

Supplementary Table 1. Baseline characteristics of the study patients (n=1,005)

	All	Non-severe (n=872, 86.8%)	Severe (n=133, 13.2%)	P-value*
Demographic variable				
Age (years)	61 (48–72)	58 (46–70)	73 (64–81)	<0.001
Age, ≥65 years	407/1,005 (40.5)	309/872 (35.4)	98/133 (73.7)	<0.001
Male gender	361/1,005 (35.9)	284/872 (32.6)	77/133 (57.9)	<0.001
Height (cm)	162 (155–168)	161 (155–168)	162 (157–170)	0.121
Weight (kg)	62 (54–70)	60 (53–68)	65 (60–75)	<0.001
BMI (kg/m ²)	23.68 (21.51–25.95)	23.56 (21.22–25.50)	24.80 (22.31–27.05)	0.001
Overweight, BMI ≥25	142/435 (32.6)	99/346 (28.6)	43/89 (48.3)	<0.001
Obese, BMI ≥30	20/435 (4.6)	13/346 (3.8)	7/89 (7.9)	0.150
Smoking history				
Former or current smoker	81/853 (9.5)	58/738 (7.9)	23/115 (20.0)	<0.001
Coexisting liver related comorbidity				
Chronic hepatitis	47/1,005 (4.7)	38/872 (4.4)	9/133 (6.8)	0.220
Chronic hepatitis B	33/1,005 (3.3)	30/872 (3.4)	3/133 (2.3)	0.608
Chronic hepatitis C	18/1,005 (1.8)	17/872 (1.9)	1/133 (0.8)	0.495
Chronic hepatitis B and C coinfection	7/1,005 (0.7)	7/872 (0.8)	0/133 (0.0)	0.603
Chronic hepatitis B and C coinfection	1/1,005 (0.1)	1/872 (0.1)	0/133 (0.0)	1.000
Others	12/1,005 (1.2)	9/872 (1.0)	3/133 (2.3)	0.204
Liver cirrhosis	14/1,005 (1.4)	8/872 (0.9)	6/133 (4.5)	0.006
Hepatocellular carcinoma	2/1,005 (0.2)	0/872 (0.0)	2/133 (1.5)	0.017
Nonalcoholic fatty liver disease [†]	87/432 (20.1)	73/343 (21.3)	14/89 (15.7)	0.244
Other comorbidity				
Diabetes	191/1,004 (19.0)	139/871 (16.0)	52/133 (39.1)	<0.001
Hypertension	311/1,004 (31.0)	245/871 (28.1)	66/133 (49.6)	<0.001
Cardiovascular disease	38/1,004 (3.8)	29/871 (3.3)	9/133 (6.8)	0.053
Chronic obstructive pulmonary disease	14/1,004 (1.4)	10/871 (1.1)	4/133 (3.0)	0.102
Chronic renal disease	16/1,003 (1.6)	10/870 (1.1)	6/133 (4.5)	0.013
Symptoms on admission				
Fever/chills	452/995 (45.4)	358/864 (41.4)	94/131 (71.8)	<0.001
Cough	567/993 (57.1)	495/863 (57.4)	72/130 (55.4)	0.672
Shortness of breath	247/995 (24.8)	163/864 (18.9)	84/131 (64.1)	<0.001
Gastrointestinal symptoms (vomiting/ diarrhea)	237/995 (23.8)	219/864 (25.3)	18/131 (13.7)	0.004
Myalgia	325/994 (32.7)	295/864 (34.1)	30/130 (23.1)	0.012
Headache	253/994 (25.6)	245/864 (28.6)	8/130 (6.2)	<0.001
Time from symptom onset to admission (days)	6 (3–9)	6 (3–9)	5 (3–9)	0.048
Vital signs at presentation				
Temperature (°C)	36.9 (36.5–37.3)	36.9 (36.5–37.3)	36.7 (36.4–37.6)	0.212
Respiratory rate (breath/min)	20 (18–20)	20 (18–20)	21 (20–24)	<0.001
Saturation (%)	97 (95–98)	97 (96–98)	95 (88–100)	<0.001

