Author’s response to reviews

Title: Reliability of pleth variability index in predicting preload responsiveness of mechanically ventilated patients under various conditions: a systematic review and meta-analysis

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Author’s response to reviews:

Dear editor,

Thank you very much for your letter and advice. We have revised the paper, and would like to re-submit it for your consideration. We have addressed the comments raised by the reviewers, and the amendments are highlighted in red in the revised manuscript. We hope that the revision is acceptable, and I look forward to hearing from you soon.

With best wishes,

Yours sincerely,

Dunyi Qi

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We would like to express our sincere thanks to the reviewers for the constructive and positive comments.

Replies to Tsuneo Tatara （Reviewer 1）

1. Design of the study
Thank you for your valuable suggestions. We have already considered this issue during the design phase of this article. Because of the inclusion of 25 studies, we performed subgroup analyses as carefully as possible, highlighting the results of subgroup analyses rather than the overall data synthesis in the presentation of results. In the same subgroup, the patient's physiological characteristics are relatively consistent (such as the same age group, the same type of surgery), in the hope that the reader can more specifically apply the results of this subgroup analysis.

2. Purpose and conclusion

Thank you for your valuable suggestions. We have added a comparison between cardiac surgery and non-cardiac surgery and comparison of crystalloid and colloidal fluid in the results and conclusions. Unfortunately, the pediatric group only included 3 articles, so the children's comparison between the group and the adult group was not completed.

Replies to Carla Todaro (Reviewer 2)

Thank you for your meticulous 13-point revision. We have revised it one by one according to your opinion (marked red part), except for the (5) plus year.

Pag 1

1) We report the acronym ROC.

Pag 2

2) We have revised the English expression.

Pag 3

3) We report the acronym ROC.

4) We have revised the English expression.

Pag 4

5) We searched a lot of documents related to the company, and did not add the year to the company's description. We hope to get your advice. Below are the 2 articles we are looking for.


Pag 5

6) We have revised the English expression.

7) We performed a subgroup analysis and presented the results and heterogeneity of each subgroup.

Pag 6

8) We deleted this sentence

9) We added “discussion with third reviewer”?

10) We have revised the English expression.

Pag 7

11) and 12) We added extended form of DOR.

Pag 10

13) We combined the results of the quality assessment and publication bias and deleted the data that was not reported in the data extraction.

Replies to Massimo Meco  (Reviewer 3)

Thank you for your valuable suggestions. We discovered this serious problem after the data synthesis, and did our best to solve it, such as sensitivity analysis, detailed subgroup analysis, meta regression, and strict quality assessment. However, after the unqualified literature and the heterogeneous literature have been excluded, the I2 value is still high. Only the subgroups and ICU subgroups that did not undergo surgery had smaller I2 values. So in the end we highlighted the results of the without undergoing surgery subgroup (AUC =0.86, Youden index =0.65) and ICU subgroup (AUC =0.89, Youden index =0.67) were reliable. Because of their heterogeneity Small, the results are more credible.

Replies to Demetrio Pittarello  (Reviewer 4)
Thank you for your valuable suggestions. We re-describe the principles of PI and PVI, and replace the best threshold with a cut-off value to make it easier for the reader to understand. We changed the writing of Spearman and uploaded another image of the quality assessment as a result of the description.

Replies to Issam Tanoubi, M.D., M.A.(Ed), D.E.S.A.R. (Reviewer 5)

Thank you for your thoughtful comments. We have revised it one by one according to your opinion (marked red part).

1) We added the page number.

2) We deleted the title of the picture.

3) We deleted the result from the conclusion.

4) We moved the phrase "under the monitoring ... cardiac surgery [28]" to the discussion section.

5) We and added invasive monitoring to the limitation.

Replies to Alberto Fogagnolo （Reviewer 6）

Thank you for your thoughtful comments. We have revised it one by one according to your opinion (marked red part), except for the （5）.

1) We have improved the grammar.

2) We changed "Inappropriate rehydration" with inappropriate fluid administration.

3) We have a more detailed explanation of the prognosis according to the reference.

4) We replaced "acceptable" with "comfortable"

5) We have some questions about this point. Your suggestion conflicts with the comments of Reviewer2. We have reserved the name of the company after looking for references. We are very sorry. Below are the 2 articles we are looking for.


6) We replaced "P=0.000" with "P<0.001"

7) We replaced "The Cochrane-Q of the AUC was 39.175" with "The Cochrane-Q value of the AUC was 39.175".

8) We reinterpreted the reason for the exclusion, and this means that the I2 value has dropped from 95% to 84%.

9) We highlight the impact of sinus rhythm on PVI based on references.

10) We emphasize the effects of pain and surgery on vascular tone based on references.

11) We replaced "small sample size (n=4)" with "small number of study"

12) We replaced "perfusion situation" with "adequacy of perfusion"

Replies to Mert Senturk, MD (Reviewer 7)

Thank you for your thoughtful comments. We are also very honored to recognize you. We modified the first "plays" to "play"; but the second language description was adjusted according to Reviewer2's comments, "plays" was deleted, unfortunately.

Replies to Rajagopalan Venkatraman, MD (Reviewer 8)

Thank you for your thoughtful comments. We have made a one-by-one revision of your comments.

1) We describe the variables in more detail.

2) We have modified a number of grammars and sentences (red part).

3) We merged and deleted some data to make the results as concise as possible.

4) We revised the conclusions to make one-to-one correspondence with the results.

5) We removed some of the references in the background to make the article more concise.