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Supplementary appendix

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Supplementary Material

Table 1

Age, Gender, Ethnicity, PMIH.		Clinical Presentation			ICU Support (length)			Myocardial Imaging		Lab. Results (peak values)		SARS-CoV-2 Results		ICU stay, outcome
Pre-admission/Proxime	Admission to hospital	ICU Referral	Mechanical	Drug Therapy	ICU admission	CMR (when, RT level)	Lab. Results (peak values)	SARS-CoV-2 Results	ICU stay, outcome					
Case 1: 42, male, South Asian, no PMIH	3 days fever, sweats, dizziness, dyspnoea, diarrhoea. Abdominal and palmoplantar rash.	Respiratory failure and cardiogenic shock	Ventilation (24 hrs)	Milrinone, adrenaline, BSA, acyclovir, methylprednisolone	TTE: Bi-ventricular impairment (LVEF 30%), CT: basal consolidation. Angiography: unobstructed coronaries.	Scan 1 (ICU +4 days): Tnt 638ng/L; LVEF 40%, elevated T1, normal T2, no LGE. Scan 2 (4 months after discharge): Tnt 16154 mg/L; neutrophils 17x10 ⁹ /L.	CRP 358 mg/L; Tnt 1576 ng/L; Ferritin 16154 mg/L; neutrophils 17x10 ⁹ /L.	RT-PCR: 3 x negative; antibody positive	4 days; full recovery					
Case 2: 27, male; Black-Caribbean, no PMIH	Admission with symptoms, PE. positive RT-PCR and normal Tnt. Discharged after 4 days and symptom free for 2 weeks.	Cardiogenic shock	Ventilation (9 hrs) VA ECMO (72 hours)	Milrinone, noradrenaline, BSA, methylprednisolone	TTE: Bi-ventricular impairment (LVEF <40%). CT: lung consolidation, diaphragm.	Scan 1 (ICU +14 days): Tnt 25ng/L; LVEF 70%, elevated T1, normal T2, epicardial LGE.	CRP 403 mg/L; Tnt 620 ng/L; Ferritin 1711 mg/L; neutrophils 11x10 ⁹ /L.	RT-PCR: 7 x negative; antibody positive	13 days; full recovery					
Case 3: 41, male; Black-African, no PMIH	4 days fever, dizziness, dyspnoea, abdominal pain, diarrhoea	Cardiogenic shock and refractory VF. Biventricular pattern ECG.	Ventilation (48 hrs)	Adrenaline, noradrenaline, BSA, hydrocortisone	TTE: Bi-ventricular impairment (LVEF 30%). CXR: bilateral changes. Angiography: unobstructed coronaries.	Scan 1 (ICU +6 days): Tnt 270ng/L; LVEF 69%, elevated T1 and T2. Scan 2 (10 weeks after discharge): Tnt 8ng/L; LVEF 67%, normal T1, T2, no LGE.	CRP 327 mg/L; Tnt 270 ng/L; Ferritin 3893 mg/L; neutrophils 46.5x10 ⁹ /L.	RT-PCR: 4 x negative; antibody positive	4 days; full recovery					
Case 4: 53, male; Black-African; hypertension, obesity, chronic kidney disease	4 days fever, malaise, dyspnoea. Conjunctival keratopathy and tongue changes.	Cardiogenic shock	Ventilation (16 days), VA and VV ECMO 7 days	Adrenaline, vasopressin, milrinone, BSA, oseltamivir, hydrocortisone	TTE: Bi-ventricular impairment (LVEF 15%). CXR: bilateral changes.	Scan 1 (ICU +23 days): Tnt 54ng/L; LVEF 42%, elevated T1 and T2; midwall/epicardial LGE. Scan 2 (6 months after discharge): Tnt 49ng/L; LVEF 27%, elevated T1 and T2; midwall/epicardial LGE.	CRP 461 mg/L; Tnt 574 ng/L; Ferritin 6461 mg/L; neutrophils 23x10 ⁹ /L.	RT-PCR: 6 x negative; antibody positive	18 days; NYHA 2-3					
Case 5: 33, male; Black-African, smoker, no other PMIH.	7 days abdominal pain, dyspnoea, diarrhoea and confusion. Skin rash.	Cardiogenic shock	None	Dobutamine, adrenaline, BSA	TTE: Bi-ventricular impairment (LVEF <30%). CT: bilateral lung consolidation and colitis descending/spinal colitis	Scan 1 (ICU +10 days): Tnt 72ng/L; LVEF 69%, elevated T1 and T2, midwall septal LGE. Scan 2 (14 weeks after discharge): LVEF 71%, normal T1 and T2, resolution of LGE.	CRP 253 mg/L; Tnt 242 ng/L; Ferritin 3528 mg/L; neutrophils 34x10 ⁹ /L.	RT-PCR: 3 x negative; antibody positive	4 days; full recovery					
Case 6: 23, female; Black-African, 8 weeks pregnant.	5 days fever, rigors, abdominal pain and PV bleeding. Rash on soles, face and back. Spontaneous abortion.	Cardiogenic shock	Ventilation (15 days)	Noradrenaline, adrenaline, vasopressin, milrinone, BSA, IVIG and hydrocortisone	TTE: Bi-ventricular impairment (LVEF <35%). CT: bilateral lung consolidation and colitis	Scan 1 (ICU +24 days): Tnt 34ng/L; LVEF 58%, borderline elevated T1, normal T2, no LGE.	CRP 335 mg/L; Tnt 90 ng/L; Ferritin 5835 mg/L; neutrophils 20x10 ⁹ /L.	RT-PCR: 8 x negative; antibody positive	25 days; no follow-up data					
