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## Spotlight on Special Topics

### RELATIONSHIP BETWEEN ADMISSION TROPONIN AND OUTCOMES IN CRITICALLY ILL PATIENTS WITH HEART DISEASE AND 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:** Troponin (cTnT) is a marker of severity in critically ill patients, as well as the presence of cardiovascular comorbidities. Studies have shown an association between this biomarker and a worse prognosis in patients with COVID-19. The aim of this study was to evaluate the relationship between cTnT and mortality in critically ill cardiac patients with COVID-19 in a referral center intensive care unit (ICU) in Brazil.

**Methods:** We analyzed data from a prospective registry of patients admitted to a tertiary hospital ICU for COVID-19 between March and June 2020. During this period, 1501 patients were admitted, 221 had heart disease and 166 had cTnT dosed at admission and were included in this sub-analysis. The relationship between cTnT and outcomes was assessed using the Wilcoxon test.

**Results:** Patients had a mean age of  $66 \pm 15$  years with 61 (31.7%) women. There were 117 (70.5%) with hypertension, 80 (48.1%) with diabetes, 17 (10.2%) with COPD and 45 (27.1%) with chronic kidney disease. Upon admission to the ICU, 77 (46.4%) required mechanical ventilation and 81 (48.8%) needed vasoactive drug. The SAPS 3 score was  $66.2 \pm 16.2$ , with an estimate mortality of  $47 \pm 25\%$ . We observed 85 deaths (51.2%) in the ICU and 92 (55.4%) during hospitalization. Non-survivors had higher median cTnT levels than survivors (0.044; IQ 0.021-0.115 vs. 0.088; IQ 0.034-0.189;  $p=0.003$ ). cTnT modestly discriminated survivors from non-survivors (c-statistics 0.64). Other outcomes such as need for hemodialysis, occurrence of atrial fibrillation and supraventricular or ventricular arrhythmias were not associated with baseline cTnT levels. Higher levels of cTnT was associated with higher SAPS 3 score ( $p<0.01$ ). Echocardiogram was performed in 45 patients. In those with left ventricular ejection fraction (LVEF) less than 40% ( $n=19$ ), higher admission levels of cTnT was associated with mortality (median 0.0335 IQ 0.023-0.046 vs. 0.099 IQ 0.04-0.149,  $p<0.05$ ). Baseline troponin was also associated with length of ICU stay ( $p<0.05$ ) and length of hospital stay ( $p<0.001$ ).

**Conclusion:** In critically ill cardiac patients with COVID-19, admission cTnT was modestly associated with mortality, especially in those with LVEF less than 40%.