

Clinical and social determinants of health features of SARS-CoV-2 infection among Black and

Caribbean Hispanic patients with heart failure: The SCAN-MP Study

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Frederick L. Ruberg, MD Section of Cardiovascular Medicine, Boston Medical Center 72 E. Concord St. Boston, MA 02118 Phone: 617-638-8968 Fax: 617-638-8969 Email: frruberg@bu.edu Abstract:

Background: Patients with heart failure (HF) often have multiple comorbidities and are at increased risk for severe disease/mortality when infected by SARS-CoV-2. Disparities in outcomes with COVID-19 have been associated with race/ethnicity and social determinants of health. Among older, urban-dwelling, minority patients with HF, we sought to characterize medical and non-medical factors associated with SARS-CoV-2.

Methods: Patients with HF living in Boston and NYC over 60 years old participating in the Screening for Cardiac Amyloidosis with Nuclear Imaging (SCAN-MP) study between 12/1/2019 and 10/15/2021 (n=180), were tested for antibodies to SARS-CoV-2 and queried for symptomatic infection with PCR verification. Baseline testing included the Kansas City Cardiomyopathy Questionnaire (KCCQ), assessment of health literacy, biochemical, functional capacity, echocardiography, and a novel survey tool that determined living conditions, perceived risk of infection, attitudes towards COVID-19 mitigation, and socio-economic conditions was assessed by the area deprivation index (ADI).

Results: There were 50 cases of SARS-CoV-2 (28%), including 40 demonstrating antibodies and 10 positive PCR tests. These groups didn't overlap. The first case from NYC indicated infection prior to 01/07/2020. Among active smokers, none tested positive for prior SARS-CoV-2 (0 (0%) vs. 20 (15%), p=0.004) vs. non-smokers. Cases were more likely to be taking ACE-inhibitors/ARBs vs. non-cases (78% vs 62%, p=0.04). Over a mean follow-up of 9.6 months, there were 6 deaths (3.3%) all unrelated to COVID-19. Death and hospitalizations (n=84) were not associated with incident (PCR tested) or prior SARS-CoV-2. There was no difference in age,

comorbidities, living conditions, attitudes toward mitigation, health literacy, or ADI between those with and without infection.

Conclusions: SARS-CoV-2 was common among older, minority patients with HF living in NYC and Boston, with first documented infection before 01/07/2020. Health literacy and ADI were not associated with infection, and there was no increased mortality or hospitalizations among those infected.