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TCT-63

North American COVID-19 Myocardial Infarction (NACMI) Risk Score for Prediction of In-Hospital Mortality



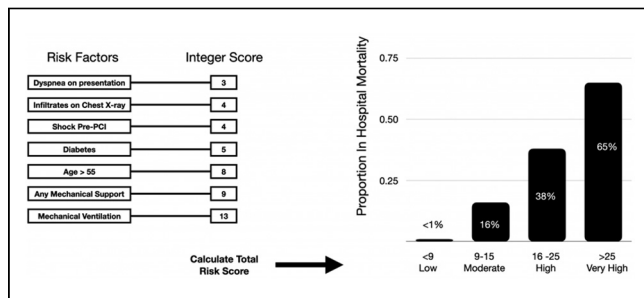
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BACKGROUND Although in-hospital mortality for COVID-confirmed (COVID+) patients presenting with ST-elevated myocardial infarction (STEMI) is high, its predisposing risk factors—and, in particular, the cumulative risk rendered by their combination—is unknown. We sought to develop a risk score of in-hospital mortality in COVID+ patients presenting with STEMI.

METHODS Baseline clinical and procedural characteristics of COVID+ patients presenting with STEMI in the North American COVID-19 Myocardial Infarction (NACMI) registry were evaluated as univariable predictors of in-hospital mortality. A backwards, stepwise, logistic regression was used to create a multivariable model to identify independent predictors of in-hospital mortality with an inclusion P value < 0.1. Based on the model, 7 identified variables (age > 55, shock pre-PCI, dyspnea on presentation, diabetes, mechanical ventilation, dyspnea on presentation, infiltrates on chest x-ray, and cardiopulmonary mechanical support) were assigned a weighted integer; the sum of the integers was a total risk score of in-hospital mortality for each patient.

RESULTS The overall occurrence of in-hospital mortality in 370 COVID-19+ cases presenting with STEMI was 28%. In-hospital mortality increased exponentially with increasing risk score (Cochran Armitage chi-square, P < 0.001), and the model demonstrated good discriminative power (C-statistic = 0.85). The increasing risk score was strongly associated with in-hospital mortality (range < 1% to 65% for a low- and very high-risk score, respectively; see Figure 1).



CONCLUSION The risk of in-hospital mortality in COVID+ patients presenting with STEMI can be simply assessed using readily available information.

CATEGORIES CORONARY: Acute Myocardial Infarction

TCT-64

Racial Differences and In-Hospital Mortality Associated With Stress-Induced Cardiomyopathy During the COVID-19 Pandemic



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BACKGROUND Multiple studies have shown a significantly increased incidence of stress-induced cardiomyopathy (SICM) during the COVID-19 pandemic, likely owing to the psychosocial, economic, and physical stressors imposed on people's lives. Our aim is to study the incidence of SICM and its anatomic variants during the COVID-19 pandemic and to evaluate the impact of demographic, social, and economic factors.

METHODS We performed a retrospective analysis of patients admitted to the 3 Mayo Clinic centers (Minnesota, Arizona, Florida) between January 1, 2020, and December 31, 2020. Patients with SICM were identified using the ICD-10 code I51.81. All patients with SICM were divided into COVID-19-positive and COVID-19-negative groups for comparison. Patients who were not tested were excluded.

RESULTS A total of 197 patients (mean age 67.4 ± 15.1 years, 72.6% female, 9.1% COVID-19 positive) were diagnosed with SICM during the 1-year study period. Overall, patients with SICM had median lengths of stay (LOS) of 6 days, in-hospital mortality rate of 12.2%, and a 30-day readmission rate of 22.8%. A lower proportion of Whites (77.8% vs 99.2%) and Hispanics (0.0% vs 2.2%) and a higher proportion of Blacks (5.6% vs 3.9%), Asians (5.6% vs 1.1%), and American Indians (5.6% vs 0.0%) with SICM were COVID-19 positive, and this racial difference was statistically significant (P = 0.02). Interestingly, the mortality rate was lower (11.1% vs 10.6%, P = 0.05) in patients with SICM and COVID-19. The 2 groups were not significantly different for marital status, insurance type, anatomic variants, left ventricular ejection fraction, and 30-day readmission rates.

Patient characteristics	All patients (N = 197)	COVID-19 positive (N = 18)	COVID-19 negative (N = 179)	P value
Women, N (%)	143 (72.6)	12 (66.7)	131 (73.2)	0.583
Race N (%): White, Black, Hispanic, Asian American, Indian, Alaskan Native/unknown	179(90.9) 8 (4.1) 4 (2.0) 3 (1.5) 1 (0.5) 2 (1.0)	14(77.8) 1 (5.6) 0 (0.0) 1 (5.6) 1 (5.6) 1 (5.6)	165(92.2) 7 (3.9) 4 (2.2) 2 (1.1) 0 (0.0) 1 (0.6)	0.024
Marital status: married, single	116 (58.9) 81(41.1)	11(61.1) 7 (38.9)	105 (58.7) 74 (41.3)	1.000
Insurance, N (%) public, private, uninsured	153 (77.7) 41 (20.8) 3 (1.5)	14(77.8) 4 (22.2) 0 (0.0)	139 (77.7) 37 (20.7) 3 (1.7)	1.000
SICM variant, N (%) Apical, midventricular, basal	168(85.3) 17 (8.6) 12 (6.1)	15(83.4) 2 (11.1) 1 (5.6)	153(85.5) 15 (8.4) 11 (6.1)	0.865
LVEF (%), mean ± SD	37.3 ± 10.6	36.8 ± 10.9	37.3 ± 10.6	0.849
30-day readmission, N (%)	45 (22.8)	2 (11.1)	43 (24.0)	0.375
In-hospital mortality, N (%)	24 (12.2)	5 (11.1)	19 (10.6)	0.050

SD = standard deviation.

CONCLUSION SICM usually occurs in the 6th to 7th decade of life and has a higher incidence in women. Racial minorities with SICM were disproportionately affected during the pandemic with a higher incidence of COVID-19. However, in-hospital mortality rates were lower in COVID-19- positive patients with SICM.

CATEGORIES STRUCTURAL: Congenital and Other Structural Heart Disease

TCT-65

Characteristics of COVID-19 Patients With Thrombosis and Impact on Clinical Outcomes



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