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Novel coronavirus-2019-associated acute respiratory syndrome: China and global outbreaks

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Editorial

Coronavirus were found in the mid-1960s that can infect both humans and animals (birds and mammals), whereas seven coronaviruses are known to infect humans, such as *Betacoronavirus* HCoV-OC43 and HCoV-HKU1 and *Alphacoronavirus* HCoV-229E. These coronaviruses primarily target on epithelial cells in the respiratory and gastrointestinal tracts through various routes of transmission, such as respiratory droplets, airborne, fecal-oral or fomites. These coronaviruses cause common colds as well as severe lower respiratory tract infections in the youngest and oldest age groups.[1] Novel coronavirus-2019 (2019-nCoV) was first identified from a patient with pneumonia, related to the cluster of acute respiratory illness cases from Wuhan, China with close relation to SARS-CoV and genetically clusters within the genus *Betacoronavirus*, subgenus *Sarbecovirus*.[2] With bases on the epidemiological characteristics of respiratory infections caused by SARS-CoV and MERS-CoV, its incubation period of 2 to 7days and up to 14days is possible. Approximately 20% of the laboratory-confirmed cases are seriously or critically ill and at least 4 confirmed cases have died.[3]

On December 31, 2019, the Wuhan Municipal Health Commission in Wuhan City, Hubei province, China reported a cluster of 27 pneumonia cases of unknown etiology, including 7 severe cases, with a common reported connection with Wuhan's Huanan Seafood Wholesale Market (a wholesale fish and live animal market selling different animal species).[4] These cases presented with several infectious respiratory disease, such as fever, dyspnea, and bilateral pulmonary infiltrates on chest roentgenograms. Chinese authorities placed all cases under isolation, initiated contact tracing activities and hygiene and environmental sanitation activities at this market, which was closed to the public on January 1, 2020. At that time, no significant human-to-human transmission and no cases among healthcare workers were reported by the Chinese authorities. Between December 31, 2019 and January 20, 2020, 295 2019-nCoV-laboratory-confirmed cases, including 4 deaths, have been reported.[5] Of the 295 laboratory-confirmed cases, 291 cases were reported by China (270 cases in Wuhan City, 5 cases in Beijing, 14 cases in Guangdong, and 2 cases in Shanghai).[5] Fifteen healthcare workers in Wuhan were the reported cases during that period.[6] During that period, Wuhan City reported that 169 cases were hospitalized, of which 35 cases were seriously and 9 cases were critically ill.[7] In Guangdong, China, 2 of the 14 reported cases had not travelled to Wuhan, China, but had a history of contact with laboratory-confirmed cases,[8] whereas the other four laboratory-confirmed cases were outside-China-travel-related.[9–11] Of the four reported deaths (January 9-19, 2020), all were in China with the ages ranked between 61 to 89years.[7, 9, 12, 13] For the majority of the reported cases, the history of exposure to the Wuhan's Huanan Seafood Wholesale Market or other live markets is unknown.[11]

In conclusion, with bases on the genetic similarities between 2019-nCoV and SARS-CoV, the limited epidemiological data available from China and the case detection through entry screening outside of China, we hypothesize that new cases will be detected among travelers from Wuhan, China. Without implementation of proper infection prevention and control measures at the point of care for individuals under investigation, there will be a likelihood of disease outbreaks, particularly via traveler transmission, transmission on aircrafts, and healthcare-related transmission in the destination countries. Nevertheless, in the global experiences, systematic implementation of infection prevention and control measures were effective in controlling both SARS-CoV and MERS-CoV.

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Conflicts of interest

Author declares that there is no conflict of interest.

References

1. Yin Y, Wunderlink RG. MERS, SARS and other coronaviruses as causes of pneumonia. *Respirology*. 2018;23(2);130-137.
2. World Health Organization. *WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China*. 2020.
3. People CN. #New coronavirus pneumonia latency. 2020
4. Wuhan City Health Committee. *Wuhan Municipal Health and Health Commission's briefing on the current pneumonia epidemic situation in our city*. 2019.
5. National Health Commission. *Epidemic situation of new coronavirus infection on January 21, 2020*. 2020.
6. WHO Regional Office for Western Pacific. *Novel Coronavirus (2019-nCoV)*. 2020.
7. Wuhan City Health Committee. *Wuhan Municipal Commission on Health on pneumonia of new coronavirus infection*. 2020.
8. Health Commission of Guangdong Province. *Our province actively responds to pneumonia epidemic of new coronavirus infection*. 2020.

9. Wuhan City Health Committee**.** *Wuhan Municipal Commission of Health and Health on pneumonia of new coronavirus infection*. 2020**.**
10. European Center for Disease Prevention and Control**.** *Rapid Risk Assessment* **:** *Cluster of pneumonia cases by a novel coronavirus, Wuhan, China*, 2020. 2020.
11. Xinhua Net**.** *Xi orders resolute efforts to curb virus spread***.** 2020**.**
12. Wuhan City Health Committee**.** *Experts explain the latest bulletin of unknown cause of viral pneumonia 2020.*
13. Wuhan City Health Committee**.** *Wuhan Municipal Commission of Health on pneumonia of new coronavirus infection.* 2020**.**

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