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CARDIAC RELATED COVID-19 RESEARCH HIGHLIGHTED AT THE ASE SCIENTIFIC SESSIONS

Durham, NC, June 17, 2021 – A new original science category being featured at the [ASE 2021 Scientific Sessions Virtual Experience](#), June 18-21, 2021, focuses on the utilization of echocardiography (cardiac ultrasound) and the indication for echocardiography in COVID-19. Three research studies being presented show the broad scope echocardiography plays in diagnosis and ongoing evaluation and treatment of this novel virus.

Patients hospitalized with COVID-19 often have abnormal transthoracic echocardiogram (TTE) findings. However, researchers from Cedars-Sinai Medical Center in Los Angeles, CA, recognized that not all TTE abnormalities result in changes in clinical management and performing TTEs in recently infected patients is resource intensive and increases risks of disease transmission.

Lead author on the study *Determining Which Hospitalized COVID-19 Patients Require an Urgent Echocardiogram*, Stephanie Wu, MD, said, "During the COVID pandemic, we evaluated the benefits of performing an echocardiographic study in relationship to the risk of exposure and transmission of disease to medical staff. While hospitalized patients with acute COVID-19 pneumonia may have abnormal echocardiographic findings, not all of these findings lead to changes in clinical management. We found that the combination of normal cardiovascular biomarkers, substances that are released into the blood when the heart is damaged or stressed, like troponin and B-type natriuretic peptide levels, was an effective screening method to determine in which patients' echocardiograms could be safely delayed until after their most infectious window has passed. This simple screening method reduced the risk of exposure to staff without compromising patient care."

The second COVID-19 presentation being featured focuses on the use ultrasound enhancing agents (UEAs or contrast echocardiography) in COVID-19 patients. The use of UEAs does not expose patients to radiation and also saves significant exposure time for those performing TTEs in hospitalized COVID-19 patients. Dylan Sperling, MD, a second-year Internal Medicine resident at the Icahn School of Medicine at Mount Sinai, was the lead author on *Significant Diagnostic Impact of Ultrasound Enhancing Agents on the Performance of Transthoracic Echocardiograms in COVID-19 Patients*. He said, "Hospitalized patients with COVID-19 infection present a diagnostic challenge for cardiac ultrasound (TTE) due to significant lung and/or heart problems. Additionally, because of potential contagion, healthcare personnel performing TTEs should limit their exposure as much as possible to these patients. We previously demonstrated that performance of TTE with UEAs took significantly less time when compared to unenhanced imaging in patients hospitalized with COVID-19. In our current study of the same population, we found that administration of UEAs provided new, clinically diagnostic information in 45 percent of patients – findings that were not visualized on unenhanced imaging. This was particularly evident in those with severe lung disease. Our findings support the expedited use of UEAs with TTE in

hospitalized COVID-19 patients to improve diagnostic yield and limit the exposure of sonographers and physicians performing the exam."

The final research study being highlighted focuses on the various cardiovascular events resulting from COVID-19 including atrial fibrillation/flutter. Patients with atrial fibrillation/flutter are at significantly increased risk of stroke, heart failure, and death. Researchers at Johns Hopkins University aimed to compare echocardiographic measures of the function of the left atrium, an important filling chamber of the heart, between hospitalized COVID-19 patients and COVID-negative patients with critical illness or respiratory disease.

Lead author on *Impaired Left Atrial Function in Patients with COVID-19 and its Association with Atrial Arrhythmias* Erin Goerlich, MD, said, "We found that on echocardiogram, the left atrium of the heart – one of the top chambers which accepts blood from the lungs and delivers it downwards to the left ventricle and subsequently out to the body – had severely abnormal heart function in COVID-19 patients. This abnormality was even worse in COVID-19 patients who went on to develop an abnormal heart rhythm, specifically, atrial fibrillation or atrial flutter, while in the hospital. This is an important finding because an abnormal left atrial strain value on echocardiogram may be a helpful clue in determining which patients are at highest risk for atrial fibrillation and atrial flutter. Thus, finding abnormal left atrial function in a COVID-19 patient may be a reason to start blood thinners to reduce this risk. It would also suggest that COVID-19 survivors should pay close attention to their heart rates and symptoms after hospital discharge. Anyone currently infected with or recovered from COVID-19 should alert their physician to any abnormally fast heart rates or palpitations, as this could lead to further important cardiac testing and treatment."

These posters will be presented as a part of the ASE 2021 Scientific Sessions online, June 18-21, 2021. To schedule an interview with any of the authors, please contact [Angie Porter](#).

About ASE

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