Supplementary Table 1 Ventilatory parameters for mechanically ventilated patients

Time following commencement of IMV	Driving pressure (cmH$_2$O)				PaO$_2$/FiO$_2$ ratio (kPa)			
	Overall	Survivors	Non-survivors	P-value	Overall	Survivors	Non-survivors	P-value
6 hours [n = 68]	16 (14 – 20)	16 (13 - 18)	18 (14 - 18)	0.135	20.0 (14.9 – 25.8)	22.1 (17.0 - 29.5)	16.6 (13.3 - 22.0)	**0.012***
12 hours [n = 67]	16 (14 – 20)	16 (14 – 18)	18 (15 – 20)	0.066	21.4 (15.5 – 27.3)	24.4 (19.3 - 33.1)	17.4 (13.6 - 23.4)	**0.001***
24 hours [n = 59]	16 (14 – 20)	16 (14 - 19)	18 (16 - 22)	**0.036***	20.5 (15.8 – 28.5)	23.8 (18.7 - 31.1)	17.8 (13.4 - 26.1)	**0.024***
36 hours [n = 52]	16 (14 – 20)	16 (14 – 20)	18 (14 – 20)	0.409	20.8 (15.8 – 26.1)	22.8 (17.8 - 27.1)	17.8 (15.0 - 26.1)	0.111
48 hours [n = 47]	16 (14 – 22)	16 (13 – 16)	18 (14 – 18)	0.387	20.8 (16.1 – 25.3)	23.7 (18.0 - 27.7)	17.2 (15.3 - 17.2)	0.076
72 hours [n = 41]	16 (12 – 20)	15 (12 - 20)	18 (14 - 20)	**0.041***	18.3 (14.9 – 24.6)	22.0 (16.9 - 28.2)	16.8 (14.2 - 21.0)	**0.024***

Supplementary Table 1 Legend:

Data are recorded as median (interquartile range). IMV = Invasive Mechanical Ventilation. FiO$_2$ = Fractional Inspired Concentration of Oxygen. PaO$_2$ = Arterial Partial Pressure of Oxygen. Mann Whitney U tests were performed to compare medians between survivors and non-survivors.

* Denotes a P-value <0.05 which is deemed to reach statistical significance

Supplementary Table 2: Serial laboratory investigation values

	24 hours post intubation [n = 67]	48 hours post intubation	72 hours post intubation	Peak value during first 72 hours on ICU	Peak value during ICU admission
White blood cells (x10^9/L)	10.4 (7.6 – 13.6)	9.6 (7.4 – 12.2)	10.6 (8.0 – 12.5)	11.7 (9.0 – 14.9)	--
Neutrophils (x10^9/L)	8.9 (6.4 – 11.9)	8.5 (5.8 – 10.8)	9.5 (6.2 – 11.2)	11.4 (8.4 – 13.4)	--
Lymphocytes (x10^9/L)	0.9 (0.7 – 1.3)	0.7 (0.6 – 1.0)	0.8 (0.5 – 1.0)	0.6 (0.4 - 0.8)*	0.5 (0.4 – 0.7)* Day 3 (1 – 5)
Platelets (x10^9/L)	223 (188 – 307)	239 (198 – 313)	263 (224 – 356)	271 (239 – 373)	--
Creatinine (µmol/L)	103 (80 – 158)	104 (80 – 180)	111 (81.3 – 203)	112 (93 – 227)	147 (100 – 373) Day 4 (2 – 9)
C-reactive protein (mg/L)	209 (151 – 337)	303 (193 – 367)	281 (173 – 351)	310 (208 – 369)	344 (283 – 434) Day 4 (3 – 6)
Ferritin (µg/L)	2219 (1138 – 3305) [n=24]	1590 (1008 – 2696) [n = 22]	1921 (763 – 2827) [n = 25]	1948 (827 – 4254) [n = 57]	2170 (1034 – 3711) Day 5 (3 – 8) [n = 69]
LDH (IU/L)	--	--	--	--	578 (469 – 763) Day 3 (1 – 7) [n = 35]
Troponin (ng/L)	--	--	--	--	38 (13 – 80) Day 4 (2 – 11) [n = 57]
D-dimer (multiple of ULN of assay)	--	--	--	--	16.2 (9.7 – 35.5) Day 8 (4 – 12) [n = 44]

Supplementary Table 2 Legend:

Data are recorded as median (interquartile range) or number/total (percentage) as appropriate. ICU = Intensive Care Unit. LDH = Lactate Dehydrogenase. ULN = Upper Limit of Normal. D-dimer is reported as a multiple of the upper limit of normal for the assay in question as multiple assays were in use. The lowest value of the troponin assay was <13 ng/L and the greatest value of the ferritin assay was >6000 µg/L . When these values were obtained '13' and '6000' were inputted respectively. Peak value during ICU admission includes all patients including those who did not receive IMV. The day into ICU admission at which a peak (or trough in the case of lymphocytes) value was obtained is noted.

