**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) |
| RaceCaucasianAfrican-AmericanAsianOtherUnknown | 70 (69)23 (23)2 (2)5 (5)2 (2) |
| Hispanic/Latino Unknown | 69 (68)4 (4) |
| Prior location to Cardiac ICUOutside hospital transferEmergency department/Direct admissionHospital/Subspecialty floorOperating roomPediatric 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 physiologyAcquired heart disease Status post Heart transplantation Cardiomyopathy Known previous Arrhythmia NoneMedically complexaImmune suppression/malignancyObesityMalignancyDiabetesSeizuresSickle cell diseaseChronic lung diseaseOther 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)AsymptomaticRespiratoryGastrointestinalNeurologicalCardiovascularCardiovascular with shockaOther | 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) | 0.380.780.04 (1.33 [1.00-1.77])0.540.57<0.01 (1.50 [1.16-1.93])0.56 |
| Primary diagnosis(# not mutually exclusive)MIS-CMyocarditisCardiogenic shockbArrhythmiaCOVID PneumoniaOther | 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])1.000.540.01 (0.63 [0.39-1.02]) |
| Laboratory Values |
| Abnormality ofWBC (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) | 0.721.001.00<0.01 (2.7 [0.85-8.26])0.04 (1.29 [1.02-1.65])0.270.720.520.730.740.04 (1.35 [0.94-1.96])0.110.68 |
| EKG  Interventricular conduction delay Ventricular hypertrophy ST elevation  T wave inversion Prolonged QTc Low voltage | 3 (20)4 (27)2 (13)1 (7)00 | 5 (10)2 (4)7 (14)4 (8)3 (6)4 (8) | 0.370.02 (0.41 [0.13-1.27])1.001.001.000.57 |
| 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