

SUPPLEMENTARY TABLE S1. Clinical characteristics among patients with COVID-19 in the cohort.

Variables	All patients (N=298)	Mild group (N=186)	Severe group (N=112)	P
Age, years <sup>‡</sup>	60.00 (49.00, 68.00)	57.00 (46.00, 67.00)	63.00 (56.00, 70.00)	0.001
Gender (Female) <sup>†</sup>	132 (44.30%)	95 (51.10%)	37 (33.00%)	0.002
Signs and symptoms <sup>†</sup>				
Fever	92 (31.00%)	61 (33.00%)	31 (27.70%)	0.339
Cough	178 (60.10%)	111 (60.00%)	67 (60.40%)	0.951
Tachypnea	80 (26.90%)	42 (22.70%)	38 (33.90%)	0.035
Muscle soreness	2 (0.70%)	2 (1.10%)	0 (0.00%)	0.530
Headache	3 (1.00%)	3 (1.60%)	0 (0.00%)	0.294
Sore throat	4 (1.40%)	3 (1.60%)	1 (0.90%)	–
Chest pain	1 (0.30%)	1 (0.50%)	0 (0.00%)	–
Diarrhea	5 (1.70%)	3 (1.60%)	2 (1.80%)	>0.999
Nausea and vomiting	3 (1.00%)	2 (1.10%)	1 (0.90%)	>0.999
Comorbidity <sup>†</sup>				
Cardiovascular diseases	86 (28.90%)	48 (25.80%)	38 (33.90%)	0.134
Digestive system disease	32 (10.70%)	19 (10.20%)	13 (11.60%)	0.707
Endocrine system disease	42 (14.10%)	23 (12.40%)	19 (17.00%)	0.269
Malignant tumor	17 (5.70%)	11 (5.90%)	6 (5.40%)	0.841
Nervous system disease	6 (2.00%)	4 (2.20%)	2 (1.80%)	>0.999
Respiratory system disease	15 (5.00%)	8 (4.30%)	7 (6.20%)	0.456
Vital signs <sup>‡</sup>				
Body temperature, °C	36.70 (36.50, 37.20)	36.70 (36.50, 37.50)	36.60 (36.50, 37.00)	0.635
Heart rate, beats/min	88.00 (80.00, 98.75)	88.00 (80.00, 98.00)	88.00 (84.00, 99.00)	0.231
Respiratory rate, breaths/min	22.00 (20.00, 23.00)	22.00 (20.00, 23.00)	22.00 (20.00, 23.00)	0.088
Systolic blood pressure, mmHg	127.00 (116.00, 138.00)	125.00 (115.00, 136.00)	130.50 (120.00, 138.00)	0.013
Diastolic blood pressure, mmHg	80.00 (74.00, 88.75)	80.00 (73.25, 87.00)	81.50 (74.75, 91.25)	0.437
Laboratory results				
White blood cell count, ×10 <sup>9</sup> /L <sup>‡</sup>	5.52 (4.40, 7.50)	5.21 (4.16, 6.65)	6.44 (5.05, 8.99)	<0.001
Neutrophil cell count, ×10 <sup>9</sup> /L <sup>‡</sup>	3.77 (2.80, 5.62)	3.34 (2.49, 4.63)	5.10 (3.56, 7.48)	<0.001
Lymphocyte count, ×10 <sup>9</sup> /L <sup>‡</sup>	1.08 (0.81, 1.53)	1.24 (0.90, 1.65)	0.90 (0.60, 1.29)	<0.001
Immature granulocyte count <sup>‡</sup>	0.01 (0.01, 0.05)	0.01 (0.00, 0.03)	0.03 (0.01, 0.12)	<0.001
Eosinophils count, ×10 <sup>9</sup> /L <sup>‡</sup>	0.03 (0.00, 0.08)	0.03 (0.01, 0.09)	0.02 (0.00, 0.07)	0.167
Hemoglobin, g/L <sup>‡</sup>	126.00 (115.00, 136.00)	123.00 (113.00, 136.00)	128.00 (118.00, 136.00)	0.047
Platelet count, ×10 <sup>9</sup> /L <sup>‡</sup>	210.00 (161.00, 272.00)	207.00 (161.00, 271.00)	216.50 (161.75, 279.50)	0.637
IL-6, pg/mL <sup>‡</sup>	8.17 (6.41, 11.83)	7.59 (6.08, 10.95)	9.04 (7.01, 12.84)	0.003
Procalcitonin, pg/mL <sup>‡</sup>	0.04 (0.04, 0.05)	0.04 (0.04, 0.05)	0.04 (0.04, 0.09)	<0.001
Feritin, ng/mL <sup>‡</sup>	492.02 (252.32, 803.96)	383.04 (194.67, 630.86)	691.96 (450.20, 1,172.65)	<0.001
Erythrocyte sedimentation rate, mm/h <sup>‡</sup>	42.85 (25.00, 61.00)	37.00 (20.00, 54.00)	53.00 (31.00, 66.50)	<0.001
Amyloid A, mg/L <sup>‡</sup>	142.35 (11.00, 235.43)	54.45 (5.65, 219.48)	180.10 (79.60, 246.14)	<0.001
Fibrinogen, g/L <sup>‡</sup>	3.80 (2.80, 5.00)	3.60 (2.62, 4.40)	22.00 (20.00, 26.75)	<0.001
D-dimer level, mg/L <sup>‡</sup>	0.70 (0.39, 1.57)	0.51 (0.31, 1.03)	1.11 (0.57, 3.82)	<0.001
Prothrombin time, s <sup>‡</sup>	11.30 (10.70, 12.00)	11.20 (10.60, 11.75)	11.70 (10.83, 12.60)	<0.001

