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Coronavirus disease 2019 (COVID-19): latest developments in potential treatments

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Abstract

The development of ARI (acute respiratory infection) from VRI (viral respiratory infection) is increasing the rate of disease and death in the population. The SARS virus, which causes SARS (SEVERE ACUTE RESPIRATORY SYNDROME), first surfaced in 2003. The second epidemic, which was brought on by MERS COV, was MERS (MIDDLE EAST RESPIRATORY SYNDROME) in 2012. And the following outbreak in 2019 was COVID-19 (CORONAVIRUS -2019), which was brought on by a brand-new coronavirus called SARS-COV-2. This study examines the latest advancements in possible cures and treatments for COVID-19. For the COVID 19 vaccine, numerous types of research are being conducted.

KEYWORDS; SARS, MEDICAL TREATMENT OF SARS, MERS, MEDICAL TREATMENT MERS, COVID 19, MEDICAL TREATMENT COVID 19

HIGHLIGHTS

- Numerous studies were conducted on SARS, but no vaccine has been developed.
- Until vaccinations are produced, we must adhere to certain precautions, such as wearing masks to avoid COVID 19 and maintaining good personal cleanliness and social distance in public areas.

1. INTRODUCTION

Acute respiratory infections, or ARIs, are being caused by viral respiratory infections (VRIs), and this is increasing the incidence of both sickness and mortality in the population. The SARS (SEVERE ACUTE RESPIRATORY SYNDROME) outbreak occurred in 2003, and the SARS COV 1, 2, 3 virus is the cause of this illness. The second outbreak, which was brought on by MERS COV in 2012, was known as MERS (MIDDLE EAST RESPIRATORY SYNDROME). The following outbreak, which was brought on by the new coronavirus SARS-COV-2, was COVID-19 (CORONAVIRUS -2019) in 2019. COVID-19 is comparable to MERS and SARS.The patients are experiencing symptoms from COVID-19, including fever, colds, and various co-infections.

2. SARS 2003

The SARS COV is the cause of the SARS (SEVERE ACUTE RESPIRATORY SYNDROME) outbreak that occurred in 2003. Between November 2002 and July 2003, there were around 8098 cases and 774 fatalities across 29 countries. Using broad-spectrum antibiotics to treat bacterial infections is the main course of treatment. One antiviral medication is ribavirin. Additionally, ribavirin and lopinavir, HIV protease inhibitors, are taken. Treatments such as interferons and traditional Chinese medicine are employed. Despite extensive study, no vaccine for SARS has been developed.

3. MERS 2012

The second outbreak, which was brought on by MERS COV, was MERS (MIDDLE EAST RESPIRATORY SYNDROME) in 2012. It could be spreading to people through diseased camels. Between September 2012 and January 2020, there were roughly 2519 cases and 858 fatalities in each of the affected nations. Several types of MERS research have been conducted, but no vaccine has been developed. No best practice for treating MERS COV was demonstrated. To evaluate the effectiveness of combination therapy and recombinant interferon, a MIRACLE TRAILS was conducted.

4. Medical treatment of MERS

In common marmosets, the combination of lopinavir/ritonavir and interferon-beta-1b shown outstanding outcomes; the combination is presently undergoing a randomized control trial. The most popular combination at the time was ribavirin with interferon; this information is based on multiple observational studies. Despite the heterogeneity of the data, this combination may be useful and warrants more research. No randomized clinical trials have been conducted to suggest a particular course of treatment for MERS-CoV infection.

5. COVID 19

The following outbreak in 2019 was COVID-19 (CORONAVIRUS -2019), which was brought on by a new strain of the SARS coronavirus, COV-2. It could originate with bats and spread to people. . It happened in China in 2019, with 4.3Cr cases and a 5.21 L death rate in India. . The World Health Organization did not administer any medication or antiviral therapy. . Baricitinib, a janus kinase inhibitor, is not the best choice for managing COVID-19. There are five known varieties of SARS-CoV-2: Alpha, Beta, Gamma, Delta, and Omicron.

6. Medical treatment of COVID 19.

Remdesivir (5-day regimen)	Adult dosing: 200 mg IV load, then 100 mg IV q24h. Pediatric dosing: 5 mg/kg IV load, then 2.5 mg/kg q24h. Duration: 5 days or until hospital discharge whichever comes first. Patients who started on redelivering and progress to requiring a higher level of oxygen support should still complete a course of redelivering.

Dexamethasone	Adult dosing: 6 mg PO or IV q24h Pediatric dosing*: 0.15 mg/kg/dose IV q24h (max: 6 mg/dose) Duration: Maximum 10 days, or until discharge
Tocilizumab	Adult Dosing (≥18 years): 8 mg/kg (max: 800 mg/dose) Pediatric Dosing ; 12 mg/kg Duration: One dose

7. CONCLUSION

Every coronavirus is the same, and some of them have the same clinical manifestation. Numerous studies were conducted on COVID-19, but no vaccine has been developed. We have to take precautions like wearing masks to prevent COVID 19 and maintaining good personal cleanliness and social distance in public areas until vaccinations are developed. Baricitinib, a janus kinase inhibitor, is not the best choice for managing COVID-19.

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9. REFERENCES

1. World Health Organization. Clinical management of severe acute respiratory infection when COVID-19 is suspected. https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected. Published 2020. Accessed April 16, 2020.

2. Shen K, Yang Y, Wang T, et al. Diagnosis, treatment, and prevention of 2019 novel coronavirus infection in children: experts' consensus statement. World J Pediatr. 2020. https://doi.org/10.1007/s12519-020-00343-7

3. World Health Organization. Summary of probable SARS cases with onset of illness from 1 November 2002 to 31 July 2003. 2003. https://www.who.int/csr/sars/country/table2004_04_21/en/