

# Supplemental Information

SUPPLEMENTAL TABLE 3 Demographics, Epidemiology, and Clinical Presentation

Characteristic	Patient																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Region	Europe	Europe	Europe	Europe	Europe	Europe	North America	North America	North America	North America	South America	South America	South America	South America	South America	South America	South America
Age, y	13	6	0.17	14	18	4	11	0.5	17	6	0.13	0.25	0.08	3	3	5	0.8
Sex	Male	Male	Female	Male	Male	Female	Female	Male	Male	Male	Male	Female	Male	Female	Female	Male	Male
Exposures	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Known COVID-19 positive	+	—	+	—	—	+	—	—	—	—	—	—	—	—	—	—	—
Travel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Comorbidities	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
None	+	+	+	—	—	+	—	—	—	—	—	—	+	—	—	—	—
Respiratory	—	—	—	—	—	—	—	—	—	+	—	—	—	—	—	—	—
Cardiac	—	—	—	—	—	—	—	+	—	—	—	—	—	—	—	—	+
Renal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Neurologic	—	—	—	—	—	—	+	—	—	—	—	—	—	—	—	+	—
Immune	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	Obese	Cancer, chemotherapy	—	—	—	Immune	Obese	Premature	Airway malacia	—	Congenital liver disease	Congenital liver disease	Short bowel	Trisomy 21
Presentation	2	4	1	5	0 in hospital	4	8	2	6	2	5	7	3	7	2	3	1
Days of symptoms before admission	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Symptoms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever	+	+	+	+	+	+	+	+	+	—	—	—	—	+	+	+	—
Cough	—	—	—	—	—	—	+	+	+	+	+	+	+	+	+	—	—
Dyspnea	—	—	—	—	+	—	+	—	+	+	—	+	—	—	—	—	+
Rhinorrhea and/or congestion	—	—	—	—	—	—	+	—	+	+	—	+	+	—	—	—	+
Sneezing	—	—	—	—	—	—	+	—	—	—	—	—	—	—	—	—	—
GI symptoms	—	+	+	+	—	+	—	+	+	—	—	—	—	—	—	—	—
Rash	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	Neurologic	—	—	Anuria	—	Abdominal pain	Neurologic	—	—	—	—	Stridor, food rejection	—	—	—	—	Food rejection

+, positive; —, negative; —, not applicable.

**SUPPLEMENTAL TABLE 4** Presentation and Treatment Details of Patients Diagnosed With Myocarditis

Patient 2	
Presentation	Fever and vomiting, which progressed to dyspnea Electrocardiogram revealed type I atrioventricular block with right axis deviation, which prompted cardiac concern.
Cardiac imaging	Echocardiogram revealed biatrial dilation, severe tricuspid regurgitation, and biventricular hypokinesis with an ejection fraction of 37%.
Laboratory	Troponin I 1.12 ng/mL; brain natriuretic peptide 20 518 pg/mL; viral panel negative
Treatments	Epinephrine infusion, furosemide, IVIg
Patient 3	
Presentation	Fever, vomiting, diarrhea; severe tachycardia >200 beats per min and laboratory values prompted cardiac concern.
Cardiac imaging	Echocardiogram revealed hypokinetic inferior-posterior wall with preserved systolic function.
Laboratory	Troponin I 1.5 ng/mL; brain natriuretic peptide 12 150 pg/mL; IL-6 236 pg/mL; viral panel negative
Treatments	IVIg
Patient 4	
Presentation	Fever, vomiting, diarrhea, anuria; organ dysfunction prompted cardiac evaluation.
Cardiac imaging	Echocardiogram revealed hypokinetic left ventricle (primarily inferior posterior) with qualitatively decreased function. Cardiac MRI confirmed myocarditis.
Laboratory	Troponin I 14.97 ng/mL; brain natriuretic peptide >35 000 pg/mL; viral testing negative
Treatments	Epinephrine and milrinone infusions, NIV, furosemide, hydroxychloroquine, tocilizumab, IVIg, methylprednisolone
Complications	Atrial fibrillation requiring cardioversion, QT prolongation with hydroxychloroquine
Patient 6	
Presentation	Fever, abdominal pain, rash, conjunctivitis; cardiac concern due to tachycardia; cardiogenic shock on day 4
Cardiac imaging	Echocardiogram revealed signs of myocarditis with hyperechogenic papillary muscles, tricuspid and mitral valve insufficiency, and pericardial effusion.
Laboratory	Troponin I 0.037; brain natriuretic peptide 11 150 pg/mL; extensive viral RT-PCR panel results from blood negative
Treatments	Dopamine, milrinone, and norepinephrine infusions; azithromycin + hydroxychloroquine, tocilizumab, methylprednisolone, lopinavir/ritonavir

IL-6, interleukin 6; RT-PCR, real-time reverse transcription polymerase chain reaction.

