

## Response to Reviewers

### Reviewer #1

1. Section "Evaluation of small lesions" – authors mentioned only CT results. However, MRI sensitivity is much higher these days, it is more appropriate to comment this.

**We agree with our reviewer that MRI is generally more sensitive for small liver lesions than CT. We have added a comment in this regard to the revised manuscript, as suggested. Regarding the comparison of MRI and EUS for the detection of small lesions, there is a relative paucity of data; however, we have included and referenced an additional study suggesting that MRI may have similar diagnostic accuracy as EUS.**

2. Is there a particular reason for separating "CCA" from the section of "performance of EUS in the evaluation of liver masses"?

**We separated "CCA" from the section of "performance of EUS in the evaluation of liver masses" because we believed it would be best to have a dedicated subsection for biliary masses, as these are not always within the liver parenchyma and are histopathologically distinct entities. However, to reduce potential confusion, we have moved the section on "CCA" into the section of "performance of EUS in the evaluation of liver masses".**

3. Section "performance of EUS-guided parenchymal liver biopsy" is rather verbose, should be organized.

**We have reorganized the section on the performance of EUS-guided liver biopsy for improved readability, as recommended.**

4. Figure 2: please compare the figure 2D with CT image

**Unfortunately, we do not have a CT image correlating with figure 2D as the pancreatic head lesion was not well visualized on CT.**

5. Figure 4: doppler -> Doppler study

**We have added the word study to the figure legend, as suggested.**

### Reviewer #2

I've read with lot of interest this review. The authors have clearly synthesized the state of the art of the application of EUS in the field of Hepatology, with technical details, performances of

different devices and beautiful iconography. They've shown how EUS can integrate (or even outperform) other modalities in the diagnosis and therapy of many liver diseases. I have few suggestions to better clarify some points and make the text more accessible for the audience.

**We thank the Reviewer for their comments and constructive suggestions and appreciate the opportunity to strengthen our manuscript.**

- Page 5: when speaking about the role of EUS in the evaluation of liver masses, the Authors cite a classification of EUS criteria identifying lesions at higher risk of malignancy. However they concentrate on the accuracy and predictive value of this classification without describing the imaging criteria themselves. I would suggest that instead of simply citing included characteristics such as echogenicity, shape, lesions size etc. they could also objectify the characteristics predicting malignancy (e.g. hypoechogenicity, distortion of adjacent structures etc.)

**We have made the suggested change to objectify the characteristics predicting malignancy.**

- The authors spent > 1000 words on comparisons between needles in EUS-guided liver biopsy. Since there is a beautiful and detailed table on this, can the authors try to synthesize this information into a more immediate practical message in the text? Conversely, the authors do not discuss differences between techniques in acquisition of liver biopsies. As for example "wet" suction versus "dry" suction. "Heparin" versus "saline" priming of the needle.

**We appreciate this comment; accordingly, we have reorganized the section on the performance of EUS-guided liver biopsy and added a discussion on the use of wet vs dry suction and use of heparin priming.**

- In the section about safety of EUS-guided liver biopsy, even if no comparative study exist of EUS versus percutaneous liver biopsy, can the authors provide a simple estimation of adverse events of percutaneous liver biopsy from previous published data?

**We have added a brief discussion of one study reporting the adverse event rate of percutaneous liver biopsy. Furthermore, we now comment on a newly published study (published March 2020) comparing the safety of EUS-guided and percutaneous liver biopsy.**

- I would also suggest to better clarify what is the clinical need of EUS-guided liver biopsy against the gold standard (e.g. one-step diagnosis in patients evaluated for abnormal liver function tests and no obstructive explanation found).

**We have added clarification to the clinical benefit of EUS-guided liver biopsy, as suggested.**

- I would suggest to remove the sentence “Where evidence is lacking, we provide expert opinion based on available data and experience” from the abstract. I have not noticed any strong personal position used to compensate for the absence of clinical data.

**We have removed this sentence.**

- Introduction: the world review is repeated in the same sentence.

**We have edited the sentence to address this concern.**