* The trough value of lymphocyte count was recorded rather than the peak

Supplementary Table 3: Univariate analysis of variables at admission to ICU

		Survivors (n=47)	Non-Survivors (n=38)	P-value
Age (years) †		53.1 (44.6 – 62.7) [n=47]	59.9 (53.9 – 66.2)	**0.002**
Male sex §		37/47 (78.7%)	27/38 (71.1%)	0.415
Ethnicity §	White	15/47 (31.9%)	13/38 (34.2%)	0.823
	Black, African, Caribbean & Black British	21/47 (44.7%)	16/38 (42.1%)	0.830
	Asian & Asian British	5/47 (10.6%)	4/38 (10.5%)	0.987
	Mixed, 'other' & not declared	6/47 (12.8%)	5/38 (13.2%)	0.957
	Black, Asian and Minority Ethnic (BAME) (including mixed, 'other' and not declared) §	32/47 (68.1%)	25/38 (65.8%)	0.823
Comorbidities				
Hypertension		26/47 (55.3%)	18/38 (47.4%)	0.466
Diabetes mellitus Type 2		17/47 (36.2%)	10/38 (26.3%)	0.332
BMI (kg.m^{-2}) †		31.1 (27.2 – 34.7) [n=36]	29.1 (24.7 – 31.2) [n=35]	**0.065**
Obese (BMI 30 kg.m^{-2} and above) [n=78]		22/42 (52.4%)	16/36 (44.4%)	0.484
Chronic kidney disease		6/47 (12.8%)	5/38 (13.2%)	0.957
Active malignancy				
Heart failure		2/47 (4.3%)	0/38 (0.0%)	0.198
Chronic obstructive pulmonary disease		0/47 (0.0%)	2/38 (5.2%)	0.111
Asthma		4/47 (8.5%)	7/38 (18.4%)	0.176
Smoking history (current or previous) [n=82]		13/45 (28.9%)	12/37 (32.4%)	0.729
Rockwood clinical frailty scale	1	5/47 (10.6%)	4/38 (10.5%)	0.397
	2	30/47 (63.8%)	17/38 (44.7%)	
	3	9/47 (19.1%)	11/38 (28.9%)	
	4	3/47 (6.4%)	4/38 (10.5%)	
	5 and above	0/47 (0.0%)	2.38 (5.3%)	
Regular medications				
Regular non-steroidal anti-inflammatory drug		1/47 (2.1%)	1/38 (2.6%)	0.879
Angiotensin converting enzyme inhibitor		7/47 (14.9%)	7/38 (18.4%)	0.663
Angiotensin II receptor antagonist		8/47 (17.0%)	4/38 (10.5%)	0.393
Oral hypoglycaemic agent		15/47 (31.9%)	10/38 (26.3%)	0.573
Insulin		4/47 (8.5%)	5/38 (13.2%)	0.489
Regular oral steroid		3/47 (6.4%)	1/38 (2.6%)	0.417

Other immunosuppressant or immunomodulator		4/47 (8.5%)	3/38 (7.9%)	0.918
Admission laboratory parameters				
Haemoglobin (g/L)		131 (118 – 143) [n=47]	136 (123 – 149) [n=38]	0.166
White blood cells (x10^9/L)		9.1 (7.0 – 13.2) [n=47]	8.8 (6.7 – 12.5) [n=38]	0.316
Neutrophils (x10^9/L)		8.0 (5.6 – 11.9) [n=47]	7.4 (5.3 – 10.0) [n=38]	0.263
Lymphocytes (admission)		0.9 (0.6 – 1.1) [n=47]	0.9 (0.6 – 1.1) [n=38]	0.736
Lymphocytopenia (Lymphocyte count <1.0 x10^9/L)		28/47 (60.0%)	22/38 (57.9%)	0.876
Platelet (admission)		226 (189 – 289) [n=47]	228 (178 – 289) [n=38]	0.798
Urea (mmol/L)		6.6 (4.0 – 9.6) [n=46]	6.1 (4.3 – 9.1) [n=36]	0.911
Creatinine (μmol/L)		98 (75 – 115) [n=47]	92 (68 – 105) [n=38]	0.245
C-reactive protein (mg/L)		182 (139 – 252) [n=47]	185 (94 – 235) [n=38]	0.353
Alanine aminotransferase (IU/L)		35 (23 – 64) [n=47]	39 (27 – 56) [n=32]	0.491
Ferritin (μg/L)		1966 (788 – 3883) [n=27]	1937 (1166 – 2851) [n=19]	0.850
HbA1c (mmol/mol)		45 (38 – 87) [n=23]	44 (35 – 68) [n=19]	0.658
PaO$_2$/FiO$_2$ ratio (kPa)		9.14 (7.19 – 11.7) [n=39]	7.78 (6.27 – 11.9) [n=34]	0.248
APACHE II score		13 (11 – 18) [n=45]	15 (13 – 17) [n=37]	0.149
Acute kidney injury (AKI) on admission		7/47 (14.9%)	3/38 (7.9%)	0.319

Supplementary Table 3 Legend:

Data are recorded as median (interquartile range) or number/total (percentage) as appropriate. HbA1c = Glycated Haemoglobin. APACHE II score = Acute physiology and chronic health evaluation II score. BMI = body mass index. All values and calculated indices are those closest available to time of intensive care admission +/- 72 hours with the exception of HbA1c which was included if within six-months of admission. Note: Numerical height and weight data were available for 71 patients. A further seven patients had high BMI documented as a comorbidity hence the discrepancy in denominator between the two BMI variables. Criteria for inclusion of variable in regression model are: P-value <0.10 (denoted by †) and values of particular clinical interest irrespective of P-value (denoted by §).