

Table 1. Comparison of laboratory parameters of COVID-19 patients at admission and on day 5 of treatment

	Admission (n=88) (Mean \pm SD)	Day 5 of treatment (n=88) (Mean \pm SD)	p
WBC (/ μ L)	7239.7 \pm 4023.8	7158.7 \pm 3370.7	0.82
Lymphocytes (/ μ L)	1573.2 \pm 888.4	1823.2 \pm 906.8	0.003
Neutrophils (/ μ L)	4987.3 \pm 3614.9	4685.1 \pm 3250.1	0.206
NLR	5.3 \pm 8.4	4.3 \pm 8.4	0.03
AST (U/L)	32.9 \pm 20.5	31.9 \pm 34.1	0,189
ALT (U/L)	30.6 \pm 25.2	31,3 \pm 23.4	0.225
LDH (U/L)	311.7 \pm 159.1	305.1 \pm 199.9	0.275
GGT (U/L)	39.9 \pm 34,2	40.6 \pm 35.7	0.317
ALP (U/L)	79.1 \pm 41.2	69.2 \pm 27.5	0.003
Sodium (mmol/L)	138.8 \pm 3.9	140.7 \pm 4.6	0.007
Potassium (mmol/L)	4.2 \pm 0.5	4.4 \pm 0.5	0.001
Creatine (mg/dL)	1.1 \pm 0,9	1.1 \pm 0.9	0.319
Prothrombin time (s)	15.9 \pm 6.8	14.6 \pm 5.1	0.001
CRP (mg/dL)	63.3 \pm 83.5	27.5 \pm 27.4	0.001
Troponin-I (ng/dL)	67.1 \pm 297.8	149.7 \pm 1185.2	0.001
PaO ₂ /FiO ₂	294.3 \pm 69.1	323.9 \pm 47.6	0.001
D-Dimer (ng/mL)	1151.7 \pm 1809.5	666.7 \pm 925.5	0.001
MCP-1 (pg/ml)	116.1 \pm 171.2	76.4 \pm 62.3	0.001
SP-A (pg/ml)	387.4 \pm 366.9	250.4 \pm 110.8	0.001
	MCP-1 (pg/ml)	SP-A (pg/ml)	
Control (n:20)	50.3 \pm 32.1	220,8 \pm 128,7	
p*	0.001 / 0.03	0.001 / 0.4	

WBC: White blood cells, NLR: Neutrophil/lymphocyte ratio, AST: Aspartate aminotransferase, ALT: Alanine aminotransferase, LDH: Lactate dehydrogenase, GGT: Gamma glutamyl transferase, ALP: Alkaline phosphatase, MCP-1: Monocyte chemoattractant protein-1, SP-A: Surfactant protein-A

p*: Comparison of MCP-1 and SP-A levels of patients at hospital admission and day 5 of treatment with control group

Table 2. Comparison of laboratory parameters at admission and on day 5 among COVID-19 patients who did and did not develop macrophage activation syndrome (MAS)

	MAS patients (n=20)		Non-MAS patients (n=68)		
	Admission	Day 5 of treatment	Admission	Day 5 of treatment	p
WBC (/μL)	9133.7 ± 7270.7	8915 ± 5886.2	6760.1 ± 2324.1	6705.5 ± 2191.9	0.17 / 0.01
Lymphocytes (/μL)	821.1 ± 405.9	1028.8 ± 670.9	1794.7 ± 872.5	2028.2 ± 847.9	0.001 / 0.001
Neutrophils (/μL)	7513.2 ± 6404.7	7353.1 ± 5602.8	4316.3 ± 1896.9	3996.5 ± 1807.1	0.04 / 0.001
NLR	13.3 ± 15.1	11.6 ± 16.6	3.1 ± 2.6	2.4 ± 2	0.008 / 0.001
AST (U/L)	42.2 ± 19.7	63.4 ± 66.2	30.3 ± 20.3	23.9 ± 9.7	0.02 / 0.001
ALT (U/L)	36.4 ± 28.3	44.4 ± 34.5	29.2 ± 24.5	28 ± 18.6	0.273 / 0.01
LDH (U/L)	451.3 ± 304.3	557.1 ± 296.1	270.5 ± 118.5	242 ± 95.1	0.001 / 0.001
GGT (U/L)	57 ± 47.1	72.3 ± 54.8	33.3 ± 23.2	32.6 ± 23.7	0.04 / 0.001
ALP (U/L)	81.7 ± 33.9	66.1 ± 29.3	77.1 ± 42.3	70 ± 37.2	0.66 / 0.61
Sodium (mmol/L)	137.5 ± 6.1	145.2 ± 7.8	139.1 ± 3.1	139.6 ± 2.4	0.3 / 0.001
Potassium (mmol/L)	4.2 ± 0.6	4.5 ± 0.7	4.2 ± 0.4	4.4 ± 0.5	0.8 / 0.49
Creatine (mg/dL)	1.8 ± 1.8	2.1 ± 1.8	0.9 ± 0.5	0.8 ± 0.2	0.04 / 0.001
Prothrombin time (s)	20.4 ± 12.4	19.6 ± 9.3	14.7 ± 3.5	13.3 ± 1.8	0.04 / 0.001
CRP (mg/dL)	176.7 ± 75.7	50.9 ± 29.8	27.7 ± 38.7	11.2 ± 18.4	0.001 / 0.001
Troponin-I (ng/dL)	276.1 ± 607.3	674 ± 2517.9	8.9 ± 15.3	3.2 ± 6	0.001 / 0.02
PaO ₂ /FiO ₂	209.8 ± 67.7	296.3 ± 42.4	318.9 ± 47.6	331.7 ± 46.4	0.001 / 0.004
D-Dimer (ng/mL)	2529.9 ± 3111.7	1327 ± 1425.5	766.6 ± 955.2	476.7 ± 616.6	0.03 / 0.001
Ferritin (ng/mL)	1094.4 ± 1559.9	490.3 ± 75.6	346.7 ± 144.1	134.6 ± 76.4	0.001 / 0.001
MCP-1 (pg/ml)	353.1 ± 223.3	190.8 ± 170.9	49.9 ± 65.5	25.1 ± 20.9	0,001 / 0,001
SP-A (pg/ml)	534.7 ± 388.7	245.4 ± 120.1	346.3 ± 345.6	180.6 ± 110.8	0,05 / 0,04