Supplementary Table 1. Continued

	All	Non-severe (n=872, 86.8%)	Severe (n=133, 13.2%)	P-value*
Systolic pressure (mmHg)	130 (118–142)	130 (119–142)	124 (110–147)	0.132
Heart rate (/min)	82 (72–95)	82 (72–94)	87 (71–102)	0.021
Radiological finding				
Abnormal chest radiograph	587/1,005 (58.4)	459/872 (52.6)	128/133 (96.2)	<0.001
Bilateral involvement on chest radiographs	409/587 (69.7)	293/459 (63.8)	116/128 (90.6)	<0.001
Laboratory finding				
White blood cell count ($\times 10^3$ /uL)	5,300 (4,108–6,753)	5,120 (4,008–6,443)	7,045 (5,170–10,053)	<0.001
Lymphocyte count ($\times 10^3$ /uL)	1,392 (974–1,838)	1,479 (1,092–1,899)	760 (520–1,009)	<0.001
Hemoglobin (g/dL)	12.6 (11.7–13.7)	12.6 (11.8–13.6)	12.7 (11.4–13.9)	0.351
Platelet count ($\times 10^9$ /L)	219 (168–281)	223 (175–283)	185 (140–256)	<0.001
Erythrocyte sedimentation rate (mm/h)	51 (31–70)	47 (22–67)	55 (39–78)	0.032
C-reactive protein (mg/L)	1.2 (0.2–6.8)	0.8 (0.1–4.2)	12.8 (6.7–25.2)	<0.001
Procalcitonin (ng/mL)	0.07 (0.03–0.21)	0.05 (0.02–0.11)	0.21 (0.10–0.58)	0.008
Aspartate aminotransferase (U/L)	25 (19–37)	24 (18–32)	48 (32–68)	<0.001
Alanine aminotransferase (U/L)	20 (14–31)	19 (14–30)	22 (16–40)	0.033
Total bilirubin, mg/dL (mg/dL)	0.49 (0.33–0.70)	0.47 (0.32–0.66)	0.68 (0.40–0.97)	0.282
Alkaline phosphatase (U/L)	67 (56–83)	66 (55–81)	72 (59–99)	0.002
Gamma glutamyl transferase (U/L)	26 (16–48)	22 (15–38)	49 (27–92)	0.005
Serum albumin (g/dL)	3.9 (3.5–4.2)	4.0 (3.7–4.3)	3.3 (3.0–3.5)	<0.001
Prothrombin time (seconds)	11.8 (11.3–12.4)	11.7 (11.2–12.3)	12.7 (12.0–13.7)	0.022
Prothrombin time (INR)	0.98 (0.94–1.05)	0.97 (0.93–1.03)	1.09 (1.02–1.22)	0.040
Blood urea nitrogen (mg/dL)	14 (11–18)	13 (11–16)	20 (13–27)	<0.001
Creatinine (mg/dL)	0.73 (0.62–0.90)	0.71 (0.61–0.87)	0.92 (0.70–1.30)	0.001
Lactic acid (mmol/L)	1.5 (1.1–2.0)	1.4 (1.0–2.0)	1.5 (1.3–2.3)	0.035
Sodium (mmol/L)	140 (137–142)	140 (138–142)	136 (133–140)	<0.001
Potassium (mmol/L)	4.1 (3.8–4.4)	4.1 (3.8–4.4)	4.1 (3.6–4.7)	0.769
Lactate dehydrogenase (U/L)	441 (349–576)	424 (342–540)	561 (420–863)	<0.001
Creatine kinase (U/L)	62 (45–97)	60 (45–92)	90 (56–154)	0.006
Serum ferritin (ng/mL)	436 (265–801)	308 (167–503)	655 (399–1492)	0.030

Values are expressed as median (interquartile range) or numbers (%).

BMI, body mass index; INR, international normalized ratio.

* Calculated by Student's *t* test (or the Mann-Whitney *U* test, if appropriate) and chi-squared test (or Fisher's exact test, if appropriate).

[†]Non-alcoholic fatty liver disease was defined using hepatic steatosis index [HSI = 8 × (alanine aminotransferase / aspartate aminotransferase ratio) + BMI + (+2, if diabetes mellitus; + 2, if female)] more than 36 points.