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Spotlight on Special Topics

CORONARY MICROVASCULAR HEALTH IN PATIENTS WITH PRIOR COVID-19 INFECTION: IMPLICATIONS FOR LONG-COVID SYNDROME

Moderated Poster Contributions
Special Topics Moderated Poster Theater_Hall C
Saturday, April 2, 2022, 2:15 p.m.-2:25 p.m.

Session Title: The Effects of COVID-19 on Cardiac Vascular Structure and Function
Abstract Category: 61. Spotlight on Special Topics: Coronavirus Disease (COVID-19)
Presentation Number: 1036-06

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Background: SARS-CoV-2 infection has been shown to directly infect coronary vascular endothelium, causing inflammation and plaque instability. We aimed to assess the vascular health of patients with prior COVID-19 using Positron emission tomography (PET) derived coronary flow reserve (CFR).

Methods: A prospective cohort of consecutive patients with PCR confirmed prior COVID-19 infection undergoing clinically indicated PET myocardial perfusion imaging were included and compared to patients with no prior COVID-19. CFR was determined by PET and microvascular dysfunction (CMD) was defined as $CFR < 2$.

Results: The study population consisted of 2316 patients (4.4% prior COVID-19, 52% male, mean age 67 ± 12 years, 55% hypertensive, 32% diabetic, 41% dyslipidemia). The mean duration between COVID-19 diagnosis and PET was 191 (± 131) days. CMD was more prevalent in those with prior COVID-19 (58% vs 46%, $p=0.012$). After adjusting for baseline and clinical characteristics, patients with prior COVID-19 had statistically significant higher odds of CMD (OR 1.8, $p=0.008$). Results were consistent in subgroups of patients with no clinical risk factors and normal stress tests.

Conclusion: Our analysis shows that patients with prior COVID-19 have higher rates of CMD. This may in part explain the long-COVID symptoms. The prognostic implications of these findings need to be determined.