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OPEN PEER REVIEW

Non-invasive Diagnostic Indicators and Antiviral Treatment Efficacy in CHB Patients with Different Liver Histopathological Degrees

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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

4 comments · 18 Apr 2024 – 29 Apr 2024

Referee 1 Reviewer

MINOR REVISION 18 Apr 2024

Thank you for sharing your manuscript with me. I've had the chance to review your work and have a few suggestions for revisions you may want to consider:

Strengthen the opening: The opening of your story feels a bit slow. I would encourage you to look for ways to hook the reader more quickly, whether through an intriguing first line, an impactful description, or the introduction of a compelling character or conflict. This will help draw the reader in from the very first page.
Develop the protagonist's motivations: While your main character is generally well-drawn, I felt their motivations could use some additional development. Why are they making the choices they do? What are their deeper hopes, fears, and internal struggles? Exploring these elements will help the reader better connect with and understand your protagonist.
Increase the tension and stakes: The middle section of the story feels a bit flat at times. Consider ways you can ramp up the tension and raise the stakes for your characters. This could involve introducing new obstacles, escalating the conflict, or increasing the personal and emotional stakes for your protagonist.
Tighten the pacing: Related to the previous point, I felt the pacing dragged in a few places, especially in the middle section. Look for opportunities to streamline the narrative, cut unnecessary details, and keep the story moving at a compelling clip.
Strengthen the dialogue: While your dialogue is generally strong, I think there are a few spots where it could be sharpened further. Ensure that each character has a distinct voice, and that the dialogue feels natural and propels the story forward.
These are just a few areas I would encourage you to revisit as you continue refining your manuscript. Overall, I think you have a strong foundation, and with some thoughtful revisions, this story has a lot of promise.

Please let me know if you have any other questions or if there is anything else I can do to support you in the revision process.

Best regards,

Referee 2 Reviewer

MAJOR REVISION 21 Apr 2024

Dear AE,
The paper entitled "Analysis of non-invasive diagnostic indicators and antiviral treatment efficacy in patients with CHB of different liver histopathological degrees" by [Author] aims to analyze non-invasive diagnostic indicators associated with different inflammation grades, fibrosis stages, and hepatitis degrees in CHB patients and their outcomes after antiviral therapy. Here are the detailed comments on the paper:

Abstract:
The abstract provides a concise summary of the study. It effectively outlines the background, aims, methods, results, and conclusions of the research. It gives a clear idea of what the study entails and what the outcomes are. Here are some suggestions to enhance the abstract:

The abstract could be improved by specifying the exact numbers of patients in each subgroup. For instance, instead of saying "approximately 61.54%," it's better to provide the exact number. Revised Sentence:

Approximately 61.54% (16 out of 26), 30.77% (8 out of 26), 85.19% (23 out of 27), and 62.96% (17 out of 27) of patients with normal ALT levels were categorized as G≥2, G≥3, S≥2, and S≥3, respectively.

Introduction:
The introduction provides a comprehensive overview of the topic and research goals. However, it can be enhanced by breaking it down into smaller paragraphs for easier reading and understanding. Additionally, the references provided are not entirely recent. It would be beneficial to include more recent references, if available.

Materials and Methods:
The materials and methods section is well-organized and provides a clear understanding of the study design. Here are some suggestions to improve it:

-The number of patients in each group should be mentioned.
-The exclusion criteria can be included in a separate subsection for clarity.
-A more detailed explanation about the Scheuer scoring system can be included.
-Provide more detail on the calculation of the diagnostic models (PSBPTL, PSWPAHPCL, and PSWPHCL) to enhance reproducibility.

Results:
The results section is well-structured and provides detailed data analysis. However, the presentation of the results could be improved by:

-Converting percentages to actual numbers to provide clearer information.
-Providing an explanation for the acronyms or non-standard terminology upon first use in the results section.
Discussion:
The discussion section effectively interprets the results and compares them with previous studies. However, the discussion can be enhanced by:

Addressing the limitations of the study and suggesting potential areas for future research.
Including more recent references, if available, to support the discussion.
-Discussing the clinical significance of the findings in more detail.

