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anonymous survey, adapted from the validated Telehealth Usability Questionnaire, was developed and distributed electronically to the UCLA heart transplant selection committee. Quantitative and qualitative descriptive analyses were performed. **Results:** Of 83 committee members queried, 46 (55%) responded. 50% were non-physician members and 50% were physician members, including 48% cardiologists, 13% anesthesiologists, and 9% surgeons. Over a 6 week period, there was a 5% increase in the average number of attendees from in-person to video meetings. Respondents were satisfied with the ease of use, interface quality, and interaction quality of the video conference system, except for the ability to see meeting attendees. Overall, respondents were satisfied with video meetings, agreeing that they could contribute effectively and achieve their goals over video. However, if given the choice, 54% still preferred the in-person format. Respondents did not feel that video meetings impacted patient care, such as ability to clarify clinical questions, create management plans, and determine and/or update transplant listing status. Multitasking, technology integration, and location convenience were the predominant positive aspects of video meetings, while communication was the main negative, including inability to see attendees, audio interruptions and barriers to communication flow. Communication and clinical decision-making were the predominant positive aspects of in-person meetings (Figure). **Conclusions:** The transition from in-person to remote video conference heart transplantation selection committee meetings during the COVID-19 era has been well-received and does not appear to affect committee members' perception of their ability to deliver patient care. Future, longer-term studies are needed to evaluate the impact of video meetings on transplant-related outcomes.

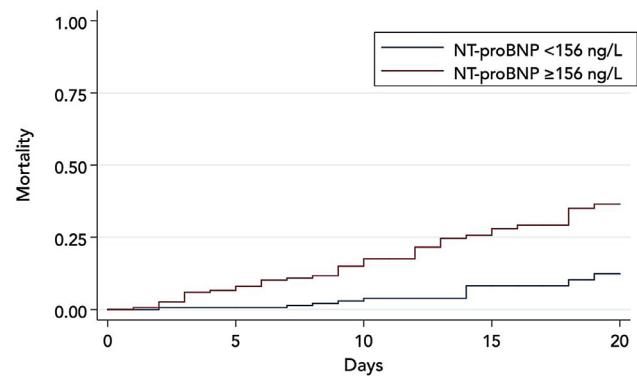


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N-Terminal Pro-B-Type Natriuretic Peptide and Mortality in Patients without Heart Failure Hospitalized with Severe Covid-19 Pneumonia

Jeanwoo Yoo, Aikaterini Papamanoli, Prabhjot Grewal, Jacquelyn Nakamura, Simrat Dhaliwal, Jenny Fung, Robin Jacob, Joshua Abata, Jessica Hotelling, Nikitha Karkala, Sahil Rawal, Alexandra Coritsidis, To Tsui, Hal Skopicki, Luis A. Marcos, Andreas Kalogeropoulos; Stony Brook University, Stony Brook, NY

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection has been associated with myocardial damage. N-terminal pro-B-type natriuretic peptide (NT-proBNP) levels have been reported to be elevated and to portend worse outcomes among patients hospitalized with coronavirus disease 2019 (COVID-19). The value of NT-proBNP in COVID-19 patients without heart failure (HF) is unclear, and data from the United States are limited. We reviewed the medical records of 304 adults without history of HF admitted to Stony Brook University Hospital, Long Island, NY, from March 1 to April 15, 2020 with documented severe COVID-19 pneumonia requiring high-flow oxygen therapy (non-rebreather mask, Venturi mask with $\text{FiO}_2 > 50\%$, or high-flow nasal cannula). We excluded patients transferred already intubated from outside hospitals and those who were intubated or died within 24h of admission. NT-proBNP was measured with a standard Roche Diagnostics assay with a 5-ng/L limit of detection. Follow-up data were collected until death or hospital discharge or 30 days if still in the hospital by database lock (May 15, 2020). The primary endpoint was all-cause mortality and the secondary endpoint was death or need for intubation. The association of NT-proBNP with the endpoints was evaluated with multivariable Cox regression models. Mean age was 60 ± 17 years; 95 (31.2%) of patients were female; 156 (51.3%) were White, 103 (33.9%) Hispanic, 22 (7.2%) Black, and 21 (6.9%) Asian; 91 (29.9%) had diabetes, 39 (12.8%) coronary artery disease (CAD), and 27 (8.9%) atrial fibrillation (AF); mean body mass index (BMI) was $30.3 \pm 6.5 \text{ kg/m}^2$. On admission, mean O_2 saturation (O_2SAT) was $89 \pm 8\%$ and median NT-proBNP was 156 ng/L (44-729). After a median of 12 days (8-20), 74 patients (24.3%) died and 59 more (19.4%) were intubated and survived to hospital discharge. Baseline NT-proBNP was strongly associated with mortality. In models adjusting for age, sex, race, diabetes, CAD, AF, BMI, and baseline O_2SAT , every log-2 (doubling) of NT-proBNP was associated with 29% higher risk (HR 1.29; 95%CI: 1.17-1.43; $P < 0.001$). The association of baseline NT-proBNP with the composite of death or intubation was weaker (HR 1.09; 95%CI: 1.01-1.18; $P = 0.25$). Among patients hospitalized with severe COVID-19 pneumonia, admission NT-proBNP is a strong predictor of mortality. Elevated NT-proBNP levels may identify a subgroup of patients in need of cardioprotective therapy.



