Clinical characteristics of 276 hospitalized patients with coronavirus disease 2019 in Zengdu District, Hubei Province: A single-center descriptive study

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Abstract

Background We aimed to report the epidemiological and clinical characteristics of hospitalized patients with coronavirus disease-19 (COVID-19) in Zengdu District, Hubei Province, China.

Methods Epidemiological, clinical features, laboratory findings, radiologic manifestations, and clinical outcomes of 276 patients in Zengdu hospital were analyzed. Clinical outcomes were followed up to March 13, 2020.

Results All hospitalized COVID-19 patients, 276 (median age: 51.0 years), were enrolled, including 262 non-severe and 14 severe patients. The proportion of patients aged over 60 years was higher in the severe group (78.6%) than in the non-severe group (18.7%, p < 0.01). Some patients had comorbidities (31.9% [88/276]), the proportion was higher in the severe group (85.7%) than in the non-severe group (29.0%, p < 0.01). Common symptoms included fever (82.2% [227/276]) and cough (78.0% [218/276]). Most patients (94.9% [204/276]) were cured and discharged; 3.6% (10/276) deteriorated to a critical condition and were transferred to another hospital. The median COVID-19 treatment duration and hospital stay were 14.0 and 18.0 days, respectively.

Conclusions COVID-19 patients in the areas surrounding Wuhan mainly showed mild and typical symptoms, Older patients or those with underlying comorbidities were at higher risk of deteriorating to a critical condition. In addition, we found that it takes about 14 days for nucleic acid test to turn negative in non-severe patients after antiviral treatment.

Introduction

In December 2019, a series of pneumonia cases with similar symptoms were reported in Wuhan, Hubei Province, China [1]. The Chinese Centers for Disease Control and Prevention (CDC) detected a novel coronavirus from a patient’s throat swab sample. The pneumonia was later named coronavirus disease 2019 (COVID-19) by the World Health Organization (WHO) [2]. The causative pathogen was identified as a novel enveloped RNA beta coronavirus named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [3]. The characteristic symptoms of COVID-19 patients include fever, cough, fatigue, and shortness of breath, and patients with severe disease may even show progression to acute respiratory distress syndrome and septic shock.
COVID-19 is highly contagious and spreads rapidly through human-to-human transmission [4, 5]. It is transmitted in humans through many modes including droplets, aerosols, feces, and oral mucus [6].

As of March 29, 2020, there were 81,470 confirmed COVID-19 cases and 3,304 deaths in China, including 67,801 confirmed cases and 3,186 deaths in Hubei Province, and 721584 confirmed cases and 33958 deaths worldwide. However, many infected people have not been counted owing to a lack of timely diagnosis. COVID-19 is a global pandemic. Therefore, a comprehensive and in-depth understanding of the epidemiological and clinical characteristics of COVID-19 is imperative for controlling the pandemic as soon as possible.

The number of COVID-19 cases in Wuhan was large, spread was fast and fatality rate was high. Most of the clinical characteristics of COVID-19 have been summarized from the samples of patients in Wuhan [7]. However, the study of COVID-19 patients outside Wuhan is insufficient and the sample size is limited [8, 9]. Thus, this study was aimed at describing the epidemiology, clinical features, laboratory findings, imaging features, and outcomes of COVID-19 patients in Zengdu District, which is a 3-h drive from Wuhan City. We hope that our work will contribute to the better understanding and control of this new infectious disease.

