In-Hospital Mortality and Outcomes in Hospitalized Patients with Myocardial injury and COVID-19 Infection

Khalil Odett, Ana Cristina Perez Moreno, Viviana Zochiver, Fekadesilassie Moges, Michael Peterson, Ashley Maimeline, Katie Busniewski, Jon Wrobel, Hui Yang, Sara Walczak, Suhail Allaqaband, A. Jamil Tajik, Bijoy Khandheria and M. Fuad Jan
Aurora Cardiovascular Services, Aurora Sinai / St. Luke’s Medical Centers, University of Wisconsin School Medicine and Public Health, Milwaukee, WI, USA

BACKGROUND
Outcomes of myocardial injury (reflected by troponin elevation) in hospitalized US patients with coronavirus disease-2019 (COVID-19) suffers from absence of large sample size data. The purpose of this study was to describe the degree of myocardial injury and associated adverse outcomes in a large hospitalized laboratory-confirmed COVID-19 cohort with manual chart review.

METHODS
Patients with COVID-19 admitted to any of 19 Midwest network hospitals between Feb. 27 and Oct. 3, 2020 with troponin-I measured within 24 h of admission were included. Demographics, medical histories, admission laboratory results, and outcomes were captured from the electronic health records.

RESULTS
• The median age was (62.2) years, with (47.7 %) females.
• Troponin was measured in 3,607 patients of a total cohort of 4,425 patients on admission (81.5%).
• Any troponin elevation was found in 1,489 patients (41.2%).
• Cardiovascular disease (CVD), including coronary/peripheral artery disease, atrial fibrillation/flutter, hypertension, diabetes, stroke and heart failure, was more prevalent in patients with higher troponin concentrations as was an elevated CRP, D-dimer and thrombocytopenia.
• A total of 409 (9.2%) patients died during hospitalization.
• After adjusting for disease severity and relevant clinical factors, even mild myocardial injury (i.e., troponin I >0.03 to 0.09 ng/ml) was found to be an independent predictor of in-hospital mortality in patients with COVID-19.

CONCLUSION
Myocardial injury is prevalent among patients hospitalized with COVID-19 and seen largely in patients with CVD. Troponin elevation among patients hospitalized with COVID-19 is associated with higher risk of mortality.

DISCLOSURE INFORMATION
All authors have no financial conflict of interest related to this study.