Author Response 1

Responses to reviewer 1:

There were actually so many parameters had significant p-values in our own manuscript and other relative published articles (references [2, 12, 16, 17] of main text). We can divide these significant parameters into several categories: older age and comorbidities, manifestations (dyspnea, poor appetite and fatigue), laboratory parameters. The laboratory parameters can be divide into: inflammation indicators (higher white cell/ neutrophil, CRP), tissue injury indicators (CK, CK-MB, LDH, ALT, AST), abnormal coagulation system indicators (PT, D-dimer), immune injury indicators (lower lymphocyte and albumin) et al. After COVID-19 virus infected human, it through producing massive inflammation factors to activate coagulation system, injure tissue, consume immune cells and injure immune functions et al. Therefore, different indicators represented different pathophysiological reasoning. Thank you very much!

Responses to reviewer 2:

1.The language of this manuscript had already edited by a language editing service, the proof was presented. In order to revise this paper as quickly as possible, we sent out for editing language firstly, and then we added new contents. So the new contents with red color were not edited by a professional company, but it checked by one of our author (Yajing Wen), she was excellent in English.

2. We added some new words with red color in abstract, which specifically pointed out this study in China: "China", "of this study", "of China".

3. The "CPOD" should be "COPD" in abstract.

4. We elaborated the risk factors of severity described in this manuscript, combined literatures and our own results, words with red color in discussion section. Previously, owing to shorten the pages of paper, we compressed words of discussions.

5. No request for an answer.

6. No request for an answer.

7. There were distinct differences of severity and mortality between Wuhan and outsides of Wuhan in China. In another manuscript of ourselves, we focused on the analysis of ARDS differences between Wuhan and outsides of Wuhan in China. We searched 3267 articles (from onset of COVID-19 to April 10, 2020) published in PubMed database, screened out 9 most relative articles, added 1 article of ourselves, in total 10 papers, which presented in the following Table. This Table showed patients in Wuhan had higher ARDS incidence (26.3% VS 3.3%), ICU admission rate (26.7% VS 5.6%), mortality rate (16.2% VS 0.9%) and other relative indicators than outsides of Wuhan in China. At last, we screened out a paper of sociomedical evidence to support these results [1]. As for the evidence-based reports, there were two main reasons. 1. Owing to lack of medical workers and material resources in early time of epidemic, there were many patients did not received timely treatment. The article of sociomedical evidence [1] showed that the mortality rates in Wuhan between Jan. 22, 2020 and Jan. 27, 2020 were much higher than outsides of Wuhan in China. However, from the Jan. 22, 2020 to Mar. 2, 2020, the mortality rates in Wuhan declined rapidly and continuously, while the mortality rates outsides Wuhan in China presented constant over time. Finally, the two curves kept an equivalent level at the last period of epidemic in China. The social factors were that after the

outbreak of COVID-19 a great number of health workers had been continuously aided by other provinces, a great number of acute care beds were continuously provided, more than 10 temporary hospitals were constructed. Therefore, in the early time, incidence of ARDS, severity and mortality rate in Wuhan were overestimated than those outsides of Wuhan in China. 2. As presented in the following Table, we found drugs used in Wuhan in early period of epidemic were oseltamivi (a very common antiviral drug of influenza), while more effective drugs, such as interferon, arbidol and LPV/r et al were commonly used outsides of Wuhan in China in the later period of epidemic. So a different antiviral drugs may bring a different prognosis. Thank you very much!