

October 3, 2020

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 59174-Revised Manuscript.doc).

**Title:** Effect of methylprednisolone in severe and critical COVID-19—Analysis of 102 cases

**Author:** Hong-Ming Zhu, Yan Li, Bang-Yi Li, Shuang Yang, Ding Peng, Xiaojiao Yang, Xue-Lian Sun and Mei Zhang\*

**Name of Journal:** World Journal of Clinical Cases

**Manuscript NO:** 59174

The manuscript has been improved according to the suggestions of reviewers:

1. Please add references for the following: Some patients get worse in 7-10 days due to the rapid progression of the disease. It gradually develops into acute respiratory distress syndrome (ARDS) and septic shock, and can even death via multi-organ failure. At present, there is no effective SARS-CoV-2-specific antiviral therapy, resulting in great difficulty in clinical treatment. Glucocorticoids are used to control severe diseases caused by the cytokine storm, owing to their rapid, powerful, and nonspecific anti-inflammatory effects. They are often used as adjunct treatment for viral pneumonia. Domestic guidelines, literature, and the first-line treatment guide for critical COVID-19 patients all recommend short courses, medium courses, and small doses of glucocorticoids for inhibiting excessive immune injury, which are the applied measures for critical COVID-19 patients. It was previously thought that proper and reasonable corticosteroid use could reduce the excessive inflammatory reaction of severe pneumonia and help severe patients survive respiratory failure and inflammatory exudation. However, glucocorticoids are a double-edged sword, as the use of large doses has the potential risk of secondary infection and long-term serious complications, and may prolong virus clearance time. Nonetheless, the risks and benefits of glucocorticoid adjuvant therapy for COVID-19 are inconclusive.

**I have added references(references 5-11) based on expert advice.**

2. Please highlight the gap of knowledge and the rationale for conducting the current study in the introduction part as the authors mention in the discussion section as the following: At present, glucocorticoid therapy for COVID-19 is still controversial, and high-quality clinical evidence is lacking.

**In the introduction, I have introduced the current controversy of hormone application and cited the theoretical basis.**

3. Material and Methods: Please add in the study design and patient population the inclusions and exclusions criteria for participation in the study.

**I've added inclusions and exclusions criteria in Material and Methods.**

4. Please add a reference for the dose, route and regimen of administration for methylprednisolone.

**I have added a reference (reference 12) based on expert advice.**

5. Please add a section as study limitations.

**I have added the limitations of the research at the end of the manuscript.**

6. Obesity is one of the most critical risk factors which aggravates the mortality of COVID-19. Reference: El-Arabey AA, Abdalla M. Metformin and COVID-19: A novel deal of an old drug. *J Med Virol.* 2020;10.1002/jmv.25958. doi:10.1002/jmv.25958. Please discuss why the authors did not measure the bodyweight as baseline characteristics. In addition, it is well known that weight gain is a common side effect of prednisone.

**Thanks to the reviewer's recommendation, I have carefully read this article and cited it in the last part of the manuscript. (reference 40)**

7. References: Please check the missing citation of reference 5 in the main text manuscript.

**I have added the missing citation of reference (reference 12) in the section of the Material and Methods.**

Thank you for publishing my manuscript in the World Journal of Clinical Cases.

Sincerely yours,

Hong-Ming Zhu

Capital Medical University

Fax: +86-010-83198899

E-mail: zhmzhmzhm1986@163.com