**Supplementary Table 1**. Demographic Characteristics of 102 patients with SARS-CoV-2 infection

|  |  |
| --- | --- |
| **Characteristic** | **N (%) or median [IQR]** |
| COVID-19 related admission to CICU | **76 (75)** |
| SARS-CoV-2 incidental finding during CICU admission | **26 (26)** |
| Age, median (IQR), y | 13.2 [6.6 – 16.0] |
| Age group (years)  < 1 (Newborn and Infant)  1-3 (Toddler)  3 – 6 (Preschool)  6 – 12 (School age)  12 – 21 (Adolescent)  > 21 years (Adult) | 11 (11)  9 (9)  5 (5)  22 (22)  45 (44)  10 (10) |
| Weight at admission (kg) | 45.1 [21.6 – 79.3] |
| Height at admission (cm) | 145.7 [114.8 – 164.7] |
| BSA at admission (m2) | 1.32 [0.81 – 1.83] |
| BMI at admission (kg/m2) | 21.1 [18.0 – 29.9] |
| Male | 54 (53) |
| Race  Caucasian  African-American  Asian  Other  Unknown | 70 (69)  23 (23)  2 (2)  5 (5)  2 (2) |
| Hispanic/Latino  Unknown | 69 (68)  4 (4) |
| Prior location to Cardiac ICU  Outside hospital transfer  Emergency department/Direct admission  Hospital/Subspecialty floor  Operating room  Pediatric ICU | 28 (27)  38 (37)  13 (13)  3 (3)  20 (20) |
| COVID-19 + contact on PMHx | 22 (22) |
| COVID-19 PCR + on admission  Not tested | 69 (68)  5 (5) |
| COVID-19 PCR + at any time during hospital stay  Not tested | 82 (80)  3 (3) |
| COVID-19 IgM + on admission  Not tested | 36 (35)  23 (23) |
| COVID-19 IgM + at any time during hospital stay  Not tested | 41 (40)  20 (20) |
| COVID-19 IgG + during ICU encounter  Not tested | 55 (54)  30 (29) |
| Preexisting Comorbidities (# not mutually exclusive)  Congenital heart disease at time of admission  Single ventricle physiology  Biventricular physiology  Acquired heart disease  Status post Heart transplantation  Cardiomyopathy  Known previous Arrhythmia  None  Medically complexa  Immune suppression/malignancy  Obesity  Malignancy  Diabetes  Seizures  Sickle cell disease  Chronic lung disease  Other congenital malformations | 14 (14)  5 (5)  9 (9)  15 (15)  5 (5)  3 (3)  7 (7)  32 (31)  22 (22)  15 (15)  26 (26)  6 (6)  5 (5)  17 (17)  3 (3)  5 (5)  11 (11) |

a Defined as children who had a long-term dependence on technological support (including tracheostomy) associated with developmental delay and/or genetic anomalies.

**Supplementary Table 2**. Comparison of Severe/Critical Disease vs Mild/Moderate Disease at Initial Presentation

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristic** | **Mild/**  **Moderate disease**  **n (%)** | **Severe/**  **Critical disease**  **n (%)** | **p value (RR [CI])** |
| Primary presentation(# not mutually exclusive)  Asymptomatic  Respiratory  Gastrointestinal  Neurological  Cardiovascular  Cardiovascular with shocka  Other | 1 (6)  8 (50)  6 (38)  3 (19)  9 (56)  2 (13)  6 (38) | 1 (2)  33 (55)  41 (68)  17 (28)  39 (65)  36 (60)  18 (30) | 0.38  0.78  0.04 (1.33 [1.00-1.77])  0.54  0.57  <0.01 (1.50 [1.16-1.93])  0.56 |
| Primary diagnosis(# not mutually exclusive) MIS-C  Myocarditis Cardiogenic shockb Arrhythmia  COVID Pneumonia  Other | 3 (19)  3 (19)  1 (6)  1 (6)  3 (19)  7 (44) | 40 (67)  4 (7)  31 (52)  7 (12)  17 (28)  8 (13) | <0.01 (1.53 [1.15-2.05])  0.16  <0.01 (1.47 [1.18-1.83])  1.00  0.54  0.01 (0.63 [0.39-1.02]) |
| Laboratory Values | | | |
| Abnormality of  WBC (10^3/uL), (n=72)  Platelet (10^3/uL), (n=73)  LDH (U/L), (n=58)  CRP (mg/dL), (n=67)  Procalcitonin (ng/mL), (n=62)  Ferritin (ng/mL), (n=64)  Troponin I (ng/mL), (n=58)  BNP (pg,mL), (n=56)  PT (sec), (n=61)  PTT (sec), (n=62)  Fibrinogen (mg/dL), (n=67)  D-Dimer (ug/mL), (n=65)  Creatinine (mg/dL), (n=73) | 2 (15)  2 (15)  6 (75)  7 (64)  2 (20)  4 (44)  7 (70)  7 (64)  4 (40)  4 (36)  5 (50)  8 (80)  1 (7) | 14 (24)  9 (15)  34 (68)  54 (96)  31 (60)  36 (66)  28 (58)  23 (51)  25 (49)  23 (45)  47 (82)  53 (96)  10 (17) | 0.72  1.00  1.00  <0.01 (2.7 [0.85-8.26])  0.04 (1.29 [1.02-1.65])  0.27  0.72  0.52  0.73  0.74  0.04 (1.35 [0.94-1.96])  0.11  0.68 |
| EKG  Interventricular conduction delay  Ventricular hypertrophy  ST elevation  T wave inversion  Prolonged QTc  Low voltage | 3 (20)  4 (27)  2 (13)  1 (7)  0  0 | 5 (10)  2 (4)  7 (14)  4 (8)  3 (6)  4 (8) | 0.37  0.02 (0.41 [0.13-1.27])  1.00  1.00  1.00  0.57 |
| Echo (EF)c  Normal  Mildly depressed  Moderately depressed  Severely depressed | 8 (50)  2 (13)  1 (6)  0 | 28 (47)  13 (22)  5 (8)  4 (7) | 0.67 |
| ECHO - coronary artery dilatation present in patients with coronary assessmentd (n= 35) | 1 (6) | 9 (15) | 0.65 |

a Defined as requiring inotropic support (Epinephrine or Milrinone) within 2 hours of admission

b Cardiogenic shock was defined as the need for inotropic support and depressed LV systolic function on echocardiogram

c EF < 30% severely depressed, 30% - 40% moderately depressed, 40% - 48% mildly depressed, > 48% normal

d Coronary dilation defined as a z-score ≥ 2.0