OPEN PEER REVIEW

Open Peer Review (OPR)

As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Open Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

What is "Open Peer Review" process?

An "Open Peer Review" process is making the details of all review process (including reviewers, associate editors, and EICs comments) as "Public" as it is agreed by EIC, Authors, and reviewers.

Advantages of "Open Peer Review" process

- More transparency, constructiveness and tactful comments of the peer review process: leads to an increase in the quality of reviews
- More motivations for all involved roles in the review process
- Authors' satisfactions from the review process: Increases honesty between authors and reviewers
- Education of both authors and new students
- Prevents reviewers from following their individual agendas and leading to the detection of reviewers' conflicts of interests

You can find out more at:
https://sites.kowsarpub.com/kowsar/knowledgebase/category/tree.html#opr.html

Iranian Journal of Radiology
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Peer Review Report for "Role of 7-Joint Ultrasonic Score in Predicting the Prognosis of Rheumatoid Arthritis"

Author(s): Xiao-Pan Zou, Jin-Mei Zou, Dao-Ning Guo, Jia-Gao Qi, Yue Li, Gang Chen

Review Timeline:

Submit Date: 23 Mar 2020
Revised Date: 28 Jul 2020
Accepted Date: 3 Aug 2020

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (0) 11 Apr 2020

Dear AE,
Totally, it can be said that this study relatively designed, conducted, and analyzed appropriately; but its sample size is small for a cohort study design also it needs some revisions as follows:
1. How is it possible during one year follow-up not occur any lost to follow-up?
2. Table 2:
2.1 According to method, each RA patient was assessed four times during study; why only was used of before and after measurement?
2.2. In method, mentioned that independent sample t-test was used; but, in here, critical value of z test presented.
2.3. Because, some continuous variables were compared within one group before and after treatment, must be used of paired t-test or Wilcoxon test based on normal distribution.
3. Table 3: Why used of Z-test?
4. Some detailed comments also available in the manuscript file.
Thanks.

REFEREE: Reviewer | **Revision** (0) 20 Apr 2020

Dear AE,
Thanks for submitting this work to our journal.
I have some comments on this work:
- The authors have stated that you chose the target joints which were more clinically affected by tenderness or swelling .
On the other hand you have claimed the US could show the subclinical synovitis.
I think it's a conflict since the swelling and tenderness is an obvious clinical state.
Would you please you clarify this??
- I also want to know whether you used the US exam before or after the remission in your final analysis?
This is also influence "the subclinical" term you have stated.
- The authors have compared the two groups of recurrence and non-recurrence. I wonder if you have matched these two groups? Are they similar in type and duration of the treatments? Isn't there any other disturbance factor?
- The authors have considered the US7=0 as your cut off, I recommend to analyze the values of this score in non-zero group without recurrence, you my find some other valuable finding.
- The definition of the tenosynovitis in color US and the erosion are not clear in table 1.
Regards.

REFEREE: Associate Editor | **Revision** (0) 26 Apr 2020

Daer EIC,
The study is designed, conducted and analysed appropriately; but its sample size is small for a cohort study design also it needs some revisions as follows:
1. How is it possible during one year follow-up not occur any lost to follow-up?
2. Table 2:
2.1 According to method, each RA patient was assessed four times during study; why only was used of before and after measurement?
2.2. In method, mentioned that independent sample t-test was used; but, in here, critical value of z test presented.
2.3. Because some continuous variables were compared within one group before and after treatment, must be used of a paired t-test or Wilcoxon test based on a normal distribution.
3. Table 3: Why used of Z-test?
4. Some detailed comments also available in the manuscript file.
5. You have stated that you chose the target joints which were more clinically affected by tenderness or swelling . On the other hand, you have claimed the US could show subclinical synovitis. I think it's a conflict since the swelling and tenderness is an obvious clinical state.
Would you please clarify this??
6. I also want to know whether you used the US exam before or after the remission in your final analysis? This is also influenced by "the subclinical" term you have stated.
7. You have compared the two groups of recurrence and non-recurrence. I wonder if you have matched these two groups? Are they similar in type and duration of the treatments? Isn't there any other disturbance factor?
8. You have considered the US7=0 as your cut off, I recommend analyzing the values of

this score in the non-zero group without recurrence, you may find some other valuable finding.

