

COVID-19 associated Brugada pattern electrocardiogram: systematic review of case reports

K.C. Chen, A.Z. Rathore, T. Deol, K.L. Liu, E.W. Wu, J.S. Su, T.W. Wannenburg, J.N.C. Catanzaro

University of Florida College of Medicine, Cardiology, Jacksonville, United States of America

Funding Acknowledgement: Type of funding sources: None.

Objective: To summarize published case reports of patients diagnosed with COVID-19 infection and Brugada pattern electrocardiogram (ECG).

Background: Fever is a common clinical manifestation of COVID-19 infection. Fever has also been associated with unmasking Brugada pattern ECG in patients and may result in life-threatening arrhythmia. Little is known regarding COVID-19 associated Brugada pattern ECG. There is paucity of data and guidance in how to manage these patients.

Methods: To identify all published case reports, the latest Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist was followed. A literature search was conducted using PubMed, EMBASE, and Scopus through September 2021. A systematic review was performed to identify the incidence, clinical characteristics, and management outcomes of COVID-19 patients with a Brugada pattern ECG.

Results: A total of 18 cases were collected. The mean age was 47.1 years and 11.1% were women. No patient had prior confirmed diagno-

sis of Brugada syndrome. The most common presenting clinical symptoms were fever (83.3%), chest pain (38.8%), shortness of breath (38.8%), and syncope (16.6%). All 18 patients presented with type 1 Brugada pattern ECG. Four patients (22.2%) underwent left heart catheterization, and none demonstrated the presence of obstructive coronary disease. The most common reported therapies included antipyretics (55.5%), hydroxychloroquine (27.7%), and antibiotics (16.6%). One patient (5.5%) died during hospitalization. Three patients (16.6%) who presented with syncope received either an implantable cardioverter defibrillator or wearable cardioverter defibrillator at discharge. At follow up, thirteen patients (72.2%) had resolution of type 1 Brugada pattern ECG.

Conclusion: COVID-19 associated Brugada pattern ECG is rare. Most patients may see resolution of the ECG pattern once their symptoms have improved. Increased awareness and timely use of antipyretics is warranted in this population.