

Response

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors: This paper reviews the basic principles of IVIM - DWI and its research progress in the diagnosis and treatment of hepatic diseases. As it is presented the paper is not easy-to-read for clinicians: It lacks of summary tables and figures. At present status it is not acceptable.

Re: Thank you very much! We provided tables and figures.

Reviewer #2:

Scientific Quality: Grade D (Fair)

Language Quality: Grade A (Priority publishing)

Conclusion: Major revision

Specific Comments to Authors: Manuscript NO: 55609 Comments to authors, This manuscript reviewed IVIM-DWI used in diagnosis of liver diseases and its progress. It is valuable for reading and help the readers to know the advantages and disadvantages when use this technics in clinical diagnosis and differential diagnosis.

Major comments:

1. Figures could help the readers to understand at a glance what the authors' mean in this manuscript, why there were no any figures to explain the basic

principles of IVIM-DWI, and in the diagnosis and/or differential diagnosis in liver diseases? It would be better if the authors give pictures to explain the principle of IVIM-DWI and in different diagnosis.

Re: We provided figures. Thank you very much!

2. It is well known that when using same method to diagnose similar diseases, the results are similar or approximate to similar. If different results appeared, one should consider the reasons or what factors influenced the results. In this manuscript chapter 3 it wrote: Studies [12, 44, 45] have shown that the D, D* and f values of a hepatic fibrosis group were significantly lower than those of a normal control group. The IVIM - DWI parameters D, D* and f can be used to distinguish healthy people from patients with hepatic fibrosis, among which the f value has the best diagnostic value[38]. The study by Shiraga et al. [36] showed that IVIM - DWI also identified a pre-fibrotic state of the liver in Fontan patients. The study included five consecutive Fontan patients and four age-matched healthy volunteers. The results showed that in the five Fontan patients, laboratory tests and ultrasound showed almost normal liver conditions, and cardiac catheterization and MRI showed good Fontan circulation, but the D, D* and f values of Fontan patients were significantly lower than those of the control group. However, some studies[9, 41, 46] have shown that the D value was not significantly different between a normal liver and hepatic fibrosis tissue. Dyvorne et al.[19] showed that D* values were not significantly different between normal volunteers and patients with hepatic fibrosis. Why the D, D* values appeared differently in the same disease? The

authors should provide their own analysis, opinions and suggestions how to judge these results and how to avoid miss diagnosis. This comment is also available for chapter 4, 5 and 6. Minimum comments: The authors should give a list of abbreviations.

Re: We revised the manuscript. We provided the analyses and suggestions how to avoid miss diagnosis. The analyses have been added to the corresponding sections of the article, and some analyses and explanations in the text have also been highlighted. Thank you very much!

Step 6: Editorial Office's comments

The author must revise the manuscript according to the Editorial Office's comments and suggestions, which listed below:

- (1) *Science Editor*: 1 Scientific quality: The manuscript reviewed progress of intravoxel incoherent motion diffusion-weighted imaging in liver diseases. The topic is within the scope of the WJG. (1) Classification: Grade C and Grade D; (2) Summary of the Peer-Review Report: This paper reviews the basic principles of IVIM - DWI and its research progress in the diagnosis and treatment of hepatic diseases. The author should provide summary tables and figures to explain the principle of IVIM-DWI and in different diagnosis. The questions raised by the reviewers should be answered; and (3) Format: There are no tables or figures. The authors need to add some tables or figures. A total of 102 references are cited, including 36 references published in the last 3 years. There are 3 self-citing articles. 2 Language

evaluation: Classification: Grade A and Grade B. A language editing certificate issued by AJE was provided. 3 Academic norms and rules: The authors provided the signed Conflict-of-Interest Disclosure Form and Copyright License Agreement. No academic misconduct was found in the CrossCheck detection and Bing search. 4 Supplementary comments: This is an unsolicited manuscript. The study is without financial support. The topic has not previously been published in the WJG. The corresponding author has not published articles in the BPG. The first author was born in 1995 (under 45 years old). 5 Issues raised: (1) I found no "Author contribution" section. Please provide the author contributions. 6 Re-Review: Required 7 Recommendation: Conditionally accepted. (Yang Yue)

Re: We added some summary tables and figures, and provided the author contributions. All the questions raised by the reviewers had been answered. Many thanks!

(2) *Editorial Office Director*: I have checked the comments written by the science editor. The author should include tables/figures in the revised manuscript.

Re: We added summary tables and figures, and provided the author contributions. Many thanks!

(3) *Company Editor-in-Chief*: I recommend the manuscript to be published in the World Journal of Clinical Cases. Before final acceptance, the author(s) must add a table/figure to the manuscript.



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Re: We added some summary tables and figures, and provided the author contributions. Many thanks!

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Reviewer's code: 00504351

Specific comments to authors (for 55609-revised MS) It is very good after adding the figures and table. Now the readers can understand easily about what were shown by the authors. The authors should pay attention for English edition carefully (55609-Supplementary-Material revision). Such as: Page 10, in the paragraph EVALUATION OF HCC TREATMENT RESPONSE Line 6: for recurrence. The D value of....should be for recurrence. The D value of...Line 8: recurrence. Studies have.....should be recurrence. Studies have....Some sentences like that mentioned above.

Re: We revised the section. Thank you!

Reviewer's code: 03645171

The authors responded adequately to my suggestions and added figures and tables as requested. I think the paper is easy to read and well written, so I suggest publication. In the conclusions I would be more cautious in the statement "In summary, IVIM - DWI can accurately reflect information related to the diffusion of simple water molecules and microcirculatory perfusion in tissues and has important application value in the diagnosis of hepatic fibrosis, the differentiation of benign and malignant hepatic lesions, the histological classification of HCC, the evaluation of local and targeted therapeutic response and the prediction of therapeutic efficacy". It could be rewritten as "In conclusion, IVIM - DWI seems to reflect accurately information related to the diffusion of simple water molecules and



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microcirculatory perfusion in tissues and it could have important application value in the diagnosis of hepatic fibrosis, the differentiation of benign and malignant hepatic lesions, the histological classification of HCC, the evaluation of local and targeted therapeutic response and the prediction of therapeutic efficacy"

Re: We had rewritten the conclusions according to the RE-REVIEW REPORT.
Thank you and the reviewer very much!