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OPEN PEER REVIEW

Analysis of Predictive Factors for Moderate-Stage COVID-19 Outcome and Maximal Extent of Lung Injury

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

3 comments · 24 Jun 2020 – 14 Jul 2020

Referee 1 Reviewer

MAJOR REVISION 24 Jun 2020

Hi
This manuscript was written and analyzed appropriately, but the study design and sampling criteria are not clear.
1. The following must be clarified in the methods section:
1.1. What was the study design? Cross-sectional, case-control, or historical cohort?
1.2. What were the inclusion and exclusion criteria?
1.3. On what basis were samples selected? According to the intended exposure (risk factor), the intended outcome, or without considering either?
2. In table 2: the Wald, df and sig columns must be deleted.
3. In table 3: the t and sig columns must be deleted.

Referee 2 Reviewer

MINOR REVISION 1 Jul 2020

Dear associate editor,
The article needs Minor Revision.
Regards
1) Please write the keywords according to the MeSH database.
2) Please mention the limitations of the study before the conclusion.
3) It is better to report figure 2 in the method or results section.

Editor-in-Chief

MAJOR REVISION 14 Jul 2020

Dear authors,
According to the reviewers, the article needs Major Revision.
Regards

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editor and Reviewers:
Thank you for your letter and for the reviewers' comments concerning our manuscript entitled " Analysis of predictive factors of the outcome of moderate stage COVID-19 and maximal extent of lung injury
"(106351). The comments are very helpful for revising and improving our paper. Revised portion are marked with highlight in the paper.

Response to the reviewers' comments as follows:
Reviewer 1:
1
1.1. This article is to explore the moderate stage and severe/critical severe stage of two groups of influence factors, in the case of knowing the outcome, to find risk factors, so it is designed as a case-control study.
1.2. Inclusion criteria and exclusion criteria were added as requested by the reviewers.
1.3. The experiment was designed as a case-control study, in which samples were selected according to the intended exposure factors to explore the risk factors affecting the case group.
2. the wald、df、sig columns in table 2 and the t、sig columns in table 3 have been deleted as requested by the reviewers.
Reviewer 2:
the method section of the abstract has been rewritten as requested by the reviewer.
the data mentioned in line 5-9 on page 6 has been put into the results section as requested by the reviewer. the approval of the ethics committee has been placed before the classification criteria.
Results The number and age included and the age range were increased in part, and the number and age of in the two groups were added.
The formula adds significance test of regression equation $F=11.92$, $P < 0.001$, multiple correlation coefficient $R=0.743$, adjusted $R2=0.552$. The equation test $F=11.92$, $P < 0.001$, indicates that the equation holds and that at least one variable has an effect on the outcome. $R2=0.552$, indicates that this equation can explain 55.2% of the data.
Part of the text that was duplicated in the discussion section and the results section was deleted.
Reviewer 3:
Key words have been rewritten as requested by the reviewers.
the limitations of this article have been added as required by the reviewers.
Swap the positions of Figure 1 and Figure 2, and put Figure 1 and Figure 2 into the results section.

If you have any further question, be free to contact us. Thank you for your attention.
Sincerely yours,
Wenhui FAN ,MD
Department of Radiology, General Hospital of the Yangtze River Shipping,Wuhan, Hubei Province, China .

2 Revision 1

4 comments · 29 Jul 2020 – 15 Aug 2020

Referee 2 Reviewer

ACCEPT 29 Jul 2020

Dear associate editor,
The revised manuscript could be acceptable for publication.
Regards

Referee 1 Reviewer

ACCEPT 1 Aug 2020

Hi
Currently, all suggested revisions have been properly incorporated into the manuscript draft, so it is methodologically acceptable.

Referee 3 Reviewer

MINOR REVISION 7 Aug 2020

Dear author
Thank you for considering our journal. Some of the requested changes were made. The reviewers' comments should be included in the revised manuscript. There are still some comments as follows:
English writing needs revision.
Page8 line8: "the primary CT image with the most severe degree of intrapulmonary disease was selected as the CT score of maximal lung injury". It seems that "primary" should be omitted; the CT scan of maximal lung injury is not necessarily the primary CT.

