

Conduction System Disease and Atrioventricular Block in Victims of COVID-19

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Abstract : Background: Electrophysiological-related manifestation of COVID-19 is a matter of debate in the literature nowadays. A wide spectrum of arrhythmias was observed among patients who have been infected with COVID-19. Objectives: This study discussed the prevalence of arrhythmias and conduction system disease in patients with COVID-19. Method: In this retrospective study, demographic and electrocardiographic data of 432 expired COVID-19 patients who had been admitted to Faghihi Hospital of Shiraz University of Medical Sciences from August 2020 until December 2020 were reviewed. Results: Atrioventricular nodal block (AVB) was found in 40(9.3%) patients. Furthermore, 28(6.5%) of them suffered from the first degree of AVB, and 12(2.8%) suffered from complete heart block (CHB). Among 189 cases (59.0%), ST-T changes agreed with myocardial infarction or localized myocarditis. Findings of myocardial injury, including fragmented QRS and prolonged QTc were observed among 91 (21.1%) and 28 (6.5%), respectively. In victims of COVID-19, conduction disease was not related to any comorbidities. Fragmented QRS, axis deviation, presence of S1Q3T3, and poor R wave progression were significantly related to conduction system abnormalities in victims of COVID-19 (P-value > 0.05). Conclusion: Our findings can serve in future studies that aim to develop a risk stratification method for susceptible COVID-19 patients. The myocardial injury appears to role significantly in COVID-19 morbidity and mortality. Consequently, we recommend health policymakers consider separate catheterization laboratories that provide service only to COVID-19 patients.

Keywords : COVID-19, conduction system, ECG, atrioventricular block

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