Patients And Methods

Data Sources

The study was approved by the institutional ethics board of Suizhou Zengdu Hospital, which was established by the Chinese government to treat COVID-19 patients in Zengdu District. All patients diagnosed with COVID-19 according to the interim guidance from the WHO [10] and admitted to Suizhou Zengdu Hospital from January 27 to March 11 were included. The clinical outcomes of the patients were followed up to March 13, 2020. Only laboratory-confirmed cases that were defined as positive based on the results of high-throughput sequencing or real-time reverse-transcriptase-polymerase chain reaction (RT-PCR) assay of nasal and pharyngeal swab samples were included. These confirmatory assays for SARS-CoV-2 were performed at the Suizhou CDC in accordance with the guidelines developed by the WHO [11]. Medication and treatment measures were selected according to the scheme recommended in the guidelines and combined with each patient’s condition [12].
determination whether a patient could be discharged was based on national discharge standards: Normal body temperature for more than 3 days, significantly improved respiratory symptoms, and two consecutive negative respiratory pathogenic nucleic acid tests (with a sampling interval of at least 1 day).

A team of doctors who had treated these patients extracted the recent exposure history, clinical symptoms, laboratory findings, radiologic manifestations, and clinical outcomes from patients’ medical records. All patients underwent at least one chest computed tomography (CT) scan, and data were extracted after the scans were reviewed by a dedicated imaging physician. All laboratory tests were performed according to treatment needs. The researchers also contacted the patients by phone if anything was unclear or information necessary for the study was missing from the medical record.

**Study Definitions**

According to the national treatment guideline, COVID-19 severity was defined as mild, normal, severe, or critical [13]. Accordingly, we divided the patients into a non-severe group (patients with mild or normal symptoms) and severe group (patients with severe or critical symptoms). Due to limited medical facilities at the Zengdu hospital, critical patients were transferred to hospitals with superior treatment facilities. The incubation period was defined as the interval between the patient's earliest date of exposure to the transmission source and the date of the initial symptom. Fever was defined as an axillary temperature of ≥ 37.5 °C. Lymphopenia, eosinopenia, and thrombocytopenia were defined as lymphocyte, eosinophil, and platelet counts of less than 1500, 100, and 150,000 of the corresponding cells per cubic millimeter. The smoking index was equal to the product of the number of cigarettes per day and smoking years. The length of COVID-19 treatment was defined as the time interval from patient admission to the meeting of the discharge criteria of COVID-19 [12].

**Study Outcomes**

The primary composite end points were discharge from the hospital owing to being cured and transfer to another hospital because of condition deterioration. The secondary end points were cure or discharge rate and the length of hospital stay.

**Statistical Analyses**
Statistical analyses were performed with SPSS (v.18.0; SPSS Inc., Chicago, IL, USA). Continuous variables are described as median values and interquartile ranges (IQRs), and categorical variables are reported as numbers and percentages. We used the Mann-Whitney U test, χ² test, or Fisher’s exact test to compare differences between the two groups. A two-sided α of less than 0.05 was considered statistically significant.

Results

Demographic and Clinical Characteristics

We obtained data on the demographic characteristics, symptoms, and outcomes for 276 patients hospitalized in Suizhou Zengdu Hospital as of March 11, 2020. The severe group included 14 (5.1%) patients while the non-severe group included 262 (94.9%) patients. The demographic and clinical characteristics of the patients are shown in Table 1. Forty-three (15.6%) of the 276 patients had visited Wuhan within 14 days before the study enrollment; 60.1% (166/276) of the patients had come into contact with people who had travelled to Wuhan or were diagnosed with COVID-19. The remaining 67 patients reported they had not been to Wuhan and it was unclear how these patients had been exposed to the transmission source; none of the patients had a history of exposure to the Huanan seafood wholesale market or a wild animal. The incubation period calculated based on the data from 71 patients with a known exposure time was 6 days (IQR, 4–7 days). The longest incubation period was 20 days. A nurse in the fever clinic of Suizhou Zengdu Hospital was the only medical staff included in the study.

