Author’s response to reviews

Title: Accuracy of real-time shear wave elastography in staging hepatic fibrosis: A meta-analysis

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Author’s response to reviews:

Dear Editor,

Thanks a lot for your mail and reviewer’s comments. We have revised the manuscript according and hope the revised paper is acceptable. Attached below is a point to point response to reviewer’s comments. Let me know if you have any concerns and questions and looking forward to hearing from you.

Best regards,

Wei Deng

Department of Oral and Maxillofacial Surgery, Hainan General Hospital,
Editor Comments:

Overall, this is an interesting paper. However, points risen by the reviewers are of importance, in particular:

- which is the original aspect of this metanalysis as compared to previously published ones on the same topic?

Response:

- the Discussion is very weak.

Response:

From my own point of view, I was not able to understand why non-English language articles were screened for inclusion.

Response:

Reviewer reports:

Giacomo Filonzi (Reviewer 1): General comment:

I think the authors should mention these papers and explain the differences with their own study and how the present paper could add some significant information to this topic.

Response: Thanks for the comments. The 2016 paper is relatively new and it indeed included 5 out of 11 papers included in our analysis, since similar search strategy was used in both papers. The 2019 paper (Korean J. Radiol 2019 Jun; 20(6): 880-893.) is a very recent publication and it includes a set of studies that are almost completely different from the studies included in our study, probably due to different strategy. Therefore, we believe that our analysis is performed on the data sets that are different from the published papers, although there are indeed some “overlaps”, particularly with the first paper. To avoid ignorance, we cite the two papers in our revised paper.

Comments:

Abstract

line 7: "this study was to perform"; the purpose/the aim of this study was to perform?

Response: Not appropriate indeed. Revised. Thanks.

Background

line 18: "the causes of this injury include the infection of liver virus...". I think it should be something like "the causes of this condition include the infection with hepatitis viruses, autoimmune diseases...."

Response: Revised. Thanks.

Results:

Meta-analysis

line 50: what does it means that studies that reported F1 was considered inappropriate for meta-analysis? This studies was excluded from meta-analysis? (In this case this must be included among the exclusion criteria in "material and methods") Or only the data about the F1 stage was excluded from the meta analysis while the F2-F4 data was included?
Response: We really mean that studies reporting hepatic fibrosis at stage F0- F1 were excluded due to insufficient number of study and number of patients. This is corrected in the revised paper. We also revised the exclusion criteria in "material and methods" to reflect this. Thanks.

Discussion:

last line: "studies with F0-F1 were not included due to unavailability". See the previous comment.

Response: This is further clarified as in the response to above comment. Thanks.

Takahito Nakajima, M.D., Ph.D (Reviewer 2): The authors performed a meta-analysis to assess the overall performance of shear wave elastography (SWE) in the diagnosis of liver fibrosis. The manuscript was well written. However, their discussion felt to be a little different in scope from their investigation.

Major issues:

#1 Comparison among TE, RTE and ARFI

As the authors mentioned it in the manuscript, several noninvasive quantitative techniques have become available for measurements of liver stiffness. They introduced real-time tissue elastography (RTE), transient elastography (TE), and real-time shear wave elastography (SWE). Although the comparison among these three methods would be interesting, they did not analyze such comparison. However, they discussed the difference among them. These kinds of discussion should be placed in the limitation section.

Response: We have revised the discussion to enhance the comparison of these methods. However, we believe that including these comparison in the limitation section, as the reviewer suggested, appears to be inappropriate and we therefore leave these comparisons in other parts of Discussion. Thanks.

#2 Main discussion points: What are the main factors that affect the evaluation performance for the liver stiffness.
The main discussion point is not #1 but factors that affect the sensitivity or staging. The authors should discuss the factors and their effects on classifications or performances. The "diagnosis cutoff threshold" should be discussed as the authors noted.

Response: We have revised the discussion to address the factors that affect the evaluation performance of SWE, as well as the diagnosis cutoff threshold.

#3 Definition or difference of the term: "SWE" and "ARFI"

In this manuscript, some confusions are noticed, especially between SWE and ARFI. These terms would be almost the same, but the authors should define the difference and the usage of these technical terms.

Minor issues:

p11L3, ...staging early cirrhosis (F4) &gt; ..staging early cirrhosis (F1)

Table 1, averaged age: add the range of ages.

Figure 3, What do the dots in SROC graphs indicate?

&gt; The definition or explanation of the ROC curves and the dots should be noted in a figure legend or a manuscript.