Prevalence and Clinical Significance of Antiphospholipid Antibodies in Hospitalized Patients with COVID-19 Infection

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Introduction: The pathophysiology of coronavirus disease 2019 (COVID-19) may involve both arterial and venous thromboembolic events; however, current literature shows variance in incidence. Previous literature suggests that the presence of antiphospholipid antibodies (APA) is an important factor for thrombosis in COVID-19 patients. This single-institution retrospective study aims to find if the prevalence of APA in COVID-19 patients has any clinical significance.

Methods: Two cohorts were made based on APA status of the patients (APA positive & APA negative) and were statistically compared. The criteria for the APA positive group include patients with positive titers for lupus anticoagulant or abnormal APA antibodies. A Mann-Whitney U-test for continuous variables or a Fisher’s exact test for categorical variables was used to compare prognostic outcomes and laboratory values for the two groups.

Results: No significant difference in demographics was found between the two groups. 39.3% of patients hospitalized with COVID-19 were APA+ and APA positive status is significantly higher in smokers. No statistically significant difference was found in six-month mortality between the two groups. It was statistically found that APA+ patients had a higher nadir of C-reactive protein lab values and a lower nadir of absolute lymphocyte count.

Conclusion: While some laboratory values differ between the two groups, prognostic outcomes of patients were not statistically different between the APA positive and APA negative patients. Currently

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it is unknown if antiphospholipid antibodies have a role in the pathogenicity of COVID-19 and further studies are needed to determine their role in thrombotic events in these patients.