Chronic liver disease and COVID-19: Management and recommendations- Chronic viral hepatitis

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The coronavirus disease 2019 (COVID-19) pandemic has been an unprecedented global health threat and challenge since December 2019. As of October 1st 2020, there are more than 33 million confirmed cases worldwide, and cause more than 1 million deaths.

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a novel beta-coronavirus, has been found to be associated with dysfunction or damage of liver tissue, and about 14% - 53% of COVID-19 cases showed abnormal levels of aspartate aminotransferase (AST) and alanine aminotransferase (ALT). The liver injury may be due to a direct effect of SARS-CoV-2, or an indirect effect following septic shock, multiorgan dysfunction, drug-related toxicity, immune-related hepatitis, or a systemic inflammatory responses (cytokine release or storm) of the COVID-19 syndrome. The liver function elevation is usually mild in COVID-19 diseases, and usually recovers without treatment. In clinical practice, we need to differentiate the onset of abnormal liver function, whether it occurs at the time of diagnosis, or during treatment. Because COVID-19 can be transmitted from asymptomatic carriers, unexplained abnormal liver function should alert the physicians to consider the screening of COVID-19 if subjects with possible travel or contact history. Liver injury is more prevalent in severe COVID-19 cases (e.g. ICU admission) than mild cases, so liver function could be considered as an indicator of disease progression.

The prevalence of chronic liver disease in COVID-19 patients ranges from 2%-11%. COVID-19 patients with HBV co-infection were more prone to develop liver damage with more adverse outcomes and mortality. A recent study including 15 patients with chronic hepatitis B and COVID-19 showed that they had higher total bilirubin level, and developed more severe presentation (46.7% vs. 24.1%), and a higher mortality rate (13.3% vs. 2.8%) compared with those without HBV infection.

The American Association for the Study of Liver Diseases has proposed recommendations for the practicing hepatologists and their patients during the COVID-19 outbreak. The ongoing antiviral therapy for HBV and HCV should be continued, but the initiation of direct acting antiviral therapy for HCV patients may be delayed until the recovery from COVID-19 infection. Initiating

treatment of hepatitis B in a patient with COVID-19 is not contraindicated and should be considered if there is clinical suspicion of a hepatitis B flare or when initiating immunosuppressive therapy. The surveillance of HCC in at risk patients may be reasonably postponed for 2 months because the doubling time for HCC is 4-6 months. The liver procedures of ultrasonography or liver biopsy may be postponed in non-urgent cases. The initiation of immunosuppressants in patients with liver disease (e.g. autoimmune hepatitis [AIH], or graft rejection) should follow stringent indications of treatment. The immunosuppressants should be continued in AIH or transplanted patients. Regarding liver transplantation, the donor should be confirmed SARS-CoV-2 RNA negative, while the transplantation should be not delayed for recipients in urgent need.

The COVID-19 pandemic may influence the global control of chronic viral hepatitis. The negative economic effects of the pandemic will exert extra pressure on viral hepatitis related public health initiatives, and endangering the elimination of viral hepatitis in the near future.