

Study demonstrates the need for immediate ICU care for severe COVID-19 pneumonia

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Researchers have identified the most common clinical characteristics of 109 patients with COVID-19 related pneumonia who died in Wuhan, China in the early stages of the coronavirus pandemic, according to a

new study published online in the *Annals of the American Thoracic Society*.

In "Hospitalization and Critical Care of 109 Decedents With COVID-19 Pneumonia in Wuhan, China," Huan-Zong Shi, MD, Ph.D., and co-authors report on the age, comorbidities (other diseases), treatments and other commonalities among [patients](#) who died from this viral infection in three Wuhan hospitals between Dec. 25, 2019 and Feb. 24, 2020. The study was conducted to describe the hospitalization and [critical care](#) of patients who died from COVID-19 [pneumonia](#).

"Mortality due to COVID-19 pneumonia was concentrated in patients above 65 years of age, especially those with major comorbidities," stated Dr. Shi, professor and director of the Department of Respiratory and Critical Care Medicine, Beijing Chao-Yang Hospital, Capital Medical University. "We also found that patients who were admitted to the ICU lived longer than those who didn't. Our findings should aid in the recognition and clinical management of such infections, especially in ICU resource allocation."

The researchers looked back at the [medical records](#) of 109 deceased patients (out of 1,017) with confirmed COVID-19 pneumonia admitted to three Wuhan hospitals: Wuhan Pulmonary Hospital, which is designated as a "COVID-19 hospital," Tianyou Hospital affiliated with Wuhan University of Science and Technology, and Central Hospital of Wuhan. They recorded information on patients' demographics, clinical symptoms, laboratory results on admission and during hospitalization, treatment and date of death. The team created a database containing this information, and then cross-checked it. They then performed statistical analyses.

The average age of these patients was 70.7 years. Eighty-five suffered from comorbidities. The most common conditions were hypertension

([high blood pressure](#)), cardiovascular or cerebrovascular diseases and diabetes. All 109 patients were critically ill at hospital admission, and their most common condition was progressive shortness of breath (dyspnea). Prof. Shi observed, "Dyspnea was the most remarkable symptom that rapidly worsened."

Although all of these patients needed ICU care, only 46.8 percent were admitted to the ICU because of a bed shortage. Although all of the patients studied died, patients who were in the ICU group in comparison to the non-ICU group, lived an average of 15.9 days vs. 12.5 days following hospitalization.

"It is not surprising that there were approximately twice as many men as women among non-survivors with COVID-19 pneumonia," stated Prof. Shi. "In most infectious diseases and related conditions such as sepsis and septic shock men always represent a larger proportion of cases and have higher mortality rates."

All patients received antibiotics to treat secondary infections and nearly all received antivirals, while all ICU patients also received antifungal drugs. Other medicines, including glucocorticoids and intravenous immune globulin, were given to some patients. Oxygen therapy of various types was given to all patients.

Based on their observations and analyses, the authors concluded: "Since multiple organ failure, especially respiratory failure and heart failure, occurred rapidly after [hospital](#) admission, an organ protection strategy and ICU care should be provided as soon as possible to patients with severe COVID-19 pneumonia in order to prolong their survival. A social distancing policy should also be proposed to slow the rate of cases and prevent health care systems from being overwhelmed by patients for whom they cannot provide ICU care."

More information: Rong-Hui Du et al, Hospitalization and Critical Care of 109 Decedents with COVID-19 Pneumonia in Wuhan, China, *Annals of the American Thoracic Society* (2020). [DOI: 10.1513/AnnalsATS.202003-225OC](https://doi.org/10.1513/AnnalsATS.202003-225OC)

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