9. The definition of the tenosynovitis in color US and the erosion are not clear in table 1.

Regards

REFEREE: EIC | **Revision** (0)

27 Apr 2020

Dear Authors,

Your article needs Major Revision.

Regards

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Dear reviewer and editor,

We sincerely thank the editor and reviewer for their valuable feedback that we have used to improve the quality of our manuscript. The reviewer and editor comments are laid out below in bold type. Point by point responses to the comments of editor and reviewer are listed below this letter. Our response is given in normal font and changes to the manuscript are given in blue text.

We hope that the revised manuscript is now acceptable for publication in your journal. I look forward to hearing from you soon.

With best wishes,
Yours sincerely,

Corresponding author
Jin-mei Zou, M.D., Deputy Chief Physician
Institution: Department of Rheumatology and Immunology, Mianyang Central Hospital
Address: No. 12, Wucheng District, Mianyang City, Sichuan Province
Postcode: 621000
Phone: +8618980602044
Email: letter_zjm@163.com

Reviewer 1:

1. How is it possible during one year follow-up not occur any lost to follow-up?

Reply: A total of 7 patients were lost to follow-up in our study. However, these lost patients were excluded in this study because of the inclusion criteria (3) (see page 2, line 81).

2. Table 2:

2.1 According to method, each RA patient was assessed four times during study; why only was used of before and after measurement?

Reply: After receiving successful treatment and achieving clinical remission, the RA patients began a 1-year follow-up. During this period, the patients would undergo a total of 4 DAS28 evaluations to determine whether they suffered recurrence. So the 4 times assessment were performed in the follow-up period. Table 2 shows the comparison of the DAS28 and US7 score before and after treatment. They are only assessed twice (ie. before and after treatment).

2.2. In method, mentioned that independent sample t-test was used; but, in here, critical value of z test presented.

Reply: All data in Table 2 are not normally distributed variables. So they are expressed as median (interquartile range) and compared by Mann-Whitney U tests. The age, RA duration, and Rheumatoid factor in Table 3 are normally distributed variables. They are expressed as mean±standard deviations and compared by independent sample t-tests. The z value in Table 2 is the parameter of Mann-Whitney U test. We revised the Table 2 to make it easier to understand (see Table 2).

2.3. Because, some continuous variables were compared within one group before and after treatment, must be used of paired t-test or Wilcoxon test based on normal distribution.

Reply: Yes, the DAS28 and US7 score in Table 2 are compared within one group before and after treatment. But they are compared by Mann-Whitney U tests because they are not normally distributed variables.

3. Table 3: Why used of Z-test?

Reply: In Table 3, the gender is compared by chi-square test. The age, RA duration, and Rheumatoid factor are compared by students' t test. The DAS28 after treatment, US7 score after treatment, GSUS synovitis, CDUS synovitis, GSUS tenosynovitis, CDUS tenosynovitis, and Erosions are compared by Mann-Whitney U test. The z value in Table 3 is the parameter of Mann-Whitney U test. We revised the Table 3 to make it easier to understand (see Table 3).

4. Some detailed comments also available in the manuscript file.

Reply: Thanks for your comments and we have revised and proofread our manuscript in blue font.

Reviewer 2:

- You have stated that you chose the target joints which were more clinically affected by tenderness or swelling.

On the other hand you have claimed the US could show the subclinical synovitis.

I think it's a conflict since the swelling and tenderness is an obvious clinical state.

Would you please you clarify this??

Reply: The 186 patients included in this study were in active RA before treatment. So the swelling and tenderness is obvious in this stage. After they received successful treatment, they all achieved stable clinical remission. At that time the swelling and tenderness is not obvious. It is difficult for physicians to discover the existence of subclinical synovitis but the US has advantages in the detection of subclinical synovitis (see page 3, line 109-130).

-I also want to know whether you used the US exam before or after the remission in your final analysis?
This is also influence "the subclinical" term you have stated.
Reply: Yes, the US exam was used before and after treatment (see page 3, line 110).

-You have compared the two groups of recurrence and non-recurrence. I wonder if you have matched these two groups? Are they similar in type and duration of the treatments? Isn't there any other disturbance factor?

