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

| Demographic variable | All | Non-severe (n=872, 86.8%) | Severe (n=133, 13.2%) | P-value* |
|----------------------|-----|---------------------------|-----------------------|----------|
| 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/m²)          | 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 | 47/1,005 (4.7) | 38/872 (4.4) | 9/133 (6.8) | 0.220 |
| Chronic hepatitis     | 33/1,005 (3.3) | 30/872 (3.4) | 3/133 (2.3) | 0.608 |
| Chronic hepatitis B   | 18/1,005 (1.8) | 17/872 (1.9) | 1/133 (0.8) | 0.495 |
| Chronic hepatitis C   | 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 |

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### 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 (×10³/µL) | 5,300 (4,108–6,753) | 5,120 (4,008–6,443)   | 7,045 (5,170–10,053) | <0.001   |
| Lymphocyte count (×10³/µL) | 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 (×10⁹/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.