The median age of the patients was 51 years (IQR, 41–58 years). The patients in the severe group were significantly older than those in the non-severe patients (median age: 65 years [IQR, 60.0–72.8 years] vs 50 years [IQR, 39.0–57.0 years], p < 0.01). Male patients accounted for 56.2% of all patients. A history of smoking was noted for 12.8% of the 220 patients with smoking index data. The median body mass index (BMI) of all the patients included was 23.7 (IQR, 22.0–25.4). The most common symptom of COVID-19 was fever, which was observed in 82.2% (227/276) of the patients. The other common symptoms were cough (78.0%, 218/276), fatigue (51.1%, 141/276), sputum
production (49.6%, 137/276), and shortness of breath (15.2%, 42/276). Fever at the time of admission was noted in 38.4% (42/276) of the patients, while fever during hospitalization was noted in 75.0% (207/276) of the patients. At least one comorbidity was reported in 31.9% (88/276) of the patients, with the most common comorbidity being hypertension (17.0%, 47/276). Most of the severe patients (85.7%, 12/14) had at least one comorbidity; this percentage was significantly higher than that among the non-severe patients (29.0%, 76/262).

**Radiologic and Laboratory Findings**

Table 2 shows the results of radiology and laboratory tests at admission. All 276 patients underwent CT at admission, and abnormal results were obtained for 95.7% (264/276) of the patients. The most common chest CT findings were bilateral patchy shadows (84.1%, 232/276) and ground-glass–like shadows (80.1%, 221/276). Figure 1 shows typical ground-glass shadows and bilateral patchy shadows in two patients.

According to the results of the first examination after admission, 30.1% (83/276), 75.0% (204/276), 45.7% (126/276), and 31.5% (87/276) of the patients had leukopenia, lymphocytopenia, eosinopenia, and thrombocytopenia, respectively. Lymphocytopenia, eosinopenia, and thrombocytopenia were more obvious in the severe group compared to that in the non-severe group, C-reactive protein levels were elevated in 60.9% (162/266) of the patients, erythrocyte sedimentation rate of 90.0% (180/201) patients and D-dimer of 53.7% (123/229) patients were also elevated. The levels of procalcitonin, creatine kinase, alanine aminotransferase, aspartate aminotransferase, and myoglobin were rarely elevated. Elevation of creatine kinase and creatinine levels was rare in the non-severe group and more common in the severe group.

**Clinical Outcomes**

Most of the patients (94.9%, 262/276) were cured and discharged from the hospital, while 3.6% (10/276) of the patients showed condition deterioration to a critical status and were transferred to another hospital. All of these patients belonged to the severe group; 1.4% (4/276) of the patients were transferred to another hospital for other reasons. The median lengths of COVID-19 treatment and hospital stay were 14 days (IQR, 11.0-18.0 days) and 18 days (IQR, 15.0-24.0 days), respectively.
Discussion
This report, to the best of our knowledge, is by far the largest single-center COVID-19 case study of the Wuhan surrounding area in Hubei Province. Our study with these 276 patients confirms that COVID-19 patients in the surrounding area of Wuhan show mainly mild and normal illness with fever and lymphocytopenia as the main clinical features. Older patients (age > 60 years) or those with underlying comorbidities are at higher risk of deteriorating to critical status.

The patients in Zengdu area show mainly mild and normal illness, with a few patients showing severe and critical illness. Wuhan, As the site with the most serious COVID-19 infection in China, many patients did not get timely diagnosis and treatment initially, and medical resources were insufficient to accommodate the sudden burst of patients. As a result, the proportion of severe cases reached 15.0%-30.0% [14, 15], while the rate of severe disease in other regions was 3%-15% [16, 17], similar to 5.1% in this study. This may be because, with the deepening of the understanding of COVID-19 and the formulation of relevant guidelines [18, 19], many patients were diagnosed and treated in a timely manner without deteriorating into severe disease.

The early common symptoms of COVID-19 patients include fever, cough, sputum, and other symptoms of lower respiratory tract infection. As the most common symptom, in general, more than 80% of patients have a fever, but only 38.4% of the patients had a fever at the time of admission, which shows that the fever in many patients was intermittent. It also means a large number of patients with intermittent fever will be set free if instant body temperature readings are the only measure used for screening [2, 20]. The proportion of fever in critically ill patients increases significantly after hospitalization, and most of these new fever cases may be caused by secondary infection, so it is necessary for severe patients to receive antibiotics to prevent secondary infection [13].

