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Letter

Clinical characteristics of patients with COVID-19 in Huangshi, China

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Dear Editor,

The first coronavirus disease 2019 (COVID-19) outbreak was reported in Wuhan, Hubei, China. As one of the cities closest to Wuhan, Huangshi is considered a subcenter of the Wuhan metropolitan area. This study was carried out to describe the characteristics of adult patients with confirmed COVID-19 in Huangshi.

The study was approved by the institutional ethics board of Huangshi Traditional Chinese Medicine Hospital (No. HSZYPJ-2020–029–01). Written informed consent was waived owing to the urgent need to collect data. Clinical data and outcomes of adult patients with COVID-19 at eight designated hospitals in Huangshi were retrospectively collected up to March 24, 2020. Patients were divided into two groups according to the date of hospital admission.

During the study period, a total of 996 adult patients were admitted to the 8 designated hospitals in Huangshi. Patients were divided into two groups (Group 1, n=498 and Group 2, n=498) according to their date of admission (before or after February 5, 2020, when version 5 of the COVID-19 diagnosis and treatment guidelines in China was published). As shown in Table 1, patients in Group 1 were younger than those in Group 2 (mean age, 48.0 years *vs.* 51.0 years, P=0.002). The mortality rate at hospital discharge was higher for Group 1 than for Group 2 (4.8% *vs.* 3.0%, P=0.140). Length of hospital stay (LOS) differed significantly between the two groups (17.0 days *vs.* 17.5 days, P=0.044). There were more critically ill patients admitted to the intensive care unit in Group 1 than in Group 2 (20.5% *vs.* 14.3%, P=0.010). However, there was no statistically significant difference in mortality of critically ill patients between groups (Group 1, 23.5% *vs.* Group 2, 21.1%, P=0.710). LOS of critically ill patients showed a decreasing trend over time, from 21.5 days

Table 1
Characteristics of the study population.

Variables	Group 1 (n=498)	Group 2 (n=498)	P-value
Age(years)	48.0 (35.0, 59.0)	51.0 (40.8, 62.0)	0.002
Male	248 (49.8)	250 (50.2)	0.900
LOS(days)	17.0 (13.0, 22.0)	17.5 (14.0, 23.0)	0.044
Critically ill patients	102 (20.5)	71 (14.3)	0.010
LOS of critically ill patients (days)	21.5 (16.0, 26.0)	18.0 (13.0, 25.0)	0.075

Data are presented as n (%) or median (interquartile range).
LOS: Length of hospital stay.

to 18.0 days (P=0.075). In the multivariate regression analysis, age (odds ratio [OR]=1.13, 95% confidence interval [CI]: 1.09–1.16) and LOS (OR=0.86, 95% CI: 0.81–0.91) were significantly associated with mortality at hospital discharge (P <0.001).

Although the mean age of patients with COVID-19 in Huangshi increased over time, mortality showed a downward trend, while LOS and incidence of critical illness decreased. This suggested that the virulence and viral loads of severe acute respiratory syndrome-associated coronavirus 2 (SARS-CoV-2) — the causative agent of COVID-19 — decreased during the study period.

There is still no clear evidence of a relationship between SARS-CoV-2 virulence and COVID-19 prevalence.[1] A recently published study showed that hydroxychloroquine treatment was significantly associated with viral load reduction in COVID-19 patients.[2] In our observational study, virulence and viral load could not be measured because of clinical limitations, but the decline in mortality of older patients may have contributed to the variable epidemiology of COVID-19 observed in different periods. Virologists and epidemiologists need to continue close monitoring of SARS-CoV-2 to determine its virulence and epidemiology.

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Age was an independent risk factor for mortality in COVID-19 patients. Previous studies have shown that older adults are more susceptible to COVID-19 and had significantly higher risks of morbidity and mortality.[3,4] As COVID-19 symptoms have an atypical presentation in elderly patients, early identification and treatment are challenging.[5] Early diagnosis, education of patients and their families, and timely implementation of critical care interventions are recommended for elderly people to reduce their risk of mortality from COVID-19.

In conclusion, the incidence of critically ill adult patients with COVID-19 in Huangshi decreased over time, and there was a trend declining overall mortality among patients. Age and LOS were independent risk factors for mortality from COVID-19.

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Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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