

Atrial Arrhythmia in Hospitalized Patients with COVID-19

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Abstract

Introduction: There is growing evidence that COVID-19 can cause cardiovascular complications. However, there are limited data on the characteristics and importance of atrial arrhythmia (AA) in patients hospitalized with COVID-19. **Methods:** Data from 1029 patients diagnosed with of COVID-19 and admitted to Columbia University Medical Center between March 1st and April 15th 2020 were analyzed. The diagnosis of AA was confirmed by 12 lead electrocardiographic recordings, 24-hour telemetry recordings and implantable device interrogations. Patients' history, biomarkers and hospital course were reviewed. Outcomes of death, intubation and discharge were assessed. **Results:** Of 1029 patients, 82 (8%) were diagnosed with AA. Out of the 82 patients with AA. Of the AA patients, new-onset AA was seen in 46 (56%) patients, recurrent paroxysmal and chronic persistent were diagnosed in 16 (20%) and 20 (24%) individuals, respectively. Sixty-five percent of the patients diagnosed with AA (n=53) died. Patients diagnosed with AA had significantly higher mortality compared to those without AA (65% vs. 21%; $p < 0.001$). Predictors of mortality were older age (Odds Ratio (OR) =1.12, [95% Confidence Interval (CI), 1.04 to 1.22]); male gender (OR=6.4 [95% CI, 1.3 to 32]); azithromycin use (OR=13.4 [95% CI, 2.14 to 84]); and higher D-dimer levels (OR=2.8 [95% CI, 1.1 to 7.3]). **Conclusions:** Patients diagnosed with AA had 3.1 times significant increase in mortality rate versus patients without diagnosis of AA in COVID-19 patients. Older age, male gender, azithromycin use and higher baseline D-dimer levels were predictors of mortality.

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