COVID-19 patients over 60 years old were more likely to show deterioration into critical illness. Previous studies on severe acute respiratory syndrome (SARS) and Middle East Respiratory Syndrome (MERS) have confirmed that age was an important predictor of poor prognosis [21, 20], and similar
conclusions were obtained for COVID-19 [22]. Data obtained by Nanshan Zhong et al. [23] and Zhongliang Wang et al. [14] showed that the age of severe patients was significantly older than that of non-severe patients. Consistent with these findings, among the patients we collected, the median age of severe patients was 65 years, while that of non-severe patients was 50 years. In addition, about 78.6% of the severe patients were more than 60 years old. These studies have shown that older COVID-19 patients have a poor prognosis. However, advanced age often implies more comorbidities and worse lung function, which may also affect the prognosis [24].

COVID-19 patients with comorbidities were also likely to show deterioration. The studies by Nanshan Zhong et al and Dawei Wang et al. [22] both showed high proportions of comorbidities in severe patients. A WHO survey reported that people over 60 years of age and those with comorbidities had the highest risk of severe disease [25]. In a recent retrospective study of 25 death cases with COVID-19 [24], all of the deceased patients have comorbidities, which were considered to be one of the most important risk factors for death. In this study, 85.7% of the severe patients had comorbidities, among which hypertension was the most common. Angiotensin-converting enzyme (ACE) inhibitors and angiotensin II receptor blockers are commonly used in many adults with hypertension, diabetes, and chronic kidney disease [26]. Studies have shown that these drugs up-regulate ACE-2 receptors, which are the receptors that SARS-CoV-2 virus uses to enter host cells, which may be one of the reasons why older people with comorbidities are susceptible to infection and deterioration [27]. In addition, COVID-19 damage to the lungs can aggravate some comorbidities, such as chronic obstructive pulmonary disease. Antiviral drugs and glucocorticoids also have limited benefits for patients with comorbidities.

Some early studies had shown that males are more likely to be infected with COVID-19 than females [28, 29]. With more cases, this conclusion has been challenged. Multiple studies have shown that there was no gender-related difference in COVID-19 incidence [20, 14]. Our results indicate that there was no difference in the susceptibility to COVID-19 in males and females. Smoking index and BMI were calculated in this study, but no significant association was found between them and COVID-19 infection; however, this conclusion needs to be further confirmed by more carefully designed studies.
In terms of laboratory tests, 75% of patients had lymphopenia, and more obvious findings were noted in severe patients. The novel coronavirus can induce a cytokine storm and inhibit the generation of lymphocytes [30, 31], so lymphopenia is very common in patients with COVID-19. The low absolute value of lymphocytes can be used as a reference indicator for clinical diagnosis of novel coronavirus infections [6]. Lymphocytes showed a pronounced decline in severe patients than in non-severe patients, indicating that the degree of lymphocyte decline can be used to assess the severity of the disease [23, 32], and that continuous decline of lymphocytes is also one of the indicators of disease deterioration [13]. In addition, we also found that the levels of D-dimer [24], myohemoglobin, creatine kinase, etc. have increased significantly in severe patients, It seems that they all have the potential to indicate the severity of the disease [15, 28], but the relevant data were insufficient, we are still unable to draw relevant conclusions.

At present, there is no specific medicine for COVID-19 [33]. All drugs and treatment measures were selected according to the disease condition and the scheme recommended by the guidelines. As most patients were in mild condition and received timely treatment, the cure rate was close to 95%, and only 3.6% of the patients showed deterioration to critical status and were transferred to a hospital. These prognostic data are better than those in the Wuhan area [6, 34], which is close with the 94% cure rate in other areas of China [35]. The length of hospital stay in this study is slightly longer than that in Wuhan [23], which may be related to the older and more basic diseases of the patients we included. In addition, the medical resources in Zengdu area are not as tight as in Wuhan, and patients will not have to be discharged as soon as possible, most patients will be hospitalized for some time to recover after a negative virus test.

