

Supplementary materials

Definition of clinical types

Mild type: mild clinical symptoms, no evidence of pneumonia on imaging.

Common type: fever, respiratory tract and other symptoms. The imaging examination shows pneumonia.

Serious type: Meet any of the following conditions: 1) Shortness of breath, respiratory rate > 30 times / min; 2) In resting state, oxygen saturation \leq 93%; 3. Partial pressure of oxygen/fraction of inspiration $O_2 \leq$ 300 mmHg. **Critical type:** meet one of the following conditions: 1) Respiratory failure, requiring mechanical ventilation; 2) Shock; 3) Combined with other organ failure, need intensive care unit (ICU) monitoring treatment.

Table S1. Demographics and clinical characteristics of COVID-19 patients

Characteristics	All patients (n=98)	Mild/common (n=79)	Serous/critical (n=19)	P value
Age (mean \pm SE)	46.3 (44.5-47.2)	43.2 (41.3-45.2)	59.3 (55.9-62.7)	<0.001
Gender				□
Male	45 (45.9%)	34 (43.0%)	11 (57.9%)	0.243
Female	53 (54.1%)	45 (57.0%)	8 (42.1%)	
Smoking history	7 (7.1%)	5 (6.3%)	2 (10.5%)	0.389
Exposure history				□
Living in Hubei	43 (43.9%)	36 (45.6%)	7 (36.8%)	0.491
Visited Hubei	55 (56.1%)	43 (54.4%)	12 (63.2%)	0.512
Symptoms				□
Fever	56 (57.1%)	42 (53.2%)	14 (73.7%)	0.105
Cough	39 (39.8%)	29 (36.7%)	10 (52.6%)	0.203
Headache	3 (3.1%)	1 (1.2%)	2 (10.5%)	0.035
Fatigue	3 (3.1%)	0 (0.0%)	3 (15.8%)	<0.001
Rhinorrhea	2 (2.0%)	2 (2.5%)	0 (0.0%)	1.0
Sore throat	9 (9.2%)	8 (10.1%)	1 (5.2%)	0.510
Diarrhea	4 (4.1%)	2 (2.5%)	2 (10.5%)	0.114
Sputum production	7 (7.1%)	7 (8.9%)	0 (0.0%)	0.34
Nausea or vomiting	1 (1.0%)	1 (1.2%)	0 (0.0%)	1.0
Myalgia	2 (2.0%)	1 (1.2%)	1 (5.2%)	0.269
Nasal congestion	2 (2.0%)	2 (2.5%)	0 (0.0%)	1.0
Comorbidity	33 (33.7%)	22 (27.8%)	11 (57.9%)	0.013
Hypertension	18 (18.4%)	11 (13.9%)	7 (36.8%)	0.021
Diabetes	6 (6.1%)	3 (3.8%)	3 (15.8%)	0.050
Thyroid disease	4 (4.1%)	2 (2.5%)	2 (10.5%)	0.114
Tuberculosis	2 (2.0%)	0 (0.0%)	2 (10.5%)	0.036
Hyperlipemia	2 (2.0%)	1 (1.2%)	1 (5.2%)	0.269
Coronary heart disease	2 (2.0%)	1 (1.2%)	1 (5.2%)	0.269
Cerebrovascular diseases	1 (1.0%)	1 (1.2%)	0 (0.0%)	1.0
malignancy	5 (5.1%)	4 (5.1%)	1 (5.2%)	0.972
Operation history	5 (5.1%)	4 (5.1%)	1 (5.2%)	0.972
Antivirals	88 (88.8%)	70 (88.6%)	17 (89.5%)	0.446
Chloroquine	35 (35.7%)	30 (38.0%)	5 (26.3%)	0.341
Arbidol	30 (30.6%)	25 (31.6%)	5 (26.3%)	0.651
Lopinavir and ritonavir	50 (51.0%)	41 (51.9%)	9 (47.4%)	0.723
Antibiotics	71 (72.5%)	53 (67.1%)	18 (95.7%)	0.033
Corticosteroids	15 (15.3%)	5 (6.3%)	10 (52.6%)	<0.001
Days (mean \pm SE)				
From onset to admission	4.4 (3.9-4.8)	4.4 (3.9-5.0)	4.0 (3.4-4.6)	0.717
Hospitalization	21.1 (20.3-21.9)	20.9 (19.9-21.8)	21.9 (20.4-23.4)	0.648
RNA negative conversion	8.2 (7.7- 8.7)	8.1 (7.7-8.5)	8.8 (7.2-10.5)	0.627
Re-positive RNA	18 (18.4%)	15 (18.9%)	3 (15.8%)	1.0
Outcomes				
Cured and charged	97 (98.9%)	79 (100%)	18 (94.7%)	0.194
Dead	1 (1.0%)	0 (0.0%)	1 (5.2%)	0.194

Data are shown in n (%) unless otherwise specifically defined; SE, standard error.