MAS: Macrophage activation syndrome, WBC: White blood cells, NLR: Neutrophil/lymphocyte ratio, AST: Aspartate aminotransferase, ALT: Alanine aminotransferase, LDH: Lactate dehydrogenase, GGT: Gamma glutamyl transferase, ALP: Alkaline phosphatase, MCP-1: Monocyte chemoattractant protein-1, SP-A: Surfactant protein-A
p: Comparison of parameters at time of admission and day 5 of treatment between groups

Table 3. Comparison of laboratory parameters at admission and on day 5 among COVID-19 patients who did and did not develop acute respiratory distress syndrome (ARDS)

	ARDS patients (n=35)		Non-ARDS patients (n=53)		
	Admission	Day 5 of treatment	Admission	Day 5 of treatment	p
WBC (/μL)	8109.1 ± 5749.5	8292.1 ± 4588.6	6665.5 ± 2151.8	6487.9 ± 2169.9	0.1 / 0.02
Lymphocytes (/μL)	960 ± 467.3	1188.6 ± 674.9	1978.1 ± 870.3	2198.8 ± 816.2	0.001 / 0.001
Neutrophils (/μL)	6411.4 ± 5117.7	6466.6 ± 4424.9	4046.8 ± 1572.3	3630.6 ± 1571.8	0.002 / 0.001
NLR	9.8 ± 11.9	8.6 ± 12.8	2.3 ± 1.1	1.8 ± 0.9	0.001 / 0.001
AST (U/L)	42.9 ± 25.1	46.6 ± 52.2	26.4 ± 13.4	23.5 ± 10.4	0.001 / 0.003
ALT (U/L)	34.1 ± 30.6	36.5 ± 26.9	28.5 ± 20.9	28.3 ± 20.8	0.3 / 0.1
LDH (U/L)	434.4 ± 180.1	464.1 ± 255.1	230.7 ± 65.6	214.6 ± 60.7	0.001 / 0.001
GGT (U/L)	55.2 ± 44.6	56.1 ± 45.1	29.9 ± 20	31.7 ± 25.6	0.001 / 0.03
ALP (U/L)	90.1 ± 55.1	67.6 ± 27.7	71.8 ± 26.9	70.1 ± 27.6	0.07 / 0.7
Sodium (mmol/L)	137.3 ± 4.9	142 ± 6.9	139.7 ± 2.8	139.9 ± 2.3	0.005 / 0.06
Potassium (mmol/L)	4.1 ± 0.6	4.3 ± 0.6	4.2 ± 0.4	4.4 ± 0.4	0.171 / 0.3
Creatine (mg/dL)	1.3 ± 1.4	1.5 ± 1.5	0.9 ± 0.5	0.8 ± 0.2	0.04 / 0.002
Prothrombin time (s)	19.1 ± 9.6	17.2 ± 7.5	13.8 ± 2.1	13.1 ± 1.5	0.001 / 0.001
CRP (mg/dl)	132.1 ± 92.4	40.4 ± 31	17.9 ± 28.3	6.7 ± 11.5	0.001 / 0.001
Troponin-I (ng/dl)	160.5 ± 460.3	380.2 ± 1889.7	5.4 ± 7.6	1.8 ± 1.7	0.001 / 0.001
PaO ₂ /FiO ₂	228.5 ± 58.8	296.8 ± 44.8	337.8 ± 29.5	341.3 ± 41.1	0.001 / 0.001
D-Dimer (ng/ml)	2113.2 ± 2622.2	1169.8 ± 1310.8	534.9 ± 243.8	331.3 ± 135.2	0.001 / 0.001
Ferritin (ng/ml)	742.4 ± 1204.9	401.6 ± 347.3	359.7 ± 143.1	180.6 ± 36.7	0.02 / 0.01
MCP-1 (pg/ml)	246.3 ± 211.5	160.2 ± 134.8	30.1 ± 28.7	22.8 ± 18.6	0,001/ 0,001
SP-A (pg/ml)	517.3 ± 414.3	259.8 ± 200.7	301.6 ± 306.9	100.5 ± 88.4	0,001 / 0,001

ARDS: Acute respiratory distress syndrome, WBC: White blood cells, NLR: Neutrophil/lymphocyte ratio, AST: Aspartate aminotransferase, ALT: Alanine aminotransferase, LDH: Lactate dehydrogenase, GGT: Gamma glutamyl transferase, ALP: Alkaline phosphatase, MCP-1: Monocyte chemoattractant protein-1, SP-A: Surfactant protein-A
p: Comparison of parameters at time of admission and day 5 of treatment between groups