

Additional file 1. Baseline characteristics and clinical findings of hospitalized COVID-19 patients by disease severity

Characteristic	Mild COVID-19, N=12	Severe COVID-19, N=45	Critical COVID-19, N=51	p-value ¹	p-value ²	p-value ³
Age in years, median (IQR)	62.50 (53.8–71.5)	60.0 (50.0–65.0)	57.0 (47.0–66.0)	0.429	0.266	0.624
Male, %	4 (33.3)	22 (48.9)	27 (52.9)	0.336	0.222	0.845
BMI in kg/m ² , median (IQR)	35.0 (25.0–36.3)	31.1 (26.5–39.9)	32.6 (29.7–34.6)	0.939	0.951	0.970
Concomitant diseases, N (%)						
Arterial hypertension	5 (41.7)	29 (64.4)	31 (60.8)	0.193	0.229	0.712
Coronary artery disease	0 (0.0)	0 (0.0)	3 (5.9)	-	1.000	0.245
Congestive heart failure	0 (0.0)	4 (8.7)	6 (11.8)	0.569	0.585	0.746
Atrial fibrillation	1 (8.3)	5 (11.1)	6 (11.8)	1.000	1.000	0.920
Previous myocardial infarction	0 (0.0)	1 (2.2)	1 (2.0)	1.000	1.000	1.000
Obesity	2 (16.7)	20 (44.4)	30 (58.8)	0.103	0.009	0.159
Diabetes mellitus	1 (8.3)	9 (20.0)	8 (15.7)	0.671	1.000	0.581
Chronic kidney disease	2 (16.7)	2 (4.4)	4 (7.8)	0.192	0.320	0.681
Sequelae of stroke	0 (0.0)	1 (2.2)	0 (0.0)	1.000	-	0.469
Complications of COVID-19, N (%)						
Pneumonia	11 (91.7)	42 (93.3)	49 (96.1)	1.000	0.476	0.663
Acute respiratory failure	0 (0.0)	18 (40.0)	36 (70.6)	0.011	<0.001	0.003
Pulmonary embolism	0 (0.0)	1 (2.2)	0 (0.0)	1.000	-	0.469
DVT	0 (0.0)	1 (2.2)	0 (0.0)	1.000	-	0.469
Stroke	0 (0.0)	0 (0.0)	1 (2.0)	-	1.000	1.000
Acute kidney injury	0 (0.0)	2 (4.4)	6 (11.8)	1.000	0.585	0.276
Sepsis	0 (0.0)	3 (6.7)	8 (15.7)	1.000	0.334	0.144
Oxygen therapy and hospitalization outcomes						
Non-invasive ventilation, N (%)	0 (0.0)	11 (24.4)	29 (56.9)	0.097	<0.001	0.001
Invasive mechanical ventilation, N (%)	0 (0.0)	0 (0.0)	10 (19.6)	-	0.186	0.001
Extracorporeal membrane oxygenation, N (%)	0 (0.0)	0 (0.0)	6 (11.8)	-	0.585	0.028
Length of stay in hospital, days, median (IQR)	7.5 (6.3–13.0)	13.0 (9.0–28.5)	21.0 (14.0–26.0)	0.010	<0.001	0.020
In-hospital mortality, N (%)	0 (0.0)	1 (2.17)	17 (33.33)	1.000	0.026	<0.001
Laboratory tests, median (IQR)						
WBC, x10 ⁹ /L	5.91 (3.22–6.99)	5.68 (4.24–7.71)	5.71 (4.84–7.95)	0.544	0.239	0.376
Neutrophils, x10 ⁹ /L	3.82 (2.58–5.25)	4.37 (3.23–5.52)	4.98 (3.57–6.66)	0.387	0.073	0.151
Lymphocytes, x10 ⁹ /L	0.96 (0.49–1.31)	0.95 (0.61–1.20)	0.92 (0.53–1.20)	0.895	0.776	0.962
Haemoglobin, g/L	125.00 (102.50–138.00)	144.00 (127.50–150.00)	143.00 (129.00–153.00)	0.021	0.007	0.544
Platelets, x10 ⁹ /L	207.50 (113.00–382.50)	175.00 (153.50–201.00)	202.00 (149.00–272.00)	0.546	0.537	0.054
Sodium, mmol/L	141.00 (140.25–143.50)	137.00 (134.00–141.00)	138.00 (136.00–141.00)	0.013	0.023	0.720
Potassium, mmol/L	4.10 (3.75–4.40)	3.94 (3.75–4.20)	4.14 (3.80–4.60)	0.575	0.642	0.105
Creatinine, µmol/L	71.00 (54.00–85.50)	71.10 (61.50–80.00)	76.50 (60.75–90.85)	0.943	0.563	0.298
Urea, mmol/L	5.22 (4.22–10.51)	5.00 (3.96–6.28)	6.16 (4.70–9.50)	0.365	0.589	0.015
ALT, U/L	26.50 (16.50–38.75)	36.00 (23.00–56.00)	36.00 (28.00–56.25)	0.040	0.017	0.622
AST, U/L	26.00 (18.00–48.00)	42.00 (32.50–55.50)	53.00 (39.00–72.00)	0.031	0.001	0.098
CRP, mg/L	51.20 (41.68–138.40)	103.60 (58.90–163.25)	97.80 (49.90–132.50)	0.104	0.214	0.524
LDH, U/L	321.00 (273.25–425.75)	381.00 (300.00–461.00)	415.00 (322.00–608.00)	0.315	0.042	0.133
IL-6, ng/L	43.25 (7.78–293.68)	55.20 (30.00–85.50)	68.55 (37.95–95.25)	0.725	0.416	0.271
Ferritin, µg/L	909.00 (536.40–2,026.75)	633.00 (324.00–1,099.00)	1,085.00 (552.75–2,345.50)	0.196	0.794	0.009
D-dimer, µg/L	722.50 (251.25–1,132.50)	475.00 (315.00–685.00)	635.00 (347.50–897.50)	0.433	0.999	0.146
Troponin I, ng/L	3.00 (2.00–10.00)	15.00 (6.93–22.48)	10.00 (6.00–21.40)	0.005	0.020	0.337
NT-proBNP, ng/L	268.00 (150.50–2,687.50)	230.30 (130.80–584.00)	246.00 (117.75–541.75)	0.511	0.541	0.915
SARS-CoV-2 RNA positivity in serum, N (%)	2 (16.7)	7 (15.6)	22 (43.1)	1.000	0.110	0.003
cfDNA, ng/µL	1.06 (0.20–4.04)	2.65 (1.18–5.93)	6.68 (3.07–17.60)	0.079	<0.001	<0.001

Kruskal–Wallis test used to assess group differences. Pairwise comparisons between COVID-19 severity groups were evaluated using p-values: p₁ (mild vs. severe), p₂ (mild vs. critical), and p₃ (severe vs. critical).

ALT – alanine aminotransferase; AST – aspartate aminotransferase; BMI – body mass index; cfDNA – cell-free DNA; CRP – C-reactive protein; DVT – deep vein thrombosis; IL-6 – interleukin 6; IQR – interquartile range; LDH – lactate dehydrogenase; NT-proBNP – N-terminal pro-B-type natriuretic peptide; SARS-CoV-2 – severe acute respiratory syndrome coronavirus 2; WBC – white blood cell.