

## Letter to the Editor: Additional Factors to Consider When Studying Liver Injury Indicators and Mortality in COVID-19 Patients

### TO THE EDITOR:

In a recent issue of HEPATOLOGY, Lei et al.<sup>(1)</sup> conducted a multicenter retrospective cohort study that included 5,771 adult patients with coronavirus disease 2019 (COVID-19) pneumonia in Hubei Province. The purpose of the study was to evaluate the relationships between liver injury indicators (alanine aminotransferase [ALT], aspartate aminotransferase [AST], alkaline phosphatase, and total bilirubin) and mortality in patients with COVID-19. The authors considered the possibility that elevated liver injury indicators, particularly AST, are strongly associated with mortality risk. However, the association between liver injury indicators and mortality in patients with COVID-19 should be interpreted cautiously in light of the following issues.

Hepatitis B virus (HBV) is a common epidemic virus in the Chinese population, especially in adults. HBV infection can cause severe liver damage, including elevated serum enzymes ALT and AST. HBV infection also has a strong correlation with the development of cirrhosis and hepatocellular carcinoma (HCC).<sup>(2)</sup> Similar to HBV, hepatitis C virus (HCV) infection is on the rise and is also associated with the development of HCC.<sup>(3)</sup> However, whether patients have HBV and/or HCV infection is not discussed in the article.

In addition, inspired by the AASLD Expert Panel Consensus Statement,<sup>(4)</sup> lactate dehydrogenase (LDH) is an important indicator in liver injury. Several studies have reported that LDH might be a risk factor for the progression of patients infected with COVID-19.<sup>(5)</sup> However, I did not find any data about LDH in this

paper. It is my recommendation that LDH should be considered as an independent and/or joint indicator to assess the relationships between liver injury indicators and mortality in patients with COVID-19.

Yanqing Liu, M.D.   
 Department of Clinical Laboratory  
 Ningbo First Hospital  
 Ningbo, China

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Author names in bold designate shared co-first authorship.

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Potential conflict of interest: Nothing to report.

## Letter to the Editor: Perioperative Presentation of COVID-19 in a Liver Transplant Recipient

### TO THE EDITOR:

In a recent issue of Hepatology, Qin et al.<sup>(1)</sup> report a case of a 37-year-old patient with COVID-19 after

undergoing liver transplantation (LT) for hepatocellular carcinoma (HCC). While these are interesting data on the course of COVID-19 in an immunosuppressed patient, we would like to highlight some