

## **Point-by-point responses to the reviewers' comments**

**Manuscript NO: 27540**

**Reviewer code: 00069693**

General considerations This manuscript covers the topic of importance. The accurate could enable patients to have a modified surgical approach; hence it is a topic of clinical relevance. There is already a growing body of literature regarding this topic. In particular, for 'Quantitative' DWI-MRI analysis, it is important that MRI parameters analysis methods, and histopathology review are standardized - as this affects the quantitative component of analysis. As the authors rightly state, the main limitations of research performed so far are that studies are small and with varying methods and conclusions. Specific considerations Change "pathology" to "disease" (3rd line of Paragraph 1, Introduction section) Please, put the reference in "Stejskal and Tanner" (1st line, 1st paragraph, page 4) Please explain the meaning of "D" (6th line, 1st paragraph, page 4)

Response

We followed your suggestion and rewrote as follows (P3, L2-4).

“Diffusion-weighted imaging (DWI) is an imaging method that allows the mapping of the free diffusion of water molecules which reflects the structural differences in disease by restricting diffusion.”

We followed your suggestion and we put the reference (P4, L2 and P5, L2).

We added the explanation as follows (P4, L6).

“When D (diffusion coefficient) is small or time “t” is short, the measured D is the same as that of free diffusion because water molecules rarely interact with barrier structures.”

**Reviewer code: 02860653**

The manuscript `Diffusion-weighted imaging of the liver: Current applications` by Kazuhiro Saito et al. is an interesting and important paper providing analysis of role of MRI techniques for liver diseases, is well elaborated and written. Some issues that might contribute to the liver radiology algorithm could be suggested to discuss, namely: Comparative analysis in the fields of US / MR elastography for liver fibrosis (lesions?); Role of liver biopsy, fusion imaging / guidance; Role for planning interventions, etc.

Response

I appreciated your suggestion. Some studies have concluded that MR elastography was

more reliable than DWI. Therefore, we wrote above sentence at P11, L17.

We think DWI has to be performed in limited use for evaluating liver fibrosis because the steatosis and the iron deposition may lead inaccurate result. Our opinion is DWI is ongoing method, and we proposed the adverse effect of steatosis and iron deposition. Therefore, DWI could not be guidance for liver biopsy now, and we did not add the any role of DWI.

**Reviewer code: 02860814**

It is a technically detailed paper. Resubmission to a more pertinent journal such as World Journal of Radiology will be more suitable.

Response

I appreciated your suggestion. I followed your suggestion and submitted to World Journal of Radiology.

**Reviewer code: 02663375**

Page 11: please specify why fibrosis restricts surgical indications. Do you mean cirrhosis? It is not correct to state that patients in more advanced stage of liver fibrosis

cannot be cured. The paragraphs on the effect of steatosis and the effect of iron deposition should be moved at the end of this section.

Response

We meant that “cirrhosis restricts surgical indications”. This sentence became confuse, therefore, we deleted this sentence.

We followed your suggestion. The paragraphs on the effect of steatosis and the effect of iron deposition was moved at the end of this section.