Case 7: 33, male; Black-Caribbean, no PMIH	4 days myalgia, fever, headaches and diarrhea	Respiratory failure and cardiogenic shock	Ventilation (4 days)	Milrinone, noradrenaline, levosimendan, BSA, IVIG, aciclovir, methylprednisolone	TTE: Bi-ventricular impairment (LVEF 25%). CXR: bilateral lung changes. CTCA normal	Scan 1 (ICU +8 days): Tnt 34ng/L; LVEF 57%, normal T1 and T2, epicardial LGE.	CRP 379 mg/L; Tnt 431 ng/L; Ferritin 1356 mg/L; neutrophils 20x10 ⁹ /L.	RT-PCR: 4 x negative; antibody positive	6 days; full recovery					
Case 8: 33, female; South-Asian; gestational diabetes, C-section at 36 weeks gestation.	Chest pain, dyspnoea, desaturation 24 hours following elective c-section.	Cardiogenic shock	None	Levosimendan	TTE: Bi-ventricular impairment (LVEF <15%). CT: Lung consolidation, no PE. CTCA: no stenoses.	Scan 1 (ICU +3 days): Tnt 72ng/L; LVEF 62%, elevated T1 and T2; extensive midwall and epicardial LGE. Scan 2 (6 weeks after discharge): LVEF 65%, normal T1 and T2, resolution of LGE.	CRP 190 mg/L; Tnt 406 ng/L; Ferritin 111 mg/L; neutrophils 13x10 ⁹ /L.	RT-PCR: 3 x negative; antibody negative	4 days; full recovery					
Case 9: 36, male; Black-African, no PMIH	7 day fever, headache and malaise, 2 days vomiting, upper abdominal pain and loose stools.	Cardiogenic shock	None	None	TTE: Bi-ventricular impairment (LVEF <35%). CXR: subtle bibasal changes	Scan 1 (ICU +4 days): LVEF 58%, elevated T2, extensive midwall LGE.	CRP 222 mg/L; Tnt 2704 ng/L; Ferritin 3847 mg/L; neutrophils 10x10 ⁹ /L.	RT-PCR: 3 x negative; antibody negative	1 day; no follow up data					
Case 10: 21, male; Black-African; asthma and family history of dilated cardiomyopathy and premature sudden death	2-4 weeks dyspnoea, peripheral oedema, chest pain	Cardiogenic shock	None	Milrinone, BSA, methylprednisolone	TTE: Bi-ventricular impairment (LVEF 15%). CT: pulmonary oedema +/- consolidation.	No scan obtained. Epiant heart: extensive fibrotic changes, no inflammatory infiltrates. Genetic test pending.	CRP 103mg/L; Tnt 95 ng/L; Ferritin 182 mg/L; neutrophils 10x10 ⁹ /L.	RT-PCR: 5 x negative; antibody positive	2 days; cardiac transplant 20 days after admission					
Case 11: 39, male; Black-African; DM II, CKD, obesity, perforated duodenal ulcer	3 days dyspnoea, pedal and armial oedema	Respiratory failure	None	BSA, esolcanavir	TTE: Bi-ventricular impairment (LVEF <15%). CT: multifocal ground glass changes.	Scan 1 (ICU +15 days): LVEF 16%, mildly elevated T1, normal T2, no LGE.	CRP 34ng/L; Tnt 95 ng/L; Ferritin 1074 mg/L; neutrophils 4x10 ⁹ /L.	RT-PCR: 1 x negative; antibody positive	2 days; chronic heart failure symptoms					
Case 12: 20, female; Black-African; no PMIH	1 month chest pain and worsening dyspnoea and orthopnoea	Mobitz 2 AV block, hypotension on monitoring following cardiac biopsy	None	methylprednisolone	TTE: Bi-ventricular impairment (LVEF <45%). CXR: pleural effusions	Scan 1 (ICU -1 day): Tnt 274ng/L; LVEF 33%, very elevated T1 and T2, no LGE. Scan 2 (ICU +6 days): Tnt 38ng/L; LVEF 66%, mildly elevated T1 and T2, no LGE. EMB (ICU day 0): lymphocytic myocarditis.	CRP 5mg/L; Tnt 2741 ng/L; Ferritin 92 mg/L; neutrophils 4x10 ⁹ /L.	RT-PCR: 3 x negative; antibody positive	1 day; no follow up data					

Table 1: Case summaries including Subjects (cases 1-9) and Controls (cases 10-12).

BSA – broad spectrum antibiotics, CMR – cardiac magnetic resonance imaging, CT – computed tomography, CTCA – CT coronary angiogram, CXR – chest x-ray, ECMO – extracorporeal membrane oxygenation as veno-veno (VV) or veno-arterial (VA), EMB – endomyocardial biopsy, ICU - intensive care unit, LGE – late gadolinium enhancement, LV – left ventricle, PE – pulmonary emboli, PMH – past medical history, TTE – transthoracic echocardiography.