Letter to the Editor: Autoimmune Hepatitis and Coronavirus Disease 2019: Disease Outcomes and Tacrolimus Use

TO THE EDITOR:

I welcome the results reported by Efe and colleagues.[1] This study broadens our understanding regarding the prognostic outcomes and disease severity of patients with autoimmune hepatitis (AIH) infected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The following two points should be highlighted: (1) the nonsignificance and magnitude of differences in prognostic outcomes between patients with AIH and patients with non-AIH chronic liver disease (CLD); (2) the potential broader use of tacrolimus in patients with AIH with coronavirus disease 2019 (COVID-19).

First, patients with AIH had lower rates of overall mortality, severe COVID-19, supplemental oxygen use, and hospitalization than patients with non-AIH CLD. These correlations were nonsignificant. This might be attributable to either (1) the inclusion of predominantly female subjects in the AIH cohort and/or (2) the pathophysiological similarities between AIH and major non-AIH CLD etiologies. Regarding (1), 80% of the AIH cohort were female; however, male patients with COVID-19 were more prone to intensive care unit admission and death.[2] The predominance of female subjects in the cohort may have contributed to better clinical outcomes; unfortunately, this cannot be confirmed because anthropometric characteristics of the non-AIH CLD cohort were not disclosed.

Moreover, the pathophysiological similarities between AIH and the major etiologies of non-AIH CLD may lead to nonsignificance in outcomes. According to Marjot and colleagues,[3] alcoholic liver disease (ALD) and metabolic-associated fatty liver disease (MAFLD) were the most common etiologies in the non-AIH CLD cohort. While AIH is pathophysiologically defined as autoantibody-driven hepatic inflammation, ALD increases inflammation through hepatocyte death and increased microbial autotransplantation by elevated intestinal permeability.[4] In MAFLD, lipid overflow-induced mitochondrial dysfunction and enhanced oxidative stress induce lipoapoptosis, leading to hepatic inflammation.[5] Also, patients with non-AIH CLD might be treated with immunosuppressive agents (e.g., steroids) to avoid hyperinflammation in severe COVID-19. Most patients with AIH also maintained immunosuppressive therapy during COVID-19 (62.7%). Thus, the nonsignificant difference in survival outcomes between the two groups can be explained by the attainment of similar levels of immunosuppression during COVID-19.

Secondly, tacrolimus can potentially be used for immunosuppression in patients with AIH with COVID-19. AIH is largely treated by corticosteroids and azathioprine. In a real-world-experience study, over half of patients with AIH who used calcineurin inhibitor as second-line/third-line therapy (due to azathioprine/steroid intolerance or incomplete response) achieved normalization of serum aminotransferases.[6] Because tacrolimus shows protection against COVID-19, its use in patients with AIH might be encouraged. Unfortunately, only 5 patients in this study used tacrolimus (none used tacrolimus monotherapy). More studies are required to analyze the clinical relevance of tacrolimus in patients with AIH with COVID-19.

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