New-Onset Atrial Arrhythmias Predict Mortality in Black and White Patients Hospitalized with COVID-19

Lilas Dagher[1], Hanyuan Shi[1], Yan Zhao[1], Andrew Wetherbie[1], Erik Johnsen[1], Deep Sangani[1], Saihariharan Nedunchezhian[1], Margo Brown[1], Peter Miller[1], Joshua Denson[1], John Schieffelin[1], and Nassir Marrouche[1]

[1]Tulane University School of Medicine

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Abstract

Background: Specific details about cardiovascular complications, especially arrhythmias, related to COVID-19 are not well described. Objective: We sought to evaluate the incidence and predictive factors of cardiovascular complications and new-onset arrhythmias in Black and White hospitalized COVID-19 patients and determine the impact of new-onset arrhythmia on outcomes. Methods: We collected and analyzed baseline demographic and clinical data from COVID-19 patients hospitalized at the Tulane Medical Center in New Orleans, Louisiana, between March 1st and May 1st, 2020. Results: Among 310 hospitalized COVID-19 patients, the mean age was 61.4 ± 16.5 years, with 58,7% females, and 67% Black patients. Black patients were more likely to be younger, have diabetes and obesity . The incidence of cardiac complications was 20%, with 9% of patients having new-onset arrhythmia. There was no significant difference in cardiovascular outcomes between Black and White patients. D-dimer levels positively correlated with cardiac and new-onset arrhythmic event . New onset atrial arrhythmias predicted in-hospital mortality (OR=2.99 95% CI [1.35;6.63], p=0.007), a longer intensive care unit length of stay (mean of 6.14 days, 95% CI [2.51;9.77], p=0.001) and mechanical ventilation duration(mean of 9.08 days, 95% CI [3.75;14.40], p=0.001). Conclusion: Our results indicate that new onset atrial arrhythmias are commonly encountered in COVID-19 patients and can predict in-hospital mortality. Early elevation in D-dimer in COVID-19 patients is a significant predictor of new onset arrhythmias. Our finding suggest continuous rhythm monitoring should be adopted in this patient population during hospitalization to better risk stratify hospitalized patients and prompt earlier intervention.

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