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Letter to Editor

Hydroxychloroquine or Remdesivir to Treat COVID-19 Patients

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A novel coronavirus (COVID-19) was spread in the world like a pandemic, in late December 2019. There were challenges for treatment interventions as well as types of medicines. Despite there is no specific therapy strategy for COVID-19, studies have identified Hydroxychloroquine (HCQ) and Remdesivir as the most widely used medicine worldwide [1-3]. So, this letter was written to synthesize the evidence and outcomes of the medicines for COVID-19 patients.

Gautret., *et al*. assessed the effect of HCQ and azithromycin on 26 hospitalized patients with COVID-19 symptoms and the results were compared with a control group. For all, one died, three were admitted to the intensive care unit, and one discontinued treatment. Totally, the result showed that despite the small sample size, HCQ was significantly associated with a reduction/disappearance of viral load in COVID-19 patients and potentiated by azithromycin [5].

Boulware et al. assessed the effect of HCQ as a post-exposure prophylaxis, in a randomized, double-blind, and placebo-controlled trial study in the U.S. and parts of Canada. In this study, 821 asymptomatic participants were enrolled that 87.6% of them were at risk of COVID-19 patients. The prevalence of the new COVID-19 as a compatible disease was not significantly different between participants who received HCQ and those who received a placebo. Based on the results, although HCQ had more side effects than placebo (40.1% vs. 16.8%), no serious side effects were reported [6].

Based on Arshad., *et al*. the treatment with HCQ alone and HCQ + azithromycin was significantly associated with a reduction in mortality in COVID-19 patients. The study was performed in a highly controlled protocol in the hospital setting. These findings support recent NIH guidelines indicating the potential role of HCQ in the treatment of patients admitted to COVID-19 without co-administration with azithromycin [7].

McCreary assessed 80 patients with COVID-19 that receiving a combination of HCQ and azithromycin. Based on the results, clinical progress were observed in all patients except one 86-year-old who died. However, there are many concerns about the safety of these medicines. Preliminary findings suggest that high-dose CQ (10-day regimen) is not recommended for the treatment of COVID-19 due to potential safety hazards [4].

In a multinational study, the use of HCQ or Chloroquine with or without macrolides for the treatment of COVID-19 was discussed. The center records data from 671 hospitals on six continents. Mortality in hospitals and the occurrence of ventricular arrhythmias (unstable or stable ventricular tachycardia or ventricular fibrillation) were observed. In this large analysis, the researchers found no benefit of HCQ or chloroquine (when used alone or in combination with macrolides) in hospital outcomes. Each of the chloroquine or HCQ diets alone or in combination with macrolides was associated with a significant increased risk of clinically significant ventricular arrhythmias and an increased risk of in-hospital death with COVID-19 [10]. (This article has been removed from the scientific file due to concerns about the validity of its results).

After trailing by HCQ, the Scientifics were assessed the effect of Remdesivir on COVID-19 patients because of the uncertainty of HCQ as well as trying for more effective one. In this way, a number of papers were published. In two studies, considering tests and reports carried out in labs, Remdesivir was proposed as a promising option for treatment of COVID-19 patients, but its safety and

efficacy in humans require the design of quality clinical trials for further explanation [8,9]. These studies were offered as an option so, they cannot be references for researchers.

Wang., *et al*. conducted a study in China to evaluate the effectiveness of Remdesivir for COVID-19 patients. Based on the results there was no significant association between clinical improvement and remediation for patients with the acute type of COVID-19 patients [11].

Intravenous remedial therapy for the first case of COVID-19 in the United States showed significant improvement. A rapid trial to evaluate the efficacy and safety of Remdesivir in hospitalized patients was then started with COVID-19. Clinical improvement was observed in 36 patients out of 53 patients (68%). In this study, the placebo and control group were not used. Conclusion and evaluation of effectiveness require randomized controlled trials with placebo [12].

In a study of MERS-CoV-infected Rossus monkeys, Remdesivir therapy was completely prevented from symptoms of MERS-CoV 24 hours before the infection and inhibit viral replications in the respiratory tract and prevent the formation of pulmonary lesions. Administration Remdesivir 12 hours after infection provided clear clinical benefits, reduction of clinical symptoms, the proliferation of lung virus and lung lesion [13].

To our knowledge, the number of studies have shown significant efficacy of HCQ with or without combination with azithromycin, one study noted the cardiac effects of HCQ but the article was withdrawn by the authors. It has been used for many years in outpatients without serious side effects. Studies could not be cited due to the low sample size. In the case of articles related to Remdesivir, two studies cited it as a promising option, and in another one, the effectiveness of the Remdesivir was questioned due to the lack of a control group. In fact, the papers did not demonstrate the acceptable efficacy of Remdesivir in the human clinical trial phase. So, continuing the use of HCQ is recommended because of its effectiveness as well as its low price than Remdesivir. Undoubtedly, because of an unknown virus and changes in gene mutations, the results will be changed by more evidence of Remdesivir effectiveness.

Conflict of Interest

None declares.

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Bibliography

1. Josh Farkas. "Internet Book of Critical Care (IBCC)". COVID-19 (2020).

2. Report of the WHO-China joint mission on coronavirus disease 2019 (COVID-19).

3. Nebraska Medicine. COVID-19 Antiviral and pharmacotherapy recommendations (2020).

4. Erin K McCreary, Jason M Pogue, on behalf of the Society of Infectious Diseases Pharmacists, "Coronavirus Disease 2019 Treatment: A Review of Early and Emerging Options". *Open Forum Infectious Diseases* 7.4 (2020): ofaa105.

5. P Gautret., *et al*. "Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial". *International Journal of Antimicrobial Agents* 56.1 (2020): 105949.

6. Boulware DR., *et al.* "A Randomized Trial of Hydroxychloroquine as Post exposure Prophylaxis for Covid-19". *The New England Journal of Medicine* 383.6 (2020): 517-525.

7. Arshad S., *et al.* "Treatment with hydroxychloroquine, azithromycin, and combination in patients hospitalized with COVID-19". *International Journal of Infectious Diseases* 97 (2020): 396-403.

8. Li Z., *et al.* "Rapid review for the anti-coronavirus effect of remdesivir". *Drug Discoveries and Therapeutics* 14.2 (2020): 73-76.

9. Wu R., *et al.* "An Update on Current Therapeutic Drugs Treating COVID-19". *Current Pharmacology Reports* (2020): 1-15.

10. Mehra MR., *et al.* "Retraction-Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis". *Lancet* 395.10240 (2020): 1820.

11. Wang Y., *et al.* "Remdesivir in adults with severe COVID-19: a randomised, double-blind, placebo-controlled, multicentre trial". *Lancet* 395.10238 (2020): 1694.

12. Grein J., *et al.* "Compassionate Use of Remdesivir for Patients with Severe Covid-19". *The New England Journal of Medicine* 382.24 (2020): 2327-2336.

13. De Wit E., *et al.* "Prophylactic and therapeutic Remdesivir (GS-5734) treatment in the rhesus macaque model of MERS-CoV infection". *Proceedings of the National Academy of Sciences of the United States of America* 117.12 (2020).