This study has several limitations. First, since it is a retrospective study with a limited number of patients, some conclusions need to be verified by studies with more rigorous design and larger samples. Second, Zengdu hospital was a community hospital, and most of the critically ill patients had to be transferred to superior hospitals for treatment. we are temporarily unable to get information on the follow-up treatment and complications of these patients. Third, when calculating the incubation period, we excluded the unclear contact date, resulting in fewer patients included, and the potential
memory bias will also affect our results.

Conclusion
This report is by far the largest single-center COVID-19 case study in the surrounding areas of Wuhan City, Hubei Province. The results show that most of the COVID-19 patients in Zengdu area are mild, older patients with underlying diseases have a high risk of turning into severe disease, the median antiviral treatment duration for COVID-19 was 14.0 days. The study of COVID-19 patients in this representative area will help us understand the epidemiology and clinical characteristics of COVID-19 and allocate medical resources reasonably to better control such large-scale infectious diseases.

Abbreviations
COVID-19
Coronavirus disease-19
SARS-CoV-2
Severe acute respiratory syndrome coronavirus 2
CDC
Centers for Disease Control and Prevention
WHO
World Health Organization
RT-PCR
Real-time reverse-transcriptase-polymerase chain reaction
CT
Computed tomography
BMI
Median body mass index
IQR
Interquartile ranges
SARS
Severe acute respiratory syndrome
MERS
Middle East Respiratory Syndrome
ACE
Angiotensin-converting enzyme

Declarations
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Conflict of Interests
The authors declare that they have no competing interests to disclose.

Availability of data and material
The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethical approval
This study was approved by the Ethics Committee of Suizhou Zengdu Hospital. Written informed consent was obtained from the patient.

Consent for publication
Not applicable

Author contributions
LJS, WYP and HXY designed the study. HP, LC, ZM, LHD and LDH were responsible for collecting the epidemiological and clinical data, QXT examined the CT images and extracted the data, HZF, LJY and ZCL were responsible for processing the statistical data, ZWB, YWZ and LHD wrote the paper. All authors read and approved the final manuscript.

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**Tables**

Table 1 Clinical Characteristics of the Study Patients.

