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## Letters to the editor

**Association of liver steatosis and fibrosis with clinical outcomes in patients with SARS-CoV-2 infection (COVID-19)**


Dear Editor,

I read with great interest the research by Mendez et al. [1] mainly evaluated the association of liver steatosis and fibrosis with clinical outcomes in patients with SARS-CoV-2 infection (COVID-19). The authors' great efforts provide evidence for assessing the prognosis of COVID-19 patients, but the following questions need to be considered.

First, it should be emphasized that advanced liver fibrosis was defined as APRI > 1.0, NAFLD FS > 0.675 and/or FIB-4 > 3.25 in Mendez's study, and the final result exhibited that steatosis and significant liver fibrosis was not associated with adverse outcomes. In contrast, a study based on COVID-19 patients defined advanced liver fibrosis as FIB-4 ≥ 2.67, and the results presented that liver fibrosis was associated with poor prognosis in COVID-19 patients [2]. The above description indicates that different definitions of liver fibrosis based on FIB-4 will lead to different outcomes, and might be misunderstood by clinicians, which will ultimately be detrimental to improving the prognosis of COVID-19 patients. In my opinion, it is extremely important to describe the theoretical basis of liver fibrosis grouping and provide evidence from previous studies, which might help to reduce confounding bias.

Second, the results of this study indicated that elevated glucose levels were associated with higher risk of ICU admission (OR = 3.58, 1.05 to 12.2, P = 0.041) (Table 3). However, we are curious that this conclusion is for diabetes patients? Or for non-diabetes patients? Obviously, 15.5% of the participants included in this study had type 2 diabetes. Therefore, it is necessary to conduct subgroup analysis [3] according to diabetes in order to explore the association between elevated glucose levels and ICU admission risk.

Third, obesity is prevalent worldwide nowadays, with an incidence rate of 40% [4,5,6]. In addition, obesity has been shown to be an independent risk factor for a range of diseases, including COVID-19 patients [7]. A meta-analysis of nine studies revealed that obesity was associated with the severity of COVID-19 and was associated with poor prognosis [8]. However, the results of Mendez's study indicated that obesity is not associated with poor prognosis in COVID-19 patients, which is contrary to previous results.

Additionally, this conclusion is even easy to cause clinicians to pay less attention to obese patients. In my opinion, insufficient statistical power may explain why obesity is not associated with poor prognosis in COVID-19 patients.

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None.

**Conflict of interest**

The authors have no conflict of interest to declare.

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