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☆ **Spotlight on Special Topics**

CORONARY ARTERY CALCIFICATION HERALDS ADVERSE CLINICAL OUTCOMES IN PATIENTS HOSPITALIZED FOR COVID-19

Poster Contributions
Saturday, May 15, 2021, 9:45 a.m.-10:30 a.m.

Session Title: Spotlight on Special Topics: COVID 1
Abstract Category: 61. Spotlight on Special Topics: Coronavirus Disease (COVID-19)

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Background: Patients with coronary artery disease (CAD) are considered at higher risk of adverse outcomes from COVID-19. Therefore, we assessed the presence of coronary artery calcification (CAC), a surrogate marker of CAD, on chest computed tomography (CT) scan in predicting morbidity and mortality outcomes.

Methods: We performed a retrospective study of 253 patients hospitalized with COVID-19 in 3 medical centers (New York State and Texas) from 3/2020 to 5/2020. A total of 73 patients who had chest CT during index hospitalization or within 1 year were included. The presence of CAC was determined on chest CT and its association with outcomes was assessed via univariate and multivariate analyses.

Results: The mean age of the total cohort was 60 ± 18 years; 53% were female, and 14% had known CAD. A total of 35 (47.9%) patients had CAC on chest CT, and they were older and had a higher prevalence of CAD, heart failure, hypertension, dyslipidemia, and tobacco use, compared to patients without CAC. The presence of CAC was significantly associated with acute coronary syndrome, respiratory failure, need for intensive care, acute kidney injury, and in-hospital mortality on univariate analysis, but CAC was not an independent predictor for those outcomes on multivariate analysis.

	Non-CAC group n (%)	CAC group n (%)	Univariate analysis p-value	Adjusted Odds Ratio [95% CI]; p-value
Acute coronary syndrome	1 (2.6)	7 (20)	0.017	5.96 [0.61-57.31]; p=0.14
Stroke/TIA	2 (5.3)	4 (11.4)	0.564	
ICU admission	14 (36.8)	24 (68.6)	0.006	1.62[0.47-5.50]; p=0.34
Rate of Shock	10 (26.3)	11 (31.4)	0.620	
Need for vasopressors	10 (26.3)	10 (28.6)	0.829	
Respiratory failure	23 (60.5)	30 (85.7)	0.015	1.60 [0.38-6.66]; p=0.44
Mechanical Ventilatory support	9 (23.7)	9 (25.7) *	0.840	
Acute kidney injury	10 (26.31)	20 (57.14)	0.007	1.93[0.55-6.67]; p=0.36
Need for hemodialysis	5 (13.15)	5 (14.28)	0.888	
Incidence of heart failure	2 (5.26)	6 (17.14)	0.104	
Thromboembolic events (other than stroke or acute coronary syndrome/MI)	3 (7.89)	1 (2.85)	0.344	
Overall mortality	6 (15.78)	15 (42.85)	0.010	2.51 [0.68-9.29]; p=0.28

*6/15 (40%) patients were DNR/DNI before death, therefore were not intubated.
TIA= transient ischemic attack; ICU=intensive care unit; MI= myocardial infarction

Conclusion: The presence of CAC on CT in patients hospitalized for COVID-19 is associated with adverse in-hospital outcomes. Further studies with larger patient cohorts are needed to assess if CAC is an independent predictor of clinical outcomes.