# PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 59172

**Title:** Quantitative multiparametric magnetic resonance imaging can aid non-alcoholic steatohepatitis diagnosis in a Japanese cohort

**Reviewer's code:** 02941569

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Chief Doctor, Doctor, Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Japan

**Manuscript submission date:** 2020-08-28

**Reviewer chosen by:** Jia-Ping Yan

**Reviewer accepted review:** 2020-10-07 20:18

**Reviewer performed review:** 2020-10-12 03:34

**Review time:** 4 Days and 7 Hours

| Scientific quality | [  ] Grade A: Excellent    [  ] Grade B: Very good    [ Y] Grade C: Good <br> [  ] Grade D: Fair    [  ] Grade E: Do not publish |
|---|---|
| Language quality | [  ] Grade A: Priority publishing    [ Y] Grade B: Minor language polishing <br> [  ] Grade C: A great deal of language polishing    [  ] Grade D: Rejection |
| Conclusion | [  ] Accept (High priority)    [  ] Accept (General priority) <br> [  ] Minor revision    [ Y] Major revision    [  ] Rejection |
| Re-review | [  ] Yes    [ Y] No |
| Peer-reviewer statements | Peer-Review: [ Y] Anonymous    [  ] Onymous <br> Conflicts-of-Interest: [  ] Yes    [ Y] No |

**SPECIFIC COMMENTS TO AUTHORS**

Dr Imajo and colleagues evaluated the accuracy of mpMRI on NASH and NAFL diagnosis in the prospective cohort and proved a fairly good performance for the non-invasive diagnosis. However, I have some concerns about this paper. First, as current mainstay of non-invasive method, limited number of cases were actually analyzed while not all included patients received VCTE and 2D SWE and nearly 50% missing data for 2D SWE and 20% missing data for VCTE, which may greatly weaken the statistical power and conclusion reliability. Second, there's no clear definition for NASH and NAFL stated in the manuscript, although the study population were classified by the two disease categories in Table 1. The two major studied diseases need to be further stressed in the paper. Third, as MRI is a useful meaning to diagnose NAFLD, what's its value in disease progression? When the patients progressed to fibrosis or cirrhosis, is the MRI test still useful? You may consider to include your data in the discussion.

# PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 59172

**Title:** Quantitative multiparametric magnetic resonance imaging can aid non-alcoholic steatohepatitis diagnosis in a Japanese cohort

**Reviewer's code:** 01436308

**Position:** Editorial Board

**Academic degree:** MD

**Professional title:** Associate Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Japan

**Manuscript submission date:** 2020-08-28

**Reviewer chosen by:** Jia-Ping Yan

**Reviewer accepted review:** 2020-10-06 10:43

**Reviewer performed review:** 2020-10-14 14:06

**Review time:** 8 Days and 3 Hours

| Scientific quality | [  ] Grade A: Excellent   [ Y] Grade B: Very good   [  ] Grade C: Good   [  ] Grade D: Fair   [  ] Grade E: Do not publish |
|---|---|
| Language quality | [  ] Grade A: Priority publishing   [ Y] Grade B: Minor language polishing   [  ] Grade C: A great deal of language polishing   [  ] Grade D: Rejection |
| Conclusion | [  ] Accept (High priority)   [ Y] Accept (General priority)   [  ] Minor revision   [  ] Major revision   [  ] Rejection |
| Re-review | [ Y] Yes   [  ] No |
| Peer-reviewer statements | Peer-Review: [ Y] Anonymous   [  ] Onymous   Conflicts-of-Interest: [  ] Yes   [ Y] No |

**SPECIFIC COMMENTS TO AUTHORS**

Imajo et al. evaluated the agreement of non-invasive imaging modalities with liver biopsy, and their subsequent diagnostic accuracy for identifying NASH patients. The study is interesting and well written. My comments are listed below. 1. It would be better to verify the results in different cohorts. 2. Does BMI or other metabolic parameters impact the diagnostic accuracy? 3. The total number of participants enrolled for analysis is 145, but the number of individuals with histology scores in Table 3 is 144.

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**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 59172

**Title:** Quantitative multiparametric magnetic resonance imaging can aid non-alcoholic steatohepatitis diagnosis in a Japanese cohort

**Reviewer's code:** 01548565

**Position:** Editorial Board

**Academic degree:** MD

**Professional title:** Director

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Japan

**Manuscript submission date:** 2020-08-28

**Reviewer chosen by:** Jia-Ping Yan

**Reviewer accepted review:** 2020-10-07 01:07

**Reviewer performed review:** 2020-10-15 13:47

**Review time:** 8 Days and 12 Hours

| | |
|---|---|
| **Scientific quality** | [ Y] Grade A: Excellent  [  ] Grade B: Very good  [  ] Grade C: Good  [  ] Grade D: Fair  [  ] Grade E: Do not publish |
| **Language quality** | [ Y] Grade A: Priority publishing  [  ] Grade B: Minor language polishing  [  ] Grade C: A great deal of language polishing  [  ] Grade D: Rejection |
| **Conclusion** | [  ] Accept (High priority)  [ Y] Accept (General priority)  [  ] Minor revision  [  ] Major revision  [  ] Rejection |
| **Re-review** | [ Y] Yes  [  ] No |
| **Peer-reviewer statements** | Peer-Review: [ Y] Anonymous  [  ] Onymous  Conflicts-of-Interest: [  ] Yes  [ Y] No |