Reply: The patients in the recurrence group and the non-recurrence group belonged to the 186 patients included in this study. They received treatment at first and were followed up after their diseases were in clinical remission. Then they were grouped according to the recurrence during the follow-up. So they were matched and had similar types and duration of the treatments (see page 3-4, line 113-136).

-You have considered the US7=0 as your cut off, I recommend to analyze the values of this score in non-zero group without recurrence, you my find some other valuable finding.

Reply: The US7 score = 0 is an easy-to-use method (but not accurate) to determine whether there is subclinical synovitis in RA patients. Our study found that patients with US7 score ≠ 0 showed a significantly increased risk of recurrence, which implied that physicians can quickly and roughly assess the risk of recurrence for RA patients using the US7 score. However, it is not an accurate method because it will increase the false-positive rate. Therefore, there must be patients in non-zero group without recurrence. In order to maximize the prediction accuracy, our study found that the combined prediction model of DAS28 and US7 score was the most accurate indicator. But currently it is difficult to apply in clinical and needs further verification.

-The definition of the tenosynovitis in color US and the erosion are not clear in table 1.
Reply: Thanks for your comments and we have revised the Table 1 in blue font (see Table 1).

OPEN PEER REVIEW

Revision (1)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (1) 10 May 2020

Dear AE,
At present, about this manuscript can be said that the authors relatively applied proposed comments; but the following point that mentioned in the first time reviewing, must be considered:
2.3. Because some continuous variables were compared within one group before and after treatment, must be used of a paired t-test or Wilcoxon test based on a normal distribution.
Reply: Yes, the DAS28 and US7 score in Table 2 are compared within one group before and after treatment. But they are compared by Mann-Whitney U tests because they are not normally distributed variables.
The explanation of the authors is not true and must be used of correlated data tests such as paired t-test or Wilcoxon according to normal distribution.
Thanks.

REFEREE: Reviewer | **Revision** (1) 30 May 2020

Dear AE,
Thanks to the authors for their revision.
Regards.

REFEREE: Associate Editor | **Revision** (1) 13 Jun 2020

Dear EIC,
The revised version is acceptable.
regards

REFEREE: EIC | **Revision** (1) 14 Jun 2020

Dear Authors,
Your article needs Minor Revision according to statistical and methodology reviewer.
Regards

OPEN PEER REVIEW

Revision (2)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Dear reviewer and editor,

We sincerely thank the reviewers for their valuable feedback. The reviewer comments are laid out below in bold type. Point by point responses to the comments are listed below this letter. Our response is given in normal font and changes to the manuscript are given in red text this time.

We hope that the revised manuscript is now acceptable for publication in your journal. I look forward to hearing from you soon.

With best wishes,
Yours sincerely,

Corresponding author
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Postcode: 621000
Phone: +8618980602044
Email: letter_zjm@163.com

Reviewers' Comments:

Reviewer 1:
Dear authors,
Thanks for your revision.
Regards.
Reply: Thanks for your support.

Reviewer 2:
Hi
At present, about this manuscript can be said that the authors relatively applied proposed comments; but the following point that mentioned in first time reviewing, must be considered:
2.3. Because, some continuous variables were compared within one group before and after treatment, must be used of paired t-test or Wilcoxon test based on normal distribution.
Reply: Yes, the DAS28 and US7 score in Table 2 are compared within one group before and after treatment. But they are compared by Mann-Whitney U tests

because they are not normally distributed variables.

The explanation of authors is not true and must be used of correlated data tests such as paired t-test or Wilcoxon according to normal distribution.
Reply: Thanks for your reminder. The DAS28 and US7 scores in Table 2 were compared by Wilcoxon signed rank test (see Table 2, page 4 line 144-145).

OPEN PEER REVIEW

Revision (2)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (2) 15 Jun 2020

Dear AE,
Currently, according to methodological point of view, this draft is ready for publication.
Thanks.

