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Spotlight on Special Topics

PREVALENCE AND CHARACTERISTICS OF MYOCARDIAL INJURY DURING COVID-19 PANDEMIC

Poster Contributions

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Background: Coronavirus disease 2019 (COVID-19) is a pandemic disease that is causing a public health emergency. According to limited information on cardiac complication of COVID-19, characteristics and clinical significance of myocardial injury remain unclear.

Methods: This retrospective single-center study analyzed all 758 patients in whom hs-TnI was determined in our hospital from 20 February 2020 to 09 April 2020. One hundred-eighty nine of these patients received SARS-CoV-2 diagnosis. Demographic data, laboratory findings, comorbidities, and treatments were collected and analyzed in patients with COVID 19.

Results: A total of 189 hospitalized patients with COVID-19 were included in the final analysis. The median age was 66 years old (SD 12) and 61 (32.35%) were female. During the stay, a total of 28 patients (14.8%) needed admission in Intensive Care Unit and 32 patients (13.7%) died. The prevalence of myocardial injury in our COVID-19 population is of 16% (31 subjects out of 189). The patients with cardiac injury were older and had a greater number of cardiovascular comorbidities; in addition, they had higher values of acute phase and inflammatory markers and leucocytes. This group of patients required more frequently hospitalization in ICU and the mortality rate was significantly higher. A multiple regression analysis was carried out to investigate whether hs-TnI could significantly predict the degree of COVID-19 disease: hs-TnI and CRP contributed significantly to the model. In addition, we included 189 patients with complete data for all variables (32 non-survivors and 151 survivors) in the multivariable logistic regression model. We found that hs-TnI at admission, older age and CRP levels were associated with increased odds of death.

Conclusion: Myocardial injury is prevalent in patients affected by SARS-CoV-2 and is associated with older age and cardiovascular comorbidities. In this study we demonstrate a high positive predictive value of hs-TnI for disease severity and in-hospital death. Therefore, it may be reasonable to use high sensitivity troponin as a screening tool in COVID-19 population in order to triage them into high and low risk groups.