TABLE S1. (Continued)

Variables	All patients (N=298)	Mild group (N=186)	Severe group (N=112)	P
Prothrombin activity, % <sup>*</sup>	102.70 (89.00, 121.90)	108.10 (93.30, 124.30)	96.20 (77.95, 118.30)	<0.001
International normalized ratio <sup>*</sup>	0.97 (0.91, 1.02)	0.96 (0.90, 1.01)	0.99 (0.92, 1.06)	0.004
Activated partialthromboplastin time, s <sup>*</sup>	26.50 (23.30, 30.50)	25.95 (23.40, 29.70)	27.10 (23.20, 31.10)	0.508
Albumin, g/L <sup>§</sup>	33.14 (4.64)	34.76 (4.37)	30.45 (3.77)	<0.001
Aminotransferase alanine, U/L <sup>*</sup>	32.00 (20.00, 50.00)	28.50 (18.75, 45.00)	38.00 (23.00, 54.00)	0.005
Aminotransferase aspartate, U/L <sup>*</sup>	32.00 (24.00, 45.00)	29.00 (23.00, 41.00)	37.00 (29.00, 56.00)	<0.001
Total bilirubin, mmol/L <sup>*</sup>	12.85 (9.67, 16.50)	13.10 (9.70, 16.70)	12.00 (9.20, 16.15)	0.186
Indirect bilirubin, mmol/L <sup>*</sup>	8.35 (6.20, 11.43)	8.80 (6.80, 11.70)	7.80 (5.65, 10.70)	0.035
Direct bilirubin, mmol/L <sup>*</sup>	4.10 (3.00, 5.20)	4.00 (2.90, 5.12)	4.10 (3.20, 5.38)	0.440
Lactate dehydrogenase, U/L <sup>*</sup>	257.00 (197.50, 350.50)	225.00 (180.00, 277.00)	339.50 (261.00, 451.75)	<0.001
Alkaline phosphatase <sup>*</sup>	76.00 (60.00, 93.25)	76.00 (60.00, 94.00)	75.00 (60.00, 93.00)	0.984
Creatinine, µmol/L <sup>*</sup>	67.40 (57.00, 80.25)	66.50 (56.00, 78.00)	70.10 (59.00, 83.55)	0.039
Blood urea nitrogen, mmol/L <sup>*</sup>	4.40 (3.46, 5.43)	4.00 (3.30, 5.00)	4.90 (3.95, 6.55)	<0.001
Neutrophil to lymphocyte ratio <sup>*</sup>	5.5 (4.8, 6.3)	8.0 (6.6, 9.3)	3.7 (3.1, 4.3)	<0.001
CXR <sup>†,¶</sup>	297	186	111	
0	91 (30.63%)	74 (39.78%)	17 (15.32%)	<0.001
1	21 (7.11%)	19 (10.22%)	2 (1.80%)	0.227
2	185 (62.29%)	93 (50.00%)	92 (82.89%)	<0.001
Blood oxygen saturation <sup>†,¶</sup>	276	186	90	<0.001
2	186 (67.39%)	186 (100%)	0 (0%)	
3	4 (1.45%)	0 (0%)	4 (4.44%)	
4	78 (28.26%)	0 (0%)	78 (86.67%)	
5	8 (2.90%)	0 (0%)	8 (8.89%)	

Notes: P values were calculated by Pearson's chi-squared test or fisher's exact test for Count Data, and t test or Mann-Whitney test, as appropriate. P values denoted the comparison among mild group and severe group. Some P values were not given (denoted “-”) due to insufficient number of cases.

