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Letters to the editor

Renal and brain failure predict mortality of patients with acute-on-chronic liver failure admitted to the intensive care unit

Dear Editor,

We read with great interest the article by Guerrero et al. [1] mainly explored the important risk factors of mortality in patients with acute on chronic liver failure (ACLF) admitted to the intensive care unit. The results of this retrospective cohort study revealed that renal and brain failure could be used to predict 28-day and 90-day mortality. The results of this study are attention-grabbing, but we would like to point out the following issues.

First of all, it should be emphasized that obesity is a disease characterized by chronic low-grade inflammatory [2–4], which has been confirmed as a risk factor for numerous diseases, including ACLF [5]. A study based on the United Network for Organ Sharing (UNOS) database involving 387,884 participants exhibited that obese patients had a higher incidence of adverse events than non-obese patients [5]. More interestingly, the conclusions of this study also demonstrated that obese ACLF patients had a higher incidence of renal failure that non-obese ACLF patients [5]. However, obesity, as a crucial indicator commonly used in clinical practice, was not described in this study, which might be a limitation that cannot be ignored. Since there is a significant association between obesity and renal failure and prognosis in ACLF patients, how to confirm that renal failure is independently related to prognosis of CLF patients without controlling the confounding factor of obesity? In our opinion, it is essential to describe the body mass index (BMI) of the two groups (died or survived) and then adjust BMI as a confounding factor in Cox regression analysis.

Second, the use of vasopressor, mechanical ventilation and glucocorticoid are important treatment strategies for ICU patients in clinical practice, which are associated with mortality [6–8]. However, although vasopressin and mechanical ventilation were described (Table 1) in this study and glucocorticoids were not described, none of these factors were included in bivariate and multivariate cox regression analysis, which is a little confusing. Obviously, grade 3 patients had a higher rate of vasopressin use that grade 1/2 patients (97.6% versus 75.6%/ 48%, p = 0.001) (Table 1). Therefore, we think it would be better to describe why vasopressor use was not included in the subsequent multivariate regression analysis. Additionally, considering that mechanical ventilation also has an impact on mortality in clinical practice [9,10], although there is no significant difference between groups, we believe that mechanical ventilation should also be included in the regression analysis in order to obtain more accurate results.

Declaration of funding interests

None.

Conflict of interest

The authors have no conflict of interest to declare.

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