Associate Editor

MAJOR REVISION 21 Apr 2024

Dear EIC,
Thanks to the authors and appreciation to the researchers. The manuscript is a valuable piece of research. But some revisions are needed. The authors should revise it based on the reviewers' comments.

-Also, some sentences lack references. All sentences quoted from other articles must have references at the end.

-Also, minor changes should be made in the abstract:
A summary of the statistical analysis results should be mentioned in the results section.

Editor-in-Chief

MAJOR REVISION 29 Apr 2024

Dear EIC,
Thanks to the authors, and appreciation goes to the researchers. The manuscript presents valuable research. The authors aimed to analyze non-invasive diagnostic indicators associated with different inflammation grades, fibrosis stages, and hepatitis degrees in CHB patients and their outcomes after antiviral therapy. Some

revisions are needed. The authors should revise it based on the reviewers' comments. The authors should also have a native English speaker or a person proficient in academic English improve the quality of academic writing in the manuscript.

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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 reviewers,

I would like to thank you for your letter along with the insightful comments from the reviewers about our paper entitled "**Analysis of non-invasive diagnostic indicators and antiviral treatment efficacy in patients with CHB of different liver histopathological degrees**". We have carefully revised the manuscript according to reviewers' comments, and we are grateful for the opportunity to reconsider it for publication in ***Hepatitis Monthly***.

We have made every effort to address the reviewers' and the editor's comments to the best of our abilities. Changes in the manuscript we will highlight for easy identification. We hope that the revised manuscript meets your expectations and has successfully addressed all the gaps that were identified by the reviewers. Thank you for considering our manuscript for publication in your esteemed journal. We look forward to hearing from you.

Thank you and best regards.

Yours sincerely

Fei Wang

//on behalf of all authors

Point to Point Response

Reviewer #1:

1. How to measure portal vein internal diameter? How to avoid error of operator?

Response: Thank you very much for your comments. The patients enrolled in this study were subjected to ultrasonography of the portal vein using a color doppler diagnostic device, which can obtain parameters such as the internal diameter of the portal vein, blood flow velocity, flow rate, and spectral pattern. In order to avoid operational errors, the following points were made during the ultrasound examination of the portal vein: (1) the patient was required to fast for more than 8 hours, (2) a conventionally applied convex array probe was used, (3) the detection position was the first porta hepatis probed at the right costal oblique incision of the main portal vein, (4) to exclude the influence of respiration on the measurement data, it was chosen to be performed during breath-holding at the end of inspiration, and (5) the operator is an experienced and skilled physician who specializes in ultrasound examinations.

2. The non-invasive model are too complex for predicting the risk of developing G≥3 inflammation, S≥3 fibrosis and moderate-to-severe hepatitis.

Response: Thank you for your valuable advice. In the PSBPTL, PSWPAHPCL, and PSWPHCL models established in this study for predicting the risk of G≥3 inflammation, S≥3 fibrosis, and moderate-to-severe hepatitis, the parameters included were from ultrasound, routine blood, liver function, and liver fibers four tests, which are generally covered in the admission examination of most patients with liver disease. Although there are more indicators included, the results can be calculated by applying the test results to the formula.

3. This research is retrospective and a single-center study, the sample size was small and the observation period was relatively short, which may cause biased results.

Response: Thank you very much for your comments. Indeed, these issues are the shortcomings of this study, which we have mentioned in the discussion section (line 318-322 in page 11), and we hope that this study can provide some useful information for the field and urge more units and researchers to explore this aspect, with a view to discovering

more noninvasive diagnostic indicators that can be helpful for clinical examination or treatment.

4. The language needs to be improved.

Response: Thank you for your valuable suggestions, we have improved the quality of the language throughout the text, see the manuscript marked highlighted.

