COVID-19 for Cardiologists

Many patients with coronavirus disease 2019 (COVID-19) have underlying cardiovascular (CV) disease or develop acute cardiac injury during the course of the illness. Adequate understanding of the interplay between COVID-19 and CV disease is required for optimum management of these patients.

METHODS: A literature search was done using PubMed and Google search engines to prepare a narrative review on this topic.

RESULTS: Respiratory illness is the dominant clinical manifestation of COVID-19; CV involvement occurs much less commonly. Acute cardiac injury, defined as significant elevation of cardiac troponins, is the most commonly reported cardiac abnormality in COVID-19. It occurs in approximately 8-12% of all patients. Direct myocardial injury due to viral involvement of cardiomyocytes and the effect of systemic inflammation appear to be the most common mechanisms responsible for cardiac injury. The information about other CV manifestations in COVID-19 is very limited at present. Nonetheless, it has been consistently shown that the presence of pre-existing CV disease and/or development of acute cardiac injury are associated with significantly worse outcome in these patients.

CONCLUSIONS: Most of the current reports on COVID-19 have only briefly described CV manifestations in these patients. Given the enormous burden posed by this illness and the significant adverse prognostic impact of cardiac involvement, further research is required to understand the incidence, mechanisms, clinical presentation and outcomes of various CV manifestations in COVID-19 patients [1)].

Guidance for Cardiac Electrophysiology During the Coronavirus (COVID-19) Pandemic from the Heart Rhythm Society COVID-19 Task Force; Electrophysiology Section of the American College of Cardiology; and the Electrocardiography and Arrhythmias Committee of the Council on Clinical Cardiology, American Heart Association [2)].

1)
Bansal M. Cardiovascular disease and COVID-19. Diabetes Metab Syndr. 2020 Mar 25;14(3):247-250. doi: 10.1016/j.dsx.2020.03.013. [Epub ahead of print] PubMed PMID: 32247212.

2)
Lakkireddy DR, Chung MK, Gopinathannair R, Patton KK, Gluckman TJ, Turagam M, Cheung J, Patel P, Sotomonte J, Lampert R, Han JK, Rajagopalan B, Eckhardt L, Joglar J, Sandau K, Olshansky B, Wan E, Noseworthy PA, Leal M, Kaufman E, Gutierrez A, Marine JM, Wang PJ, Russo AM. Guidance for Cardiac Electrophysiology During the Coronavirus (COVID-19) Pandemic from the Heart Rhythm Society COVID-19 Task Force; Electrophysiology Section of the American College of Cardiology; and the Electrocardiography and Arrhythmias Committee of the Council on Clinical Cardiology, American Heart Association. Heart Rhythm. 2020 Apr 1. pii: S1547-5271(20)30289-7. doi: 10.1016/j.hrthm.2020.03.028. [Epub ahead of print] PubMed PMID: 32247013.