Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Letter to the Editor

Novaferon, treatment in COVID-19 patients

To the Editor,

With great interest, we have read the article by Zheng et al. regarding the treatment of COVID-19 patients with Novaferon (Zheng et al., 2020). We have some comments based on our clinical experience and review of the literature.

The approved dose and route of Novaferon for hepatitis B is 10 μg/day via injection. However, in the study, a four-fold increase in the dose (40 μg/day) and an inhalation route was chosen. We would like to know whether the safety and bioavailability of Novaferon were established at that higher dose and route of administration, respectively. Based on the author's citations in the manuscript, Lopinavir/Ritonavir treatment in COVID-19 showed no significant antiviral effects (Cao et al., 2020). However, the authors still chose to compare Novaferon treatment to Lopinavir/Ritonavir.

The treatment course of the antiviral therapy is stated to be a 7 to 10-day course. No further details were provided about which patients and which disease severity (moderate or severe disease) received 7-day courses and which received a longer course. It is not clear why all patients did not receive the treatment for the same duration. We are concerned whether this could embed a bias into the study results and conclusions.

The study result reported that 5 out of 89 subjects (only 5%) had severe disease. As it was under-represented, we believe generalizing the results of the study to severe disease patients may not be appropriate.

The patients in the Lopinavir/Ritonavir plus Novaferon group were started on treatment at a median time of 7 days (3.3–11.3) from the onset of symptoms. However, the treatment in the other two groups (Lopinavir/ Ritonavir group and Novaferon alone group) was started after a median of 4 days. It was reported that the viral load peaked around 5–6 days after the onset of symptoms (Pan et al., 2020). Accordingly, the patients recruited to the study late from the onset of symptoms will show faster clearance of the virus. We feel that the faster clearance rates observed in the Lopinavir/Ritonavir plus Novaferon group could be attributed to the group's longer median time to treatment from the onset of symptoms compared to the other two groups.

Additionally, it was stated that the adverse events were graded and reported based on the WHO toxicity Grading Scale for determining the severity. However, no reference was provided to the scale, and we were not able to find this grading system.

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Conflict of interest

The authors do not have a financial interest or relationship to disclose regarding this research project.

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