

Review of: "Tocilizumab Plus Corticosteroid in Elderly Patients Hospitalized With COVID-19 Pneumonia: A Retrospective Cohort Study"

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Potential competing interests: No potential competing interests to declare.

The study presented for review is meaningful for the treatment strategy of COVID-19 in elderly patients. However, the study contains notable flaws.

1. The results from the abstract are not consistent with Table 2.
2. There is no information on the qualification criteria for tocilizumab treatment - time from onset of symptoms, clinical status, degree of respiratory failure, general test results. Usually the drug was introduced after other methods failed and in more severely ill patients, in that case the higher mortality rate is no surprise. There is also no information on whether the TOC doses were repeated.
3. Instead of the saturation result, it would make more sense to present an oxygenation index, if available. Regarding the saturation measurement, it would be worth adding when it was taken and whether during the oxygen therapy or not. This data is not immediately clear, as the sample includes patients with a saturation <75% - i.e. requiring intensification of treatment from the very beginning.
4. What was the protocol of qualifying patients for intubation?
5. Did patients receive prophylactic heparin?
6. Were there patients diagnosed with pulmonary embolism in the study groups?
7. There is no information on the doses of steroids used, time they were administered and duration of treatment.
8. Bacterial infection should be among the exclusion criteria. Do the authors have a procalcitonin results?
9. The authors did not explain why the exclusion criteria include death and hospitalisation shorter than 3 days.
10. More patients in the treatment group were on higher levels of respiratory support means they had more severe course of the disease - this significantly affects the results and thus the conclusion. The control group should therefore be adjusted accordingly with propensity score matching. The difference in disease severity between the groups is the weakest point of the study.
11. The use of RDV may have influenced the final results, especially in the less severely ill patients.
12. Statistical data should be supplemented, in my opinion.
13. The discussion and conclusions should address the above-mentioned comments.
14. Detailed analysis of the causes of death would be an interesting addition.

