Author’s response to reviews

Title: Shear Wave Elasticity by Tracing Total Nodule Showed High Reproducibility and Concordance with Fibrosis in Thyroid Cancer

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Version: 2 Date: 23 Oct 2019

Author’s response to reviews:

Dear Professor Peter Dziegielewski,

We appreciate the opportunity to respond to these valuable comments and believe that the manuscript has been satisfactorily improved by this revision. We hope that the changes are satisfactory and that this revised manuscript becomes suitable for publication in BMC Cancer.

We have carefully considered each of the issues which are raised by reviewers and have addressed each issue in a point-by-point fashion in the attached letter and the revised manuscript.

Revision or Insertions are shown with the yellow highlight.

Thank you for your kind consideration in advance and we are looking forward to hearing good news.

With Best Regards,

Myung Hi Yoo, MD PhD
Response to the Reviewer #1’s comments
Nihed Abdessayed, M.D. (Reviewer 1)
We would like to express our sincere thanks for the careful review.

Response to the Reviewer #2’s comments
Enver Ozkurt (Reviewer 2)
We would like to express our sincere thanks for the careful review and helpful comments that have been of great assistance in improving this manuscript.

1. Title should be simple and short.
Answer) Thank you for the comments. As your suggestion, we changed the title as below.
Corrections) Title section, Page 1, Line 1-2
Shear Wave Elasticity by Tracing Total Nodule Showed High Reproducibility and Concordance with Fibrosis in Thyroid Cancer

2. Conclusion is so sharp. It has to be soften in the abstract section.
Answer) We agree with your opinion that the conclusion is sharp. We changed the sentence as below.
Corrections) Abstract section, Page 3, Line 23-25
Moreover, our results showed that fibrosis in the histopathology increased EI on SWE and might lead to the discrepancy of the cut-off values in detecting thyroid cancer.

3. In the design of the analyses, you exclude 15 nodules out of 44. This causes a bit of bias for your analysis and for your conclusion. You should rather include these patients to your analysis or change the results sections like "For carefully selected group of patients…". This would be more suitable for daily practice of the physicians.
Answer) Thank you for valuable comments. The elasticity index of shear wave elastography is known to vary depending on confounding factors such as macrocalcification or tracheal cartilage. Although the number of patients is small, the inclusion of nodules associated with confounding factors is more likely to cause bias. To clarify the patient selection and help readers understand, we inserted the paragraph as below according to your suggestion.
Corrections) Results section, Page 11, Line 6~8
To evaluate the correlation between EI measurements on SWE and the degree of fibrosis on surgical histopathology, we reviewed and compared the SWE images and the histological specimens for carefully selected group of patients as shown in Fig. 2.

4. At the end of the results section (page 13, line12-17), you compared group 1 (n=24) and group 2 (n=5). Even though there is a significant difference, due to non-homogeneity and very low number in group 2, this conclusion is very weak to interpret. It is better to soften the conclusion and sentences about general frame of the study all over the manuscript (esp. it must be emphasized in the discussion and conclusion).
Answer) We fully agree with your opinion that the patients in group 2 is a heterogeneous group and its number is small. As your suggestion, we described and emphasized the limitation of the interpretation of the results in the discussion and conclusion sections as below.
Corrections) Discussion section, Page 14, Line 3~7
Although EMean was significantly higher in conventional PTC than in non-conventional PTC, non-conventional PTC in our study was a heterogeneous group of thyroid cancers and its number was too small. Large prospective studies evaluating non-conventional PTC are anticipated to help verify our results.

5. Does focal and total nodular ROI evaluation performed by the same physician (In another words, Rater 1[TN-ROI] = Rater 1[FN-ROI])?
Answer) Of course, the rater 1 for total nodular ROI and rater 1 for focal nodular ROI were the same physician. Thank you for the comments.

6. I also agree that a multi-center prospective study would be better to highlight usefulness of this technique.
Answer) We are planning future multicenter research. Please look forward to the results. Thank you for the careful review.