| Characteristic                        | All Patients (N = 276) | Non-severe (N = 262) |
|---------------------------------------|------------------------|----------------------|
| Age                                   |                        |                      |
| Median (IQR) — yr                     | 51.0 (41.0-58.0)       | 50.0 (39.0-57.0)     |
| Distribution — no./total no. (%)      |                        |                      |
| 0-19 yr                               | 4/276 (1.4)            | 4/262 (1.5)          |
| 20-59 yr                              | 212/276 (76.8)         | 209/262 (79.8)       |
| >60 yr                                | 60/276 (21.7)          | 49/262 (18.7)        |
| Male sex-no./total no. (%)            | 155/276 (56.2)         | 145/262 (55.3)       |
| Smoking Index — no./total no. (%)     |                        |                      |
| 0                                     | 192/220 (87.2)         | 182/208 (87.1)       |
| 1-199                                  | 7/220 (3.2)            | 7/208 (3.4)          |
| 200-399                                | 6/220 (2.7)            | 5/208 (2.4)          |
| ≥400                                   | 15/220 (6.8)           | 14/208 (6.7)         |
| Median BMI (IQR)                      | 23.7 (22.0-25.4)       | 23.7 (21.8-25.4)     |
| Exposure to source of transmission within past 14 days — no./total no. a |                      |                      |
| Recently visited Wuhan                | 43/276 (15.6)          | 42/262 (16.0)        |
| Had contact with people visited Wuhan or diagnosed with COVID-19 | 166/276 (60.1) | 157/262 (59.1) |
| Contact with wildlife                 | 0                      | 0                    |
| Median incubation period (IQR) — days b | 6.0 (4.0-9.0)         | 6.0 (4.0-9.0)        |
| Fever on admission                    |                        |                      |
| Patients — no./total no. (%)          | 106/276 (38.4)         | 99/262 (37.8)        |
| Median temperature (IQR) — °C         | 37.2 (36.6-37.9)       | 37.2 (36.6-37.9)     |
| Distribution of temperature — no./total no. (%) |                      |                      |
| <37.5°C                               | 170/276 (61.6)         | 163/262 (62.1)       |
| 37.5-38.0°C                           | 54/276 (19.6)          | 51/262 (19.5)        |
| 38.1-39.0°C                           | 41/276 (14.9)          | 39/262 (14.9)        |
| >39.0°C                               | 11/276 (4.0)           | 9/262 (3.4)          |
| Fever during hospitalization          |                        |                      |
| Patients — no./total no. (%)          | 207/276 (75.0)         | 195/262 (74.4)       |
| Median highest temperature (IQR) — °C | 38.2 (37.5-38.9)       | 38.2 (37.4-38.1)     |
| <37.5°C                               | 69/276 (25.0)          | 67/262 (25.6)        |
| 37.5-38.0°C                           | 57/276 (20.7)          | 56/262 (21.4)        |
| Temperature          | No./Total (%)    | No./Total (%) |
|----------------------|------------------|---------------|
| 38.1-39.0°C          | 107/276 (38.8)   | 103/262 (39.1) |
| >39.0°C              | 43/276 (15.6)    | 36/262 (13.7)  |

Symptoms — no./total no. (%)

| Symptom                  | No./Total (%)    | No./Total (%) |
|--------------------------|------------------|---------------|
| Fever                    | 227/276 (82.2)   | 219/262 (84.4) |
| Conjunctival congestion  | 2/276 (0.7)      | 2/262 (0.8)   |
| Nasal congestion         | 8/276 (2.9)      | 8/262 (3.1)   |
| Headache                 | 24/276 (8.7)     | 22/262 (8.4)  |
| Cough                    | 218/276 (78.0)   | 204/262 (77.1) |
| Sore throat              | 26/276 (9.4)     | 23/262 (8.8)  |
| Sputum production        | 137/276 (49.6)   | 127/262 (48.1) |
| Fatigue                  | 141/276 (51.1)   | 133/262 (50.1) |
| Hemoptysis               | 1/276 (0.4)      | 0/262 (0)     |
| Shortness of breath      | 42/276 (15.2)    | 36/262 (13.7) |
| Nausea or vomiting       | 23/276 (8.3)     | 20/262 (7.6)  |
| Diarrhea                 | 6/276 (2.2)      | 5/262 (1.9)   |
| Myalgia or arthralgia    | 26/276 (9.4)     | 24/262 (9.2)  |

Comorbidities — no./total no. (%)

| Comorbidity                        | No./Total (%)    | No./Total (%) |
|-------------------------------------|------------------|---------------|
| Any                                 | 88/276 (31.9)    | 76/262 (29.0) |
| Hypertension                        | 47/276 (17.0)    | 39/262 (14.9) |
| Chronic obstructive pulmonary disease | 7/276 (2.5)     | 5/262 (1.93) |
| Diabetes                            | 14/276 (5.1)     | 12/262 (4.6)  |
| Coronary heart disease              | 12/276 (4.0)     | 8/262 (5.2)   |
| Cerebrovascular disease             | 6/276 (2.2)      | 5/262 (2.0)   |
| Cancer                              | 3/276 (1.1)      | 2/262 (0.8)   |

IQR, interquartile range; BMI, body mass index; Covid-19, coronavirus disease 2019.

a 95 patients unknown if their own had been exposed to source of transmission

b The incubation period for 205 people cannot be determined

c Included any kind of cancer.

