

Prevalence and Clinical Significance of Antiphospholipid Antibodies in COVID-19 Patients Admitted to Intensive Care Units

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Abstract : Background: Coronavirus disease 2019 (COVID-19) increases the risk of coagulopathy among critically ill patients. Although the presence of antiphospholipid antibodies (aPLs) has been proposed as a possible mechanism of COVID-19 induced coagulopathy, their clinical significance among critically ill patients with COVID-19 remains uncertain. Methods: This prospective observational study included patients with COVID-19 admitted to intensive care units (ICU) to evaluate the prevalence and clinical significance of aPLs, including anticardiolipin IgG/IgM, anti- β 2-glycoprotein IgG/IgM, and lupus anticoagulant. The study outcomes included the prevalence of aPLs, a primary composite outcome of all-cause mortality, and arterial or venous thrombosis among aPLs positive patients versus aPLs negative patients during their ICU stay. Multiple logistic regression was used to assess the influence of aPLs on the primary composite outcome of mortality and thrombosis. Results: A total of 60 critically ill patients were enrolled. Of whom, 57 (95%) were male, with a mean age of 52.8 ± 12.2 years, and the majority were from Asia (68%). Twenty-two patients (37%) were found to have positive aPLs; of whom 21 patients were positive for lupus anticoagulant, whereas one patient was positive for anti- β 2-glycoprotein IgG/IgM. The composite outcome of mortality and thrombosis during ICU did not differ among patients with positive aPLs compared to those with negative aPLs (4 (18%) vs. 6 (16%), aOR= 0.98, 95% CI 0.1-6.7; p-value= 0.986). Likewise, the secondary outcomes, including all-cause mortality, venous thrombosis, arterial thrombosis, discharge from ICU, time to mortality, and time to discharge from ICU, did not differ between those with positive aPLs upon ICU admission in comparison to patients with negative aPLs. Conclusion: The presence of aPLs does not seem to affect the outcomes of critically ill patients with COVID-19 in terms of all-cause mortality and thrombosis. Therefore, clinicians may not screen critically ill patients with COVID-19 for aPLs unless deemed clinically appropriate.

Keywords : antiphospholipid antibodies, critically ill patients, coagulopathy, coronavirus

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