
ANSWER TO THE REVEIWERS' COMMENTS

Reviewed by 02543098

The report describes the impact of MRI on the assessment of gastrointestinal motor function and bowel fluid distribution. The manuscript can be published after correcting grammatical and typing errors. However, the quality of manuscript is very good. This manuscript is so good that it deserves publication. I truly enjoyed reviewing this manuscript. I think that the article will be widely cited many investigators in the gastroenterology. Lastly, I appreciate the opportunity of review of your manuscript.

ANSWER: we thank this Reviewer for their very positive appraisal of our manuscript. We have revised and corrected grammatical and typing errors as highlighted in the revised manuscript version R1.

Reviewed by 03254999

This is an interesting study but I don't think we need to resort to expensive MRIs for these motility problems. Well-written but not relevant.

ANSWER: We understand entirely where this Reviewer's comment originates from. MRI is often perceived as an expensive technique. When considering the cost one needs however to consider the cost of the alternative and very often invasive techniques needed to obtain similar parameters. As an example, for the gut motility one needs to compare a quick MRI scan with a lengthy and very unpleasant intubation procedure which requires at least two members of staff, an endoscopy room and often sedation of the patient, not to mention that the stressful procedures may affect physiology and hence skewing the result of the exam. This is however an important point and we have added a comment to this effect in Introduction:

"Although MRI is often perceived as an expensive technique; however the cost of a short MRI scan needs to be compared with the cost and invasiveness of other procedures such as, for example, manometric intubation."

Reviewed by 03408355

This paper submitted by Khalaf et al, overviewed the recent progress on MRI biomarkers for evaluating the gastrointestinal motor function and fluid distribution. The text was well-organized and comprehensive in content.

ANSWER: We thank this Reviewer for their very positive comments. We have addressed all the minor individual points raised as detailed below.

The following were some comments to be addressed:

1. The abstract could be expanded by describing the MRI biomarkers.

ANSWER: agreed, we have added in Abstract: "Novel MRI biomarkers include intestinal motility indexes, the small bowel water content and whole gut transit time."

2. P4, "Esophagus" may be more appropriate as a subtitle than "Upper gastrointestinal tract".

ANSWER: Agreed, we have changed the "Upper gastrointestinal tract" subheading at page 4 into "Esophagus". We have also changed for consistency the subheading "Upper GI" at page 12 into "Stomach" as more appropriate.

3. Suggest summarizing the MRI biomarkers in table, which may help the readers understand.

ANSWER: yes, this is a good idea, we have added this as Table 1.

4. The diagnostic value of MRI biomarkers for gastrointestinal diseases may be discussed.

ANSWER: yes this is a good point, we have added this to the Conclusion: "Further trials are also needed to demonstrate the diagnostic value of the biomarkers and proving their clinical usefulness."

5. There were some grammatical mistakes. i.e. P7 "suggest that it also less dependent on". Please check carefully.

ANSWER: We have revised and corrected various grammatical and typing errors as highlighted in the revised manuscript version R1. In particular, we have rephrased the line at Page 7 as "The tagging method is ROI-independent. Tagging may also depend less on bowel distension, as suggested by the authors [32]."

ANSWER TO THE EDITOR'S SUGGESTIONS IN THE TRACKED EDITED FILE IN THE SAME ORDER AS THEY WERE PLACED IN THE MANUSCRIPT

Page 1 Q1: conflict of interest statement

ANSWER: We have re-worded the Conflict of Interest statement as suggested in the Format for Manuscript Review. We have enclosed a PDF of the Conflict-of-interest statement signed by the Corresponding Author as requested.

Page 2 WL2: Core Tip

ANSWER: We have added this to the Core Tip “Novel MRI biomarkers include intestinal motility indexes, the small bowel water content and whole gut transit time.” Now the Core Tip summary is 73 words.

Page 2 Q3: Audio core tip

ANSWER: this is now enclosed

Page 15 COMMENT 4 REFERENCES

ANSWER: Thank you for the comment, the DOI number was written incorrectly as “DOI: Doi” in references 33, 45 and 55 we have now corrected it. Four references had PMID/PMCID number but were missing the DOI number: References 1, 4, 16 and 31. We have been able to add the DOI number to References 4, 16 and 31. The only reference that does not have a DOI number (although it is available on the internet) is Reference 1 which is an historical abstract, the very first in the field. As requested, we enclosed a PDF copy of the abstract in Reference 1.

Page 28 COMMENT 5 FIGURES

ANSWER: The figures are snapshots which cannot be decomposed and have no movable parts to edit.