Table 2 Radiographic and Laboratory Findings. a
| Variable | All Patients |
|----------|--------------|
| Abnormalities on chest CT — no./total no. (%) | |
| Ground-glass opacity | 221/276 (80.1%) |
| Local patchy shadowing | 17/276 (6.4%) |
| Bilateral patchy shadowing | 232/276 (84.1%) |
| Interstitial abnormalities | 40/276 (14.5%) |
| Laboratory findings | |
| White-cell count | |
| Median (IQR) — per mm 3 | 4700 (3800-6100) |
| Distribution — no./total no. (%) | |
| >10,000 per mm 3 | 16/276 (5.8) |
| <4000 per mm 3 | 83/276 (30.1) |
| Lymphocyte count | |
| Median (IQR) — per mm 3 | 1100 (800-1500) |
| Distribution — no./total no. (%) | |
| <1500 per mm 3 | 204/276 (75.0) |
| Eosinocyte count | |
| Median (IQR) — per mm 3 | 0.01 (0-0.03) |
| Distribution — no./total no. (%) | |
| <100 per mm 3 | 126/276 (45.7) |
| Platelet count | |
| Median (IQR) — per mm 3 | 177000 (140000-221000) |
| Distribution — no./total no. (%) | |
| <150,000 per mm 3 | 87/276 (31.5) |
| Distribution hemoglobin (IQR) — g/dl | 131.5 (123.0-143.0) |
| Distribution of other findings — no./total no. (%) | |
| C-reactive protein ≥10 mg/liter | 162/266 (60.9) |
| Procalcitonin ≥0.5 ng/ml | 6/240 (2.5) |
| Lactate dehydrogenase ≥250 U/liter | 31/93 (33.3) |
| Aspartate aminotransferase >40 U/liter | 39/274 (14.2) |
| Alanine aminotransferase >40 U/liter | 61/274 (22.3) |
| Total bilirubin >17.1 µmol/liter | 43/274 (15.7) |
| Creatine kinase ≥200 U/liter | 9/81 (11.1) |
| Creatinine ≥115 µmol/liter | 6/274 (2.2) |
| D-dimer >0.5 mg/liter | 123/229 (53.7) |
| Myohemoglobin ng/ml | 18/204 (8.0) |
| Erythrocyte sedimentation rate mm/h | 180/201 (90.0) |
Lymphocytopenia was defined as a lymphocyte count of less than 1500 per cubic millimeter. Eosinopenia was defined as an eosinocyte count of less than 100 per cubic millimeter. Thrombocytopenia was defined as a platelet count of less than 150,000 per cubic millimeter. These are results of the first examination after admission.

### Table 3. Clinical Outcomes

| Variable                                                     | All Patients (N = 276) | Disease Severity |
|--------------------------------------------------------------|------------------------|------------------|
|                                                              |                        | Non-severe (N = 262) | Severe (N = 14) |
| Clinical outcomes — no. (%)                                   |                        |                  |                |
| Cured and discharged from hospital                          | 262/276 (94.9)         | 258/262 (98.5)    | 4/14 (28.6)    |
| Deteriorated to critical and transferred hospital            | 10/276 (3.6)           | 0/262 (0)         | 10/14 (71.4)   |
| Transferred hospital for other reasons                       | 4/276 (1.4)            | 4/262 (1.5)       | 0/14 (0)       |
| Median length of treatment for COVID-19 (IQR) — days         | 14.0 (11.0-18.0)       | 14.0 (11.0-18.0)  | 16.0 (15.0-17.1) |
| Median length of hospital stays (IQR) — days                 | 18.0 (15.0-24.0)       | 18.0 (15.0-24.0)  | 21.5 (14.0-21.4) |

*14 patients transferred hospital were not include*

**Figures**
Figure 1

Typical chest computed tomography imaging of COVID-19 patients