**SUPPLEMENTAL TABLE 5** Laboratory Findings

Result	Patient																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Hospital/ICU presentation																		
WBC count, cells/ $\mu$ L	11 420	12 700	9400	25 740	100	8900	4500	6420	10 000	9100	15 740	12 120	16 190	31 400	30 800	22 600	8960	
Lymphocytes, cells/ $\mu$ L	1300	2200	1430	910	100	900	850	—	980	464	7500	1820	9490	8778	10 472	7900	3800	
Neutrophils, cells/ $\mu$ L	9290	9700	7010	23 430	0	6500	3450	—	8270	8500	5700	8860	3320	16 302	19 096	12 100	4530	
Hemoglobin, g/dL	12.8	8.6	9.4	11.5	7.5	10.4	10.8	9.9	14.7	12.1	8.7	7.8	11.1	10	9.8	8	11.4	
Platelets ( $\times 10^3$ )	188	341	446	312	66	76	205	209	274	473	568	466	443	403	340	602	304	
aPTT, s	—	—	—	—	32.7	26.8	—	—	33	—	48	—	—	—	36	32.5	32	
PT, s	—	12	—	—	17.2	13.6	—	—	16.2	—	—	—	—	17.1	16	17.1	17	
INR	1.39	—	—	1.68	—	—	—	—	—	—	1.34	—	—	—	—	—	—	
D-dimer, $\mu$ g/mL	1.161	6.033	1.918	4.88	0.487	2.461	0.167	—	0.93	Negative	0.51	—	—	—	—	—	—	
Procalcitonin, ng/mL	0.1	45	1.3	39	4.78	5.1	2.93	4.08	1.1	0.07	—	<0.5	<0.5	—	—	—	0.05	
C-reactive protein, mg/L	0.05	12.3	8.9	43.1	28	22.9	5.7	6.2	39.1	11.9	0.2	0.06	0.59	17.3	19.7	12.9	20.5	
Ferritin, ng/mL	—	428	136	—	2385	476	486	—	631	136	—	—	—	—	—	—	—	
IL-6, pg/mL	—	—	236	—	—	310	—	—	—	—	—	—	—	—	—	—	—	
Worst value																		
WBC count (high)	13 400	13 790	10 250	35 980	1960	11 600	10 000	7500	11 700	15 100	—	—	—	43 300	54 200	22 600	8960	
WBC count (low)	6030	4620	7410	15 780	100	8900	3300	2700	4200	7700	—	—	—	27 900	30 800	12 700	8960	
Lymphocytes (low)	260	460	1430	1240	0	900	1220	2710	561	464	—	—	—	8778	9470	1900	3800	
D-dimer	3.761	6.033	1.918	4.88	0.467	2.461	0.587	11	6.82	Negative	—	—	—	—	—	—	—	
Ferritin	—	428	136	618	2385	476	486	10 712	1339	136	—	—	—	—	—	—	—	
Creatine kinase, U/L	694	332	192	633	168	—	—	—	166	—	414	—	—	—	—	—	—	
Troponin I, ng/mL	—	1.12	1.5	14.97	37.8	0.037	—	0.21	0.074	—	0.034	—	—	—	—	—	—	
Microbiology																		
SARS-CoV-2 RT-PCR	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N <sup>a</sup>	Y	Y
Days to first positive	2	11	1	7	1	4	6	2	5	2	4	7	3	10	—	3	2	
Days to first negative	—	—	—	13	28	—	—	—	18	—	11	—	—	—	—	—	—	
Other virus +	No	No	No	No	No	No	No	No	No	No	No	No	No	RSV	No	No	RV/EV	
Bacteria +, site	MSSA, tracheal	No	No	No	No	No	MRSA, sputum	No	No	No	No	No	No	No	No	MSSA, line	No	No

aPTT, activated partial thromboplastin time; EV, enterovirus; IL-6, interleukin 6; INR, international normalized ratio; MRSA, methicillin-resistant *Staphylococcus aureus*; MSSA, methicillin-sensitive *Staphylococcus aureus*; N, no; PT, prothrombin time; RSV, respiratory syncytial virus; RT-PCR, real-time reverse transcription polymerase chain reaction; RV, rhinovirus; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; WBC, white blood cell; Y, yes; —, not applicable.

