

INCIDENCE OF DEPRESSED SYSTOLIC FUNCTION AMONGST PEDIATRIC PATIENTS WITH ACUTE COVID19 INFECTION

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Background: Multi-System Inflammatory Syndrome in children (MIS-C) is known to cause cardiac dysfunction in pediatric patients following a SARS-CoV-2 infection. The timing of the development of cardiac dysfunction is currently unknown. The aim of our study was to quantify the incidence of depressed systolic function on cardiac Point of Care Ultrasound (POCUS) among pediatric patients with acute SARS-CoV-2 infection upon presentation to the ED. We hypothesized that patients with SARS-CoV-2 infection would have a greater incidence of depressed cardiac function on cardiac POCUS.

Materials/Methods: Children aged 0 -18 seen at the Main and West Campus pediatric emergency departments at Texas Children's Hospital from May 2020 – May 2021 were either prospectively or retrospectively enrolled. Cardiac POCUS results, clinical data, and laboratory data were evaluated for patients presenting as PUI for SARS-CoV-2. Patients with known pre-existing depressed cardiac function, ongoing cardiac arrest, and those diagnosed with MIS-C were excluded. The incidence of depressed myocardial function and pericardial effusion amongst pediatric patients with acute SARS-CoV-2 infection was quantified.

Results: A total of 931 patients had a cardiac POCUS in the ED during the study enrollment period. 581 patients met exclusion criteria. A total of 350 patients had a cardiac POCUS and COVID PCR sent at the time of their ED visit. 113 were enrolled prospectively in the ED, and 237 enrolled retrospectively through chart review. Amongst enrolled patients, 69 were COVID positive (19.7%), and 281 were COVID negative (80.2%). Of the 69 COVID positive patients zero had depressed cardiac function and one had pericardial effusion on cardiac POCUS. Of the 281 COVID negative patients, 15 had depressed cardiac function and 13 had a pericardial effusion.

Conclusions: The incidence of depressed cardiac function was not higher amongst COVID positive patients as compared to COVID negative patients. These findings suggest that depressed cardiac function or pericardial effusion are not a part of the presentation of acute SARS-CoV-2 infection in pediatric patients.

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