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A Case of Suspected Covid 19 Related Cardiomyopathy

Tamari A. Miller, Sara Kalantari, Jonathan Grinstein, Ann Nguyen, Bow Young Chung, Nitasha Sarswat, Gene Kim, Urooba Nadeem, Aliya Husain, Luise Heddy Holzhauser, Natasha Mehta, Viktoriya Kagan, Colleen Labuhn, Valluvan Jeevanandam, Tae Song, Bryan Smith; The University of Chicago Medicine, Chicago, IL

Background: The novel SARS-CoV-2 virus causing COVID-19 has been associated with diverse cardiovascular pathology. We present a case of cardiomyopathy due to possible COVID-19 resulting in cardiogenic shock.

Case: A 54 year-old male presented to the hospital with 4 weeks of progressive dyspnea, leg swelling, and weight gain. His symptoms began 4 weeks after experiencing influenza-like symptoms after a trip to China during the height of their COVID-19 outbreak. He was admitted to the COVID unit in cardiogenic shock and was later intubated for acute hypoxic respiratory failure. Laboratory data demonstrated acute kidney injury, elevated transaminases, lactic acidosis, elevated pro-BNP N-Terminal to 3932 pg/mL, and high sensitivity troponin to 72 ng/L. Transthoracic echocardiogram showed severe biventricular failure with a LVEF of 10% and a LVIDd 5.2cm. SARS-CoV-2 RNA was negative twice, but SARS-CoV-2 IgG AB and SARS-CoV-2 IgA AB were positive. Urgent right and left heart catheterization was performed demonstrating non-obstructive coronary artery disease and hemodynamics consistent with cardiogenic shock. While supported with an intra-aortic balloon pump (IABP) and norepinephrine, he had a fick cardiac output 3.1 L/min, fick cardiac index 1.6 L/min/m², pulmonary capillary wedge pressure 37 mmHg, right atrial pressure 25 mmHg, and pulmonary arterial pressures 65/40 mmHg. Given persistent cardiogenic shock on IABP and inotropes, he was later transitioned to Veno-Arterial Extracorporeal Membrane Oxygenation (VA ECMO) and an Impella CP for left ventricular unloading. He continued to have persistent INTERMACS I shock and underwent successful implantation of a HeartMate 3 LVAD with percutaneous temporary right ventricular assist device (RVAD). Pathology of the left ventricular apical core demonstrates polyclonal endocardial infiltration of B-Cells, CD4 and CD8 positive T-Cells, eosinophils, macrophages, and plump reactive endothelial cells (Figure 1). He is currently recovering in the ICU off of vasoactive support with subsequent removal of percutaneous RVAD. **Conclusion:** This is a suspected case of COVID-19 associated cardiomyopathy presenting as new on-set heart failure with reduced ejection fraction complicated by cardiogenic shock. There is still much to learn about the cardiac manifestations of COVID-19 and further studies are needed to determine appropriate diagnostics and management of such cases.

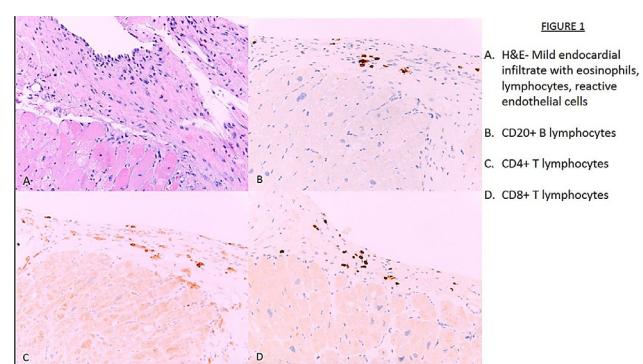


Figure 1.