



AC022

Adult Cardiology & Clinical Cardiovascular Medicine • Poster Presentation

COVID-19 & CARDIAC ARRHYTHMIAS: A SYSTEMATIC REVIEW AND META-ANALYSES

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BACKGROUND Coronavirus disease has evolved from being recognized primarily as a respiratory illness to a multisystemic disease with significant cardiovascular involvement. Among its cardiac complications, arrhythmias have gained particular attention due to their association with adverse patient outcomes. The objective of this study was to synthesize existing evidence on the clinical outcomes associated with cardiac arrhythmias in COVID-19 patients.

METHODOLOGY A comprehensive search was conducted for studies published between December 2019 and August 2024. Cohort, case-control, cross-sectional studies, and clinical trials reporting incident arrhythmias in COVID-19 patients were included. Case reports, reviews, editorials, and studies involving arrhythmias unrelated to COVID-19 were excluded. Data extraction, quality assessment, and meta-analyses were conducted in accordance with PRISMA 2020 guidelines.

RESULTS Sixty-nine studies involving 6,216,653 patients from 31 countries were included. Mean age was 58.51 ± 20.86 years. 73.16% were male. Hypertension (36.6%) and diabetes mellitus (22%) were the most common comorbidities. The predominant arrhythmias were sinus tachycardia (39.6%) and atrial fibrillation (35.7%). The pooled mortality rate was 26.4% (95% CI: 20.7%-33.1%), while ICU admission was 36.9% (95% CI: 26.3%-48.8%). Patients with arrhythmia had significantly higher odds of mortality than those without arrhythmia (pooled OR: 2.584, 95% CI: 2.265-2.949).

CONCLUSION Cardiac arrhythmias in COVID-19 are associated with increased mortality and ICU utilization, highlighting the importance of continuous cardiac monitoring and early recognition to improve patient outcomes.

Keywords: Cardiac Arrhythmias, COVID-19, Intensive Care Unit (ICU), Mortality