The first line of the discussion: "Patients with COVID-19 are divided into three stages: early, advanced, and severe phases according to chest CT findings". Early and advanced are time-based classifications, while the severe phase is a severity-based classification (e.g., mild, moderate, severe). I didn't understand why these are in the same category.
In the results section, separate analyses were performed to determine independent variables for maximal lung injury and for progression to severe-critical stage disease. Please explain these two topics separately in the discussion. It seems that the second paragraph of the discussion is about maximal lung injury and the third paragraph is about progression to severe-critical stage disease, but this categorization is not so clear in the text, particularly in the second paragraph.
Page13 line10: " This study shows that diabetes is associated with the outcome of moderate-stage COVID-19". Do you mean a poor outcome?
Page 13ine 12: " Patients with COVID-19 complicated with diabetes". Diabetes is not a complication of COVID-19; the phrase should be corrected.
Page 13 line 13-14: "The meta-analysis revealed that diabetes was one of the major risk factors for patients with COVID-19". A major risk factor for which condition: infection, severe involvement, progression, or mortality? Please specify.

Editor-in-Chief MINOR REVISION 15 Aug 2020

Dear authors,
Your article needs Minor Revision.
Regards

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Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editor and Reviewers:
Thank you for your letter and for the reviewers' comments concerning our manuscript entitled " Analysis of predictive factors for moderate-stage COVID-19 outcome and maximal extent of lung injury"(106351). The comments are very helpful for revising and improving our paper. Revised portion are marked with highlight in the paper.

Response to the reviewers' comments as follows:
Reviewer 1:None
Reviewer 2:

The article has been submitted for revision by native English speakers.

Page8 line8 "the primary CT image with the most severe degree of intrapulmonary dise ase was selected as the CT score of maximal lung injury" , "primary" in this sentence has been deleted .

Have revised the CT stages mentioned in the the first line of discussion and divided into four stages, including early stage,progressive stage,peak stage,and absorption stage, and re-cited the article.

The second paragraph of the discussion section mainly analyzes the extent of maximum lung injury, and the third paragraph is mainly the analysis of the clinical prognosis of moderate stage patients. The two topics have been clearly classified according to the requirements of the reviewers .

Page13 line10 " This study shows that diabetes is associated with the outcome of moderate-stage COVID-19"changed to" This study shows that diabetes is associated with a poor outcome for moderate-stage COVID-19".

"Patients with COVID-19 complicated with diabetes are more likely sustain severe infection"changed to"COVID-19 patients with diabetes are more likely develop severe infection".

Page 13 line 13-14 "The meta-analysis revealed that diabetes was one of the major risk factors for patients with COVID-19"changed to "The meta-analysis revealed that diabetes was one of the major clinical risk factors of severe or fatal outcomes associated with COVID-19".

Reviewer 3:None

If you have any further question, be free to contact us. Thank you for your attention.

Sincerely yours,
Wenhui FAN ,MD
Department of Radiology, General Hospital of the Yangtze River Shipping,Wuhan, Hubei Province, China .

3 Revision 2

2 comments · 10 Sep 2020 – 5 Jan 2021

Referee 3 Reviewer

ACCEPT 10 Sep 2020

Dear author,
The requested changes were made, and the manuscript could be accepted for publication.

Editor-in-Chief

MINOR REVISION 5 Jan 2021

Dear authors,
Your article needs Minor Revision.
Regards

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Revision 3

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Dear Editor and Reviewers:
Thank you for your letter and for the Associate Editors'comments concerning our manuscript entitled " Analysis of predictive factors for moderate-stage COVID-19 outcome and maximal extent of lung injury"(106351). The comments are very helpful for revising and improving our paper. Revised portion are marked with highlight in the paper.

Response to Associate Editors'comments as follows:
Associate Editor 1:None
Associate Editor 2:
Background has been added to the abstract as required by the reviewer.
2. The maximum lung injury range has been changed to CT score of maximal lung injury.
3. Quartile has been changed to Interquartile range.
4. The author of reference 9 should be Liu Y, which has been modified.
5. In all tables, we have added abbreviations as footnotes.
6. Figure legend 2 has been revised.

If you have any further question, be free to contact us. Thank you for your attention.
Sincerely yours,
Wenhui FAN ,MD
Department of Radiology, General Hospital of the Yangtze River Shipping,Wuhan, Hubei Province, China .

4 Revision 3

1 comment · 25 Jan 2021

Editor-in-Chief

ACCEPT 25 Jan 2021

Dear authors,
Your article is acceptable for publication in IJR.
Regards