**SPECIFIC COMMENTS TO AUTHORS**

Non-invasive assessment of NASH is increasing in desirability due to the invasive nature and costs associated with the liver biopsy. (mpMRI) to meansure liver fat as well as elastography techniques VCTE-LSM), MRE and SWE to measure stiffness and fat are emerging alternatives which could be used as a safe surrogate to liver biopsy. In this study, the author evaluate the agreement of non-invasive imaging modalities with liver biopsy, and their subsequent diagnostic accuracy for identifying NASH patients. The result shows that quantitative mpMRI is an effective alternative to liver biopsy for diagnosing NASH and NAFL, and thus may offer clinical utility in patient management. . The manuscript well, concisely and coherently organized and presented, the style, language and grammar accurate and appropriate.

# RE-REVIEW REPORT OF REVISED MANUSCRIPT

**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 59172

**Title:** Quantitative multiparametric magnetic resonance imaging can aid non-alcoholic steatohepatitis diagnosis in a Japanese cohort

**Reviewer's code:** 01436308

**Position:** Editorial Board

**Academic degree:** MD

**Professional title:** Associate Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Japan

**Manuscript submission date:** 2020-08-28

**Reviewer chosen by:** Han Zhang (Part-Time Editor)

**Reviewer accepted review:** 2020-11-19 04:06

**Reviewer performed review:** 2020-11-19 13:01

**Review time:** 8 Hours

| Scientific quality | [  ] Grade A: Excellent    [ Y] Grade B: Very good    [  ] Grade C: Good [  ] Grade D: Fair    [  ] Grade E: Do not publish |
|---|---|
| Language quality | [ Y] Grade A: Priority publishing    [  ] Grade B: Minor language polishing [  ] Grade C: A great deal of language polishing    [  ] Grade D: Rejection |
| Conclusion | [  ] Accept (High priority)    [ Y] Accept (General priority) [  ] Minor revision    [  ] Major revision    [  ] Rejection |
| Peer-reviewer statements | Peer-Review: [ Y] Anonymous    [  ] Onymous Conflicts-of-Interest: [  ] Yes    [ Y] No |

# SPECIFIC COMMENTS TO AUTHORS

My comments have been replied accordingly. I do not have any further comment.

# RE-REVIEW REPORT OF REVISED MANUSCRIPT

**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 59172

**Title:** Quantitative multiparametric magnetic resonance imaging can aid non-alcoholic steatohepatitis diagnosis in a Japanese cohort

**Reviewer's code:** 01548565

**Position:** Editorial Board

**Academic degree:** MD

**Professional title:** Director

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** Japan

**Manuscript submission date:** 2020-08-28

**Reviewer chosen by:** Han Zhang (Part-Time Editor)

**Reviewer accepted review:** 2020-11-23 13:19

**Reviewer performed review:** 2020-11-26 04:23

**Review time:** 2 Days and 15 Hours

| Scientific quality | [ Y] Grade A: Excellent    [   ] Grade B: Very good    [   ] Grade C: Good <br> [   ] Grade D: Fair    [   ] Grade E: Do not publish |
|---|---|
| **Language quality** | [   ] Grade A: Priority publishing    [ Y] Grade B: Minor language polishing <br> [   ] Grade C: A great deal of language polishing    [   ] Grade D: Rejection |
| **Conclusion** | [   ] Accept (High priority)    [ Y] Accept (General priority) <br> [   ] Minor revision    [   ] Major revision    [   ] Rejection |
| **Peer-reviewer statements** | Peer-Review: [ Y] Anonymous    [   ] Onymous <br> Conflicts-of-Interest: [   ] Yes    [ Y] No |

## SPECIFIC COMMENTS TO AUTHORS

Non-alcoholic fatty liver disease is the most common cause of chronic liver disease.NASH have a greater tendency to develop advanced liver fibrosis, cirrhosis, and HCC.Liver biopsy is the current gold standard for diagnose of NASH as well as the severity of fibrosis .However, due to the limitations associated with biopsy and poor acceptability by patients, there has been an increase in the use of non-invasive imaging biomarkers to diagnose and monitor the disease. In this study the author explored how MRI technology can stratify patients with simple fatty liver disease from those with NASH. The results showed that Quantitative MRI derived metrics showed the strong correlations to the histological pathological components of NASH. Futher more, high levels of inter-reader disagreement in histopathological biopsy reads, highlighting the pressing need for alternative diagnostic tests for NASH. These result supports the use this non-invasive technology in day-to-day practice The title reflect the main subject of the manuscript,the abstract summarize and reflect the work described in the manuscript,The manuscript adequately describe the background, present status and significance of the study. Methods in adequate detail,and the research objectives achieved by the experiments.The discussion accurate and does it discuss the paper's scientific significance and/or relevance to clinical practice sufficiently.The figures, diagrams and tables sufficient, good quality and appropriately illustrative of the paper contents.