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Spotlight on Special Topics

COVID-19 AND HEART: ASSESSMENT OF TROPONIN AND CARDIOVASCULAR COMORBIDITIES AS PROGNOSTIC MARKERS IN PATIENTS HOSPITALIZED FOR COVID-19 IN A TERTIARY CENTER IN BRAZIL

Poster Contributions

For exact presentation time, refer to the online ACC.22 Program Planner at <https://www.abstractsonline.com/pp8/#!/10461>

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Background: Recent studies have demonstrated the impact of elevated cardiac troponin-T (cTnT) levels and the presence of cardiovascular comorbidities on the prognosis of patients with COVID-19, however, the Brazilian population has been underrepresented in these studies. Our study evaluates the correlation of cTnT levels with comorbidities and in-hospital outcomes in patients with COVID-19 in Brazil.

Methods: Data from a cohort of 3777 patients admitted with COVID-19 in a Brazilian tertiary center, between March and August 2020, were reviewed. 2531 (67%) patients had cTnT determined in the first 24 hours of admission and were stratified into two groups: elevated cTnT (> 0.014 ng/ml) and normal cTnT. Associations between troponin, comorbidities, biomarkers and outcomes were assessed. Regression models were built to assess the association of several variables with in-hospital mortality.

Results: 1373 (54%) men, with a mean age of 59 ± 17 years, were embraced. 971 (38%) had normal cTnT and 1560 (62%) had elevated cTnT. Patients with elevated cTnT were older (63 ± 16 vs 52 ± 16 years, $P < 0.001$) and had more comorbidities, such as cardiovascular disease, hypertension, diabetes, smoking, arrhythmia, renal dysfunction, liver disease, stroke, cancer and dementia ($P < 0.001$). Patients with abnormal cTnT also had significantly ($P < 0.001$) altered laboratory parameters on admission (leukocytes, C-reactive protein, D-dimer and BNP) as well as more need for ICU, vasoactive drugs, mechanical ventilation, dialysis, and blood transfusion. All-cause mortality was higher among patients with increased cTnT than those with normal levels (42% vs 16%, $P < 0.001$). Multiple regression analysis demonstrated that in-hospital mortality was independently associated with hypertension ($P < 0.003$), dialysis ($P < 0.001$), age above 70 years ($P = 0.004$) and obesity ($P = 0.018$); but not with troponin elevation ($P = 0.161$), nor when considering higher values (>3x upper limit of normality, $P = 0.076$).

Conclusion: Admissional cTnT elevation was common and associated with several comorbidities, biomarkers and clinical outcomes in patients hospitalized with COVID-19, but was not an independent marker of in-hospital mortality.