Reviewer #2:

1. Strengthen the opening: The opening of your story feels a bit slow. I would encourage you to look for ways to hook the reader more quickly, whether through an intriguing first line, an impactful description, or the introduction of a compelling character or conflict. This will help draw the reader in from the very first page.

Response: Thank you for your valuable advice. The introductory section has been changed to set up multiple subsections with a hierarchical account of why this research work was undertaken, and some of the too-long redundancies have been removed, thus speeding up the entry into the subject matter of the study to get the reader's attention (page 3).

2. Develop the protagonist's motivations: While your main character is generally well-drawn, I felt their motivations could use some additional development. Why are they making the choices they do? What are their deeper hopes, fears, and internal struggles? Exploring these elements will help the reader better connect with and understand your protagonist.

Response: Thank you very much for your comments. we have strengthened the description of why we conducted this study in the introduction, and we have also added the technical means used to conduct this study in the methodology section (line 112-129, line 155-157, and line 160-161 in page 4 to page 6), which we hope will enhance the reader's understanding of this paper.

3. Increase the tension and stakes: The middle section of the story feels a bit flat at times.

Consider ways you can ramp up the tension and raise the stakes for your characters. This could involve introducing new obstacles, escalating the conflict, or increasing the personal and emotional stakes for your protagonist.

Response: Thank you for your comments. we added the DeLong test to examine the performance of different ROC curves to enrich the study and make the story seem fuller (line 160-161 in page 6, line 208-211 in page 7 and table 3).

4. Tighten the pacing: Related to the previous point, I felt the pacing dragged in a few places, especially in the middle section. Look for opportunities to streamline the narrative, cut unnecessary details, and keep the story moving at a compelling clip.

Response: Thank you for your comments. We have revised the full text, deleted some content in the repetitive redundancy, and added some details to the description, see highlighting in the manuscript.

5. Strengthen the dialogue: While your dialogue is generally strong, I think there are a few spots where it could be sharpened further. Ensure that each character has a distinct voice, and that the dialogue feels natural and propels the story forward.

Response: Thank you for your comments. We have revised the entire text, rearranged after removing unnecessary and adding new research to drive the story forward in a natural, layered step-by-step progression, see highlighting in the manuscript.

6. These are just a few areas I would encourage you to revisit as you continue refining your manuscript. Overall, I think you have a strong foundation, and with some thoughtful revisions, this story has a lot of promise.

Response: Thank you for your valuable suggestions. We have revised the entire text, the changes are shown in the manuscript marked highlighted places.

Reviewer #3:

1. The abstract could be improved by specifying the exact numbers of patients in each subgroup. For instance, instead of saying "approximately 61.54%," it's better to provide the

exact number. Revised Sentence: Approximately 61.54% (16 out of 26), 30.77% (8 out of 26), 85.19% (23 out of 27), and 62.96% (17 out of 27) of patients with normal ALT levels were categorized as G≥2, G≥3, S≥2, and S≥3, respectively.

Response: Thank you for your valuable advice. We have modified this part of the abstract to read: Data analysis at baseline showed that 86.81% (79 of 91) of all patients were male. Moreover, about 61.54% (16 of 26), 30.77% (8 of 26), 85.19% (23 of 27) and 62.96% (17 of 27) of patients with normal ALT had G≥2, G≥3, S≥2 and S≥3, respectively. (line 23-25 in page 1).

2. The introduction provides a comprehensive overview of the topic and research goals. However, it can be enhanced by breaking it down into smaller paragraphs for easier reading and understanding. Additionally, the references provided are not entirely recent. It would be beneficial to include more recent references, if available.

Response: Thank you very much for your comments. We have divided the introduction into smaller paragraphs, and some of the references such as 5, 6, 7 have been updated to the latest references (line 357-364 in page 12 and page 13).

3. The number of patients in each group should be mentioned.

Response: Thank you for your valuable suggestion. In the diagnostic criteria and grouping section of materials and methods, we have labeled the number of patients in each group, modify as: The patients were classified into mild (G1-2, S0-2, 39 cases), moderate (G3, S1-3, 30 cases), and severe (G4, S2-4, 22 cases) chronic hepatitis groups based on the G and S outcomes (line 126-128 in page 5).