REFEREE: Associate Editor | **Revision** (2) 15 Jun 2020

Dear EIC,
The revised could be acceptable for the publication.
Regards

REFEREE: Associate Editor | **Revision** (2) 25 Jul 2020

Dear EIC,
The authors should respond to all comments one by one. Then, highlight any changes you make in the manuscript.
1- In the abstract, “Patients with rheumatoid arthritis (RA) is easily to recur if they have subclinical synovitis.” What is easily to recur? Please revise the sentence.
Do you mean, “If patients with RA have subclinical synovitis, there is a higher possibility for RA recurrence.”
Please clarify.
2- In the abstract, “The area under the curve of the prediction model combined US7 score and DAS 28 was the highest (0.904) than that of US7 score or DAS 28 ($p < 0.05$).” Do you mean, “The area under the curve of the prediction model with combined US7 score and DAS 28 was higher (0.904) compared to that of US7 score or DAS 28 ($p < 0.05$).”
Please clarify.
3- In the Discussion, “However, we must be aware that this is not an accurate method because it will increase the false-positive rate just rely on ‘US7 score = 0”.
This is not clear.
Do you mean, “However, we must be aware that this is not an accurate method because it will increase the false-positive rate and would only rely on an US7 score = 0.”? Please revise.
4- In the Discussion, “It indicated that the predictive value of the US7 score alone was not accurate, and the combination was needed to improve the predictive accuracy.” It seems that we do not need “predictive value of”

- Please confirm, “It indicated that the US7 score alone was not accurate, and the combination was needed to improve the predictive accuracy.”
Thank you.

REFEREE: EIC | **Revision** (2) 26 Jul 2020

Dear Authors,
Your article needs Minor Revision.
Regards

OPEN PEER REVIEW

Revision (3)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Dear reviewer and editor,

We sincerely thank the reviewers and editors for their valuable feedback. The comments are laid out below in bold type. Point by point responses to the comments are listed below this letter. Our response is given in normal font and changes to the manuscript are given in green text this time.

We hope that the revised manuscript is now acceptable for publication in your journal. I look forward to hearing from you soon.

With best wishes,
Yours sincerely,

Corresponding author
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Phone: +8618980602044
Email: letter_zjm@163.com

Reviewers' Comments:

Reviewer 1:
Hi
Currently, according to methodological point of view, this draft is ready for publication.
Reply: Thanks for your support.

Associate Editor's Comments:
Associate Editor 1:
Dear EIC,
The revised could be acceptable for the publication.
Regards
Reply: Thanks for your support.

Associate Editor 2:
Dear author,

Please respond to all comments one by one. Then, highlight any changes you make in the manuscript. Please do not make any changes in the manuscript other than responding to the comments, because they will not be considered.

1-In the abstract, "Patients with rheumatoid arthritis (RA) is easily to recur if they have subclinical synovitis." What is easily to recur? Please revise the sentence.
Do you mean, "If patients with RA have subclinical synovitis, there is a higher possibility for RA recurrence."
Please clarify.
Reply: Yes, it is revised in green fonts. Thanks for your comments.

2- In the abstract, "The area under the curve of the prediction model combined US7 score and DAS 28 was the highest (0.904) than that of US7 score or DAS 28 (p <0.05)."
Do you mean, "The area under the curve of the prediction model with combined US7 score and DAS 28 was higher (0.904) compared to that of US7 score or DAS 28 (p <0.05)."
Please clarify.
Reply: Yes, it is revised. Thanks.

3-In the Discussion, "However, we must be aware that this is not an accurate method because it will increase the false-positive rate just rely on 'US7 score = 0".
This is not clear.
Do you mean, "However, we must be aware that this is not an accurate method because it will increase the false-positive rate and would only rely on an US7 score = 0."?
Please revise.
Reply: Yes, it is revised. Thanks.

4-In the Discussion, "It indicated that the predictive value of the US7 score alone was not accurate, and the combination was needed to improve the predictive accuracy."
It seems that we do not need "predictive value of"
Please confirm, "It indicated that the US7 score alone was not accurate, and the combination was needed to improve the predictive accuracy."
Thank you.
Reply: It is revised. Thanks for your comments.

OPEN PEER REVIEW

Revision (3)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Associate Editor | **Revision** (3) 2 Aug 2020

Dear EIC
Based on the authors' answers to the reviewers' comments, the reviewer(s) have recommended publication.
Kind regards.

REFEREE: EIC | **Revision** (3) 3 Aug 2020

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