients' immune function, more research is needed to confirm this hypothesis and explain the specific mechanism in the future.

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## Conflicts of interest

The authors disclose no conflicts.

## Most current article

<https://doi.org/10.1016/j.cgh.2020.07.068>

## Liver Function Should Be Monitored When Treating COVID-19 in Chronic HBV-Infected Patients



Dear Editor:

We appreciate the comment by Lv et al on our article. In our study, we aimed to describe the characteristics of liver function and its relationship with severity of disease and prognosis of patients with severe acute respiratory syndrome-associated coronavirus 2 (SARS-CoV-2) and chronic hepatitis B virus (HBV) coinfection. Therefore, only patients with SARS-CoV-2 and chronic HBV coinfection were enrolled. Although we did not compare coronavirus disease 2019 (COVID-19) patients with HBV coinfection and patients with SARS-CoV-2 infection alone in our study, Chen et al<sup>1</sup> found no significant differences in liver function parameters, discharge rate, length of stay, severity, and mortality between COVID-19 patients with and without HBV infection. We fully agree with the comment by Lv et al that "the clinical stage of included patients cannot be determined". Because of lack of baseline levels of alanine aminotransferase and HBV DNA, patients could not be grouped according to the chronic HBV infection phases. We acknowledged this in the limitations of our article. Thirteen patients had taken anti-HBV nucleotide/nucleoside analogue therapy on admission and during hospitalization. Because patients could have received several drugs for COVID-19 and

13.33% patients experienced liver injury after treatments, the association between drugs and liver injury could not be analyzed, as described in the limitations.

Despite the limitations, we found that patients with liver injury were more likely to experience poor prognosis including higher proportions of complications and death than patients without liver injury. Our results show that abnormalities in liver function should be taken seriously especially within the first week of admission. The mechanism underlying liver injury is yet unclear and needs to be further investigated. It has been reported that HBV reactivation could be caused by COVID-19.<sup>2</sup> HBV DNA should be monitored in patients with chronic hepatitis B.

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### Conflicts of interest

The authors disclose no conflicts.

### Funding

Supported by the Fundamental Research Funds for the Central Universities, China (2020kfyXGYJ087).

 **Most current article**

<https://doi.org/10.1016/j.cgh.2020.07.062>

## Effects of Apremilast, an Oral Inhibitor of Phosphodiesterase 4, in a Randomized Trial of Patients With Active Ulcerative Colitis



Dear Editor:

We read with interest the article by Danese et al<sup>1</sup> evaluating the effect of apremilast in active ulcerative colitis patients. This was a multicenter, double-blind,

randomized, controlled, phase II trial. We greatly appreciate the interest of testing novel oral therapeutic agents in ulcerative colitis. Because the immune system plays a major part in the development of inflammatory bowel disease, targeting specific sites at the molecular level is very much needed. Apremilast is an oral small-molecule phosphodiesterase 4 inhibitor, acts intracellularly to modulate inflammatory mediators, and 30-mg twice daily is approved for the treatment of patients with active psoriatic arthritis.<sup>2</sup> However, we have a few concerns.

In this study, patients with moderate to severe ulcerative colitis who were on corticosteroids ( $\leq 20$  mg prednisolone) and oral mesalamine drugs concurrently before randomization were included in this study. Therefore, it is possible that the clinical remission achieved in these patients could have been the result of the use of these concurrent medications, rather than the result of apremilast.

There were 2 groups of apremilast-treated patients based on dosage (30 and 40 mg). As expected, the treatment-related adverse effects were more common in the 40-mg dose group compared with the 30-mg dose group. However, quite surprisingly, secondary outcomes such as histologic remission, mucosal healing, median change in baseline high sensitivity C reactive protein occurred more in the 30-mg dose group compared with the 40-mg dose group. Danese et al<sup>1</sup> did not shed light on this curious observation and perhaps there are confounding factors that need careful introspection.

In conclusion, apremilast seems to be an exciting drug, but further randomized controlled studies are needed to confirm its efficacy in active ulcerative colitis patients.

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### Conflicts of interest

The authors disclose no conflicts.

 **Most current article**

<https://doi.org/10.1016/j.cgh.2020.02.038>



**Reply.** We thank Nittala and Singh for their interest and questions about our paper.<sup>1</sup> Regarding the authors' comment about patients participating in the study being allowed to be on concomitant aminosalicylates and corticosteroids (prednisone  $\leq 20$  mg/d or equivalent), it is important to recognize that these patients had to be on stable doses of these medications