Abbreviations: CXR=Chest x-ray and chest computed tomography abnormality.

\*: median (interquartile range, IQR);

†: n/N (proportion, %);

§: mean (standard deviation, SD);

¶: due to missing values, number of patients are different from the overall number.

SUPPLEMENTARY TABLE S2. Baseline of liver function in patients who were eligible for escalation.

Variables	Total (N=117)	Escalation (N=35)	Mend (N=82)	P
Gender (female) <sup>†</sup>	37 (31.60%)	10 (28.60%)	27 (32.90%)	0.643
Age, years <sup>§</sup>	61.74 (12.48)	62.71 (12.58)	61.33 (12.49)	0.587
Comorbidity <sup>†</sup>	8 (6.80%)	3 (8.60%)	5 (6.10%)	0.694
Prothrombin time, s <sup>*</sup>	11.70 (10.80, 12.60)	11.70 (10.85, 12.75)	11.70 (10.80, 12.60)	0.711
Albumin, g/L <sup>*</sup>	30.30 (28.05, 32.92)	29.60 (28.20, 32.45)	30.30 (27.90, 33.20)	0.701
Aminotransferase aspartate, U/L <sup>*</sup>	37.50 (29.00, 56.00)	53.00 (38.00, 62.00)	33.00 (26.00, 49.00)	<0.001
Aminotransferase alanine, U/L <sup>*</sup>	38.50 (24.00, 55.00)	39.00 (25.50, 56.00)	38.00 (22.00, 53.00)	0.729
Total bilirubin, mmol/L <sup>*</sup>	12.05 (9.25, 16.07)	11.90 (9.85, 16.40)	12.10 (9.10, 15.60)	0.714
Modified Child-Pugh <sup>†,¶</sup>	115	35	80	<0.001
A	60 (52.17%)	9 (25.71%)	51 (63.75%)	
B	55 (47.83%)	26 (74.29%)	29 (36.25%)	
C	0 (0)	0 (0)	0 (0)	

Notes: *P* values were calculated by Pearson's chi-squared test or Fisher's exact test for Count Data, and *t* test or Mann-Whitney test, as appropriate. *P* values denoted the comparison among escalation group and mend group.

<sup>\*</sup>: median (interquartile range, IQR);

<sup>†</sup>: n/N (proportion, %);

<sup>§</sup>: mean (standard deviation, SD);

<sup>¶</sup>: due to missing values, number of patients are different from the overall number.

SUPPLEMENTARY TABLE S3. Baseline of liver function in patients who survived or not from the escalation.

Variables	Total (N=35)	Death (N=15)	Survived (N=20)	P
Gender (female) <sup>†</sup>	10 (28.60%)	3 (20.00%)	7 (35.00%)	0.643
Age, years <sup>§</sup>	61.74 (12.48)	62.71 (12.58)	61.33 (12.49)	0.587
Comorbidity <sup>†</sup>	3 (8.60%)	1 (6.70%)	2 (10.00%)	0.694
Prothrombin time, s <sup>*</sup>	11.70 (10.85, 12.75)	12.90 (11.70, 13.70)	11.25 (10.40, 12.05)	0.004
Albumin, g/L <sup>*</sup>	29.60 (28.20, 32.45)	28.60 (27.10, 29.95)	31.45 (29.10, 34.25)	0.002
Aminotransferase aspartate, U/L <sup>*</sup>	53.00 (38.00, 62.00)	54.00 (38.50, 57.00)	51.00 (38.00, 64.25)	0.894
Aminotransferase alanine, U/L <sup>*</sup>	39.00 (25.50, 56.00)	30.00 (22.50, 44.00)	47.00 (32.00, 58.75)	0.147
Total bilirubin, mmol/L <sup>§</sup>	13.59 (5.81)	15.69 (7.16)	12.02 (4.07)	0.089

Notes: *P* values were calculated by Pearson's Chi-squared test or Fisher's Exact test for Count Data, and *t* test or Mann-Whitney test, as appropriate. *P* values denoted the comparison among death group and survived group.

<sup>\*</sup>: median (interquartile range, IQR);

<sup>†</sup>: n/N (proportion, %);

<sup>§</sup>: mean (standard deviation, SD).