Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

ACC22
APRIL 2 - 4 | WASHINGTON, DC

1849
JACC March 8, 2022
Volume 79, Issue 9, suppl A

Spotlight on Special Topics

TROPONIN ELEVATION AS A MANIFESTATION OF COVID-19 MYOCARDIAL INFLAMMATION ASSOCIATED WITH INCREASED MORTALITY

Moderated Poster Contributions
Special Topics Moderated Poster Theater_Hall C
Monday, April 4, 2022, 2:00 p.m.-2:10 p.m.

Session Title: The Crystal Ball: Clinical Characteristics, Bio-markers and Imaging to Predict Outcomes in COVID-19
Abstract Category: 61. Spotlight on Special Topics: Coronavirus Disease (COVID-19)
Presentation Number: 1120-17

Authors: *Sneha Limaye, Charles Thomas, Aisha Siraj, Vidya Krishnan, Case Western Reserve University - MetroHealth Campus, Cleveland, OH, USA*

Background: SARS-CoV-2 causes multi-organ dysfunction including coronavirus-19 disease (COVID-19) myocardial inflammation, though this term exists without clear standardized criteria. Different biomarkers have been reported but not fully understood in terms of mortality. This retrospective multicenter study examined the biomarkers that are elevated in patients with COVID-19 and identified those that may portend an increased risk of mortality.

Methods: The VIRUS registry is a de-identified database maintained by Mayo Clinic and Society for Critical Care Medicine that we have been granted access for requested data. This multicenter database was queried for troponin, lactic acid, CRP, D-dimer, mortality, and other risk factors found to be associated with severe COVID-19 disease. Multivariable logistic regression was performed to identify association of variables with mortality and severity of disease. Confounders, including sex and race, were explored.

Results: In the VIRUS registry dataset, 1137 patients met the criteria of having recorded values for troponin, lactate, CRP, and D-dimer. Elevated troponin, lactate, CRP, and age were associated with increased mortality in the multivariable logistic model. Troponin values were divided into three groups: 0 - 0.04, 0.04 - 100, and > 100. When compared to the reference standard group 3, groups 1 and 2 were not associated with higher mortality by adjusted log odds ratios of 0.241 (0.135, 0.432) and 0.389 (0.223, 0.679), respectively. Group 3 demonstrated association with increased mortality. D-dimer and race had no association with mortality.

Conclusion: These large retrospective multicenter data suggest that group 3 elevated troponin in patients suffering from COVID-19 disease is an independent risk factor for mortality. The association between group 3 elevated troponin and mortality suggest that myocardial inflammation may manifest with elevated troponin of greater than 100 in severe COVID-19 disease. We are continuing to study the association of elevated troponin and echocardiographic findings in these patients as it pertains to outcomes.