






Evidence Based Treatment of SARS-CoV2: A Narrative Review

Sumita Agrawal¹ , Nitesh Gupta² , Akhil Dhanesh Goel³ 

¹Department of Pulmonary, Critical Care and Sleep Medicine Medipulse Hospitals, Rajasthan, India

²Department of Pulmonary, Critical Care and Sleep Medicine VMMC and Safdarjung Hospital, New Delhi, India

³Department of Community Medicine and Family Medicine All India Institute of Medical Sciences, Jodhpur, India

Cite this article as: Agrawal S, Gupta N, Goel AD. Evidence based treatment of SARS-CoV2 - A narrative review. Turk Thorac J 2020; 21(3): 221-2.

Received: 24.02.2020

Accepted: 31.03.2020

Available Online Date: 16.04.2020

Dear Editor,

The 2019 novel coronavirus, now called SARS-CoV2, started from China in December 2019 and has rapidly spread to become an international threat [1]. The current one is the third out-break of the coronavirus in the last two decades, the SARS-CoV in 2002 and MERS-CoV in 2012 [2].

Despite the increasing number of cases and fatality with SARS-CoV2 in the past three months, we are still struggling to find a definitive treatment for this fast-spreading and deadly virus. Various agents proposed in different setups and models throughout the world based on an experience like hydroxychloroquine, antibiotics, and several antiviral agents.

In this review article, we have summarised the studies done in vivo and dedicated to studying the impact of various treatment protocols on disease symptoms and viral load. To date, only three studies published which have seen the effect of drugs on patients and summarised in (Table 1).

The most extensive study has been of the antiviral lopinavir plus Ritonavir conducted in Chi-na; they had a sample size of 199 patients who were randomized in an open-label trial. They found no difference in the clinical outcome when compared to standard care alone [3].

Another study from China had used along with these antivirals, arbidol, and Chinese medication. Though their patients showed clinical improvement, it was a small case series of four patients with no control group, and hence no recommendations can be made based on this study [4].

Hydroxychloroquine, along with azithromycin, was studied by the French group of investigators. It was an open-label, non-randomized control trial. They included 36 patients in the trial, and 20 patients were given hydroxychloroquine at a dose of 600mg daily along with azithromycin. The authors showed a significant reduction in viral load on day 6 of the treatment and a much lower average carrying duration of the virus as compared to the control group. Even though the study has a small sample size, this regimen in infected patients as outcomes studied⁵. The necessity of monitoring patients for side effects like QT prolongation, derangement of total cell count, liver function tests, derangement of blood sugar levels, and retinopathy cannot undermine.

A randomized, controlled trial of the antiviral drug remdesivir is currently undergoing in China to see its effect for the treatment for the 2019 Novel Coronavirus (2019-nCoV).

Till we have definitive treatments, studies have also quoted nonpharmacological interventions like case isolation at home, voluntary home quarantine, the social distancing of those above 70 years of age, the social distancing of the entire population, closure of schools and universities [5].

Despite this time for desperate measures, we have to use these drugs judiciously, knowing the limited evidence we have so far and the range of side effects they beget. Also necessary is to remember are the critical preventive measures. The primary supportive care needed for the intubated patients would be to follow the ARDS protocol and fluid conservative strategy [4].

Address for Correspondence: Nitesh Gupta Department of Pulmonary, Critical Care and Sleep Medicine VMMC and Safdarjung Hospital, New Delhi, India

E-mail: niteshgupta2107@gmail.com

©Copyright 2020 by Turkish Thoracic Society - Available online at www.turkthoracj.org

Table 1. Summary of trials

Study title/author/ Place/ Year	Type of Study	Patients	Number	Intervention done	Comparison	Outcome
Zhenwei Wang et al. [4] 2020, China	Case Series	Patients with mild or severe 2019-nCoV pneumonia	4	lopinavir/ritonavir plus arbidol plus Shufeng Jiedu Capsule (SFJDC, a traditional Chinese medicine) and other necessary support care	NA	Three patients gained significant improvement in pneumonia associated symptoms, two of whom were confirmed 2019 nCoV negative and discharged,. The remaining patient with severe pneumonia had shown signs of improvement by the cut off date for data collection.
Bin Cao et al. [3] 2020, China	Randomized, controlled, open-label trial	Adult patients with con-firmed SARS-CoV-2 infection SaO ₂ of 94% or less while they were breathing ambient air or a ratio of the partial pressure of oxygen (PaO ₂) to the fraction of inspired oxygen (FiO ₂) of less than 300 mm Hg	199	Patients were randomly assigned in a 1:1 ratio to receive either lopinavir-ritonavir (400 mg and 100 mg, respectively) twice a day for 14 days, in addition to standard care, or standard care alone.	Standard care alone	Treatment with lopinavirritonavir was not associated with a difference from standard care in the time to clinical improvement
Gautret P et al. [6] 2020, France	Non-randomized, open-label trial	Confirmed COVID-19 patients	36	Hydroxychloroquine 600 mg daily along-with azithromycin	Standard care	Cases showed a significant reduction of viral carriage at day 6 of inclusion and had much lower average carrying duration than reported of untreated patients in the literature. Azithromycin added was significantly more efficient for virus elimination.

REFERENCES

1. Guan W, Ni Z, Hu Y, et al. clinical characteristics of Coronavirus disease 2019 in China. *N Engl J Med* 2020.
2. De Wit E, Van Doremalen N, Falzarano D, et al. SARS and MERS: Recent insights into emerging coronaviruses. *Nat Rev Microbiol* 2016;14:523-3. [\[Crossref\]](#)
3. Cao B, Wang Y, Wen D, et al. A trial of Lopinavir-Ritonavir in adults hospitalized with severe Covid-19. *N Engl J Med* 2020.
4. Wang Z, Chen X, Lu Y, et al. Clinical characteristics and therapeutic procedure for four cases with 2019 novel Coronavirus pneumonia receiving combined Chinese and Western medicine treatment. *Biosci Trends* 2020;14:64-68. [\[Crossref\]](#)
5. Gautret P, Lagier JC, Parola P, et al. Hydroxychloroquine and Azithromycin as a treatment of COVID-19: Results of an open-label non-randomized clinical trial. *Int J Antimicrob Agents* 2020. [\[Crossref\]](#)
6. Ferguson NM, Laydon D, Nedjati-Gilani G, et al. Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand. 2020. Available from: URL: <https://spiral.imperial.ac.uk:8443/handle/10044/1/77482>.