<sup>a</sup> Presumed positive for COVID-19 because of sibling positive for COVID-19 with similar symptoms.

SUPPLEMENTAL TABLE 6 Hospital Treatments, Diagnoses, and Patient Outcomes

	Patient																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Treatments</b>																	
<b>Respiratory</b>																	
HFNC	—	—	—	—	+	—	—	+	—	+	+	—	—	+	+	—	+
NIV	—	—	—	+	—	—	—	+	+	+	—	—	—	—	—	—	—
IMV	+	—	—	—	—	—	+	+	+	—	—	+	+	—	+	+	—
ECMO	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
None	—	+	+	—	—	+	—	—	—	—	—	—	—	—	—	—	—
<b>ICU</b>																	
<b>treatments</b>																	
Vasopressors	+	—	—	—	—	+	+	+	+	—	—	—	—	—	+	+	—
Inotropes	+	+	—	+	—	+	+	+	—	—	—	—	—	—	+	+	—
Nitric oxide	—	—	—	—	—	—	—	+	—	—	—	—	—	—	—	—	—
Proning	—	—	—	—	—	—	—	+	—	+	—	—	—	—	—	—	—
NMB	—	—	—	—	—	—	+	+	+	—	—	—	—	—	+	—	—
CRRT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	+	—	—
<b>Medications</b>																	
Antibiotics	+	—	+	+	+	+	+	+	+	+	+	+	+	+	+	+	—
Antiviral (drug)	—	—	—	—	—	+	+	+	+	Remd	+	—	—	—	—	—	—
						Lop	Remd	Remd	+	Remd	+	—	—	—	+	+	—
						MP	MP, HC	MP	+	MP, D	+	—	—	—	+	+	—
Corticosteroids (drug)	—	—	—	+	+	+	+	+	+	+	—	—	—	+	+	—	—
Tocilizumab	+	—	—	+	+	+	+	+	+	—	—	—	—	—	—	—	—
Chloroquine/HCQ	+	—	—	+	+	+	+	—	—	+	+	+	+	—	—	—	—
Convalescent plasma	—	No; IVIg	No; IVIg	No; IVIg	No	No; IVIg	—	—	+	—	—	—	—	—	—	—	—
<b>Diagnoses</b>																	
Pneumonia	+	—	—	—	+	+	+	+	+	+	+	+	+	+	+	—	+
ARDS (severity)	—	—	—	+	—	—	+	+	+	+	—	+	+	—	+	—	—
				(NIV)			(severe)	(severe)	(moderate)	(NIV)		(mild)	(mild)		(severe)		
Neurologic	+	—	—	—	—	—	+	—	—	—	—	—	—	—	—	+	—
Myocarditis	—	+	+	+	—	+	—	—	—	—	—	—	—	—	—	—	—
Cardiac arrest	—	—	—	—	—	—	—	+	—	—	—	—	+	—	+	—	—
Thrombosis	—	—	—	—	—	—	—	—	+	—	—	—	—	—	—	—	—
Myositis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AKI	—	—	—	+	—	—	—	—	+	—	—	—	—	—	+	—	—
Liver injury	—	—	—	—	—	—	—	+	+	—	—	—	—	—	—	—	—
<b>Outcomes</b>																	
Current status	Home	Home	Home	Home	Ward	Home	Home	ICU	Home	Home	Home	Ward	Hone	Home	Death	Home	Home
MV duration, d	4	n/a	n/a	n/a	n/a	n/a	11	20	8	n/a	n/a	6	4	n/a	3	3	n/a
ICU LOS, d	5	4	2	5	6	5	16	28 <sup>b</sup>	11	9	7	7	14	6	5	4	2
Hospital LOS, d	10	15	13 <sup>a</sup>	13	26 <sup>b</sup>	13	28	28 <sup>b</sup>	14	11	7	22 <sup>b</sup>	15	6	5	17	4

AKI, acute kidney injury; CRRT, continuous renal replacement therapy; D, dexamethasone; ECMO, extracorporeal membrane oxygenation; HC, hydrocortisone; HCQ, hydroxychloroquine; Lop, lopinavir/ritonavir; LOS, length of stay; MP, methylprednisolone; MV, mechanical ventilation; n/a, not applicable; NMB, neuromuscular blockers; Remd, remdesivir; +, used; —, not used.

<sup>a</sup> Prolonged for parent discharge.

<sup>b</sup> Still in unit.