Table S2. Laboratory and CT scan findings of COVID-19 patients on admission

Laboratory items	All patients (n=98)	Mild/common (n=79)	Serous/critical (n=19)	P value
Hemoglobin (g/L)	136.5 (134.7-138.3)	137.4 (135.6-139.3)	132.7 (127.8-137.5)	0.291
Leukocyte (10 ⁹ /L)	5.37 (5.15-5.59)	5.46 (5.20-5.72)	4.97 (4.57-5.37)	0.390
Neutrophil (10 ⁹ /L)	3.10 (2.94-3.26)	3.03 (2.85-3.21)	3.38 (2.95-3.81)	0.403
Eosinophil (10 ⁹ /L)	0.05 (0.04-0.06)	0.06 (0.05-0.07)	0.02 (0.01-0.03)	0.002
Lymphocyte (10 ⁹ /L)	1.67 (1.56-1.78)	1.82 (1.69-1.95)	1.07 (0.23-1.91)	<0.001
Platelet (10 ⁹ /L)	209.8 (201.7-217.9)	224.5 (215.3-233.6)	148.8 (141.2-156.5)	<0.001
CRP (mg/L)	16.9 (13.8-19.9)	11.4 (8.8-14.1)	39.2 (29.2-49.4)	0.016
≤8.2	62 (63.3%)	58 (73.4%)	4 (21.1%)	
>8.2	36 (36.7%)	21 (26.6%)	15 (78.9%)	<0.001
Procalcitonin (ng/mL)				
<0.15	87 (88.8%)	73 (92.4%)	14 (73.7%)	
≥0.15	11 (11.2%)	6 (7.6%)	5 (26.3%)	0.020
Albumin (g/L)	39.9 (39.5-40.5)	40.8 (40.2-41.4)	36.7 (35.8-37.5)	0.002
γ-globulin (g/L)	30.8 (30.4-31.3)	30.3 (29.9-30.8)	32.9 (32.0-33.9)	0.018
Albumin/globulin	1.31 (1.07-1.55)	1.36 (1.10-1.62)	1.12 (1.09-1.15)	<0.001
ALT (U/L)	21.38 (19.90-22.86)	21.1 (19.5-23.8)	22.4 (19.3-25.6)	0.725
AST (U/L)	22.48 (21.55-23.41)	21.4 (20.4-22.3)	27.14 (24.54-29.74)	0.013
LDH (U/L)	433.7 (186.7-680.7)	174.2 (168.6-179.8)	1499.0 (241.1-2756.9)	0.306
≤245	82 (83.7%)	72 (91.1%)	10 (52.6%)	
>245	16 (16.3%)	7 (8.9%)	9 (47.4%)	<0.001
Total bilirubin (mmol/L)	10.3 (9.44-11.2)	8.88 (8.22-9.46)	16.2 (13.0-19.4)	0.038
≤24	91 (92.9%)	76 (96.2%)	15 (78.9%)	
>24	7 (7.1%)	3 (3.8%)	4 (21.0%)	0.009
Prothrombin time (s)	12.3 (12.1-12.5)	12.0 (11.9-12.2)	13.3 (12.3-14.2)	0.208
Creatinine (μmol/L)	64.7 (61.1-68.4)	60.3 (58.1-62.5)	83.4 (67.4-99.3)	0.167
D-dimer (ng/mL)	201.7 (168.2-235.1)	162.9 (128.4-197.6)	362.5 (274.8-450.3)	0.018
≤243	83 (84.7%)	73 (92.4%)	10 (52.6%)	
>243	15 (15.3%)	6 (7.6%)	9 (47.4%)	<0.001
PaO ₂ (mmHg)	95.9 (92.5-99.3)	98.8 (94.7-102.9)	85.9 (81.6-90.3)	0.093
PaCO ₂ (mmHg)	40.2 (39.7-40.7)	40.9 (40.3-41.4)	38.3 (36.9-39.7)	0.016
Chest CT findings				
Unilateral pneumonia	23 (23.5%)	20 (25.3%)	3 (15.8%)	0.379
Bilateral pneumonia	64 (65.3%)	48 (60.8%)	16 (84.2%)	0.054

Data are shown in n (%) unless otherwise specifically defined; SE, standard error; CRP, c-reactive protein; ALT, alanine aminotransferase; AST, aspartate aminotransferase; LDH, lactate dehydrogenase; PaO₂, partial pressure of oxygen; PaCO₂, partial pressure of carbon dioxide; CT, computerized tomography.