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Commentary

A commentary on “A comparative overview of COVID-19, MERS and SARS: Review article”



ARTICLE INFO

Keywords

SARS
MERS
COVID-19
Epidemiology
Treatment

Novel coronavirus (COVID-19) was first discovered in December 2019 in Wuhan, China, in a group of patients suspected of having an unknown type of the viral pneumonia, all of whom had visited seafood markets in Huanan [1]. The polymerase chain reaction, cell culture, and the whole genome sequencing were utilized to identify and detect the bronchoalveolar lavage fluid to evaluate whether patients had the viral pneumonia. This virus was separated from the biological samples and was identified as the genus betacoronaviru, along with other cases of Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).

Liu et al. [2] reviewed the etiology, epidemiology, treatment method, clinical features as well as the sequelae of COVID-19, MERS and SARS. We believe that this is fascinating, as it may help to offer the further research direction and help to gain in-depth understanding of the relevant knowledge of COVID-19. It has long been clear that there is a great difference between COVID-19, MERS and SARS. Despite the symptoms being similar, the transmissibility of MERS and SARS is much lower, but they are more likely to be fatal or severe than the COVID-19.

Currently, there is no approved antiviral treatment for MERS and SARS, nor for COVID-19. Drugs utilized for COVID-19 involve broad-spectrum antiviral agents, for instance HIV-protease inhibitors and nucleoside analogues. According to recent articles, broad-spectrum antiviral drugs, containing neuraminidase inhibitors, lopinavir, RNA synthesis inhibitors and peptides, are regarded rational for the treatment method [3]. Ledford et al. [4] has observed that dexamethasone is the first drug to be proven to decrease the deaths caused by COVID-19. The other drug shown to benefit people suffering from COVID-19 is the antiviral drug remdesivir. It is surprising that remdesivir has been testified to have the function of shortening the length of hospital stay, but has no obvious effect on death rate. Moreover, many scientists are working on COVID-19 to better understand the interaction between the virus and the host, in addition to creating novel therapeutics and testing potential vaccines. The great advantage of the vaccine development technology based on nucleic acid is the short time required from design to clinical trials. Developing vaccine against COVID-19 requires further

studies on gene mutations and how to avoid vaccine failure because of them.

To sum up, there is still much more to know about COVID-19, especially in its prevention and treatment. The experiences we have learned from MERS and SARS epidemics in the past are the best weapon for us against this novel global threat.

Ethical approval

This type of article does not need ethical approval.

Sources of funding

This study is supported by Ningbo Health Branding Subject Fund (PPXK2018-05).

Author contribution

Qing Fang and An Xie contributed equally in the preparation of the manuscript.

Provenance and peer review

Commentary, internally reviewed.

Declaration of competing interest

No conflict of interest to declare.

Trial registry number – ISRCTN

None.

DOI of original article: <https://doi.org/10.1016/j.ijso.2020.07.032>.

<https://doi.org/10.1016/j.ijso.2021.105916>

Received 23 February 2021; Accepted 1 March 2021

Available online 11 March 2021

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Research registration unique identifying number (UIN)

This type of article does not need UIN.

Guarantor

Qing Fang and An Xie.

References

- [1] Y. Hu, J. Sun, Z. Dai, H. Deng, X. Li, Q. Huang, Y. Wu, L. Sun, Y. Xu, Prevalence and severity of corona virus disease 2019 (COVID-19): a systematic review and meta-analysis, *J. Clin. Virol.* 127 (2020) 104371.
- [2] J. Liu, W. Xie, Y. Wang, Y. Xiong, S. Chen, J. Han, Q. Wu, A comparative overview of COVID-19, MERS and SARS: review article, *Int. J. Surg.* 81 (2020) 1–8.

- [3] C. Stasi, S. Fallani, F. Voller, C. Silvestri, Treatment for COVID-19: an overview, *Eur. J. Pharmacol.* 889 (2020) 173644.
- [4] H. Ledford, Coronavirus breakthrough: dexamethasone is first drug shown to save lives, *Nature* 582 (2020) 469.

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