4. The exclusion criteria can be included in a separate subsection for clarity.

Response: Thank you for your valuable suggestion. We have divided the paragraph into two subsections, “ethical approval” and “patient selection”, and the inclusion and exclusion criteria are clearly listed in the patient selection section (line 97-111 in page 4).

5. A more detailed explanation about the Scheuer scoring system can be included.

Response: Thank you for your valuable advice. We have added details about the Scheuer scoring system in the diagnostic criteria and grouping section (line 112-129 in page 4 and page 5).

6. Provide more detail on the calculation of the diagnostic models (PSBPTL, PSWPAHPCL, and PSWPHCL) to enhance reproducibility.

Response: Thank you very much for your comments. We have added the methodology for the construction of these models in the Statistical Analysis of Materials and Methods section (line 155-157 in page 6). And we have added an explanatory note about the performance of these models in the Results 1.3 section (line 208-211 in page 7).

7. Converting percentages to actual numbers to provide clearer information.

Response: Thank you for your valuable comments. We have added the representation of the percentages in the results as actual numbers, see the article highlighted in yellow (line 223, 224, 228, 233, 240, 244 in page 8 and 9).

8. In the results section, provide an explanation for the acronyms or non-standard terminology upon first use.

Response: Thank you for your valuable advices, we have checked the full text and explained the acronyms or non-standard terminology that appear for the first time in the article.

9. Addressing the limitations of the study and suggesting potential areas for future research.

Response: Thank you for your comments. We have added to the discussion the limitations of the study and potential areas for future research (line 318-322 in page 11).

10. Including more recent references, if available, to support the discussion.

Response: Thank you for your comments. We have added two new papers to the discussion by searching for the latest literature, see references 18 and 22 (line 397-399

and line 408-410 in page 14).

11. Discussing the clinical significance of the findings in more detail.

Response: Thank you for your valuable comments, we have added a statement of the clinical significance of the findings to the discussion (line 317-318 in page 11).

Editor comments:

1. Thanks to the authors and appreciation to the researchers. The manuscript is a valuable research, but some revisions are needed. Authors should revise it based on reviewers' comments.

Response: Thank you for your valuable advice. We have revised and responded to each of the reviewers' comments.

2. Also some sentences lack references. All sentences quoted from other articles must have references at the end of themselves.

Response: Thank you for your valuable advice. We have reformatted the reference numbers at the end of the cited sentences according to the format of articles published in previous issues of the journal, and added a new reference 11 (line 374-377 in page 13).

3. Also minor changes should be done in abstract, summary of statistical analysis results should be mention in result section.

Response: Thank you for your valuable advice. We have supplemented the summary section with statistical values for the results of the statistical analyses, and added the DeLong test to compare the performance of different ROC curves.

4. Thanks to the authors and appreciation to the researchers. The manuscript is a valuable research. Authors aimed to analyze non-invasive diagnostic indicators associated with different inflammation grades, fibrosis stages, and hepatitis degrees in CHB patients and their outcomes after antiviral therapy. Some revisions are needed. Authors should revise it based on reviewers comments. Also authors should try to improve the quality of academic

writing in your manuscript by a native-writer or a person proficient in Academic English.

Response: Thank you for your valuable advice. We have revised and responded to the reviewers' and editors' comments one by one, and the paper has been revised by the authors who are proficient in academic English.

2 Revision 1

3 comments · 6 Jun 2024 – 6 Jun 2024

Referee 2 Reviewer

ACCEPT 6 Jun 2024

Dear AE.
Previous errors have been corrected, and there are no further recommendations.

Associate Editor

ACCEPT 6 Jun 2024

Dear EIC,
I read the manuscript, and the authors corrected the requested items. The article could be accepted at this stage.
Sincerely;

Editor-in-Chief

ACCEPT 6 Jun 2024

Dear AUTHOR,
Thank you for your explanation, and I find your manuscript acceptable.