

## **RESPONSE TO REVIEWERS**

Firstly, We'd like to thank you and the reviewers for the possibility to revise our paper.

In the uploaded revised manuscript, you will find the underlined changes made in response to the Reviewers. In this letter, we also indicated how we have dealt with the Reviewer's comments.

We are enclosing a point-by-point reply to the Reviewer's comments.

The final version of the manuscript has been edited by a native English speaker.

Finally, on behalf of all the authors, I would like to thank you for your consideration of this paper.

### **Reviewer #1**

**Q:** Though the present manuscript is good, there are several major flows: Grammar: Throughout entire manuscript there is a problem with the punctuations and grammar error. This should be corrected by profession editing service or native speaker prior to publication. Though the certificate attached claimed to do so, the language is not upto the level of the science.

**A:** Thanks for your comment. We edited the whole manuscript and the final version was edited by a native English speaker to improve correctness and readability.

**Q:** Author must mention if the images used in the manuscript are generated by themselves or obtained form earlier published resources. For instance, they have mentioned "steatosis [28, 29] (Figure 1)." If obtained from other paper, proper permission or reference required. They must include one heading additional information after conclusion and state how these images were generated or retrieved.

**A:** Thanks for your suggestion. All images were collected by the Authors and never published before. As suggested, we added a specific statement after the conclusion section, as follows: "All

images reported in the present manuscript were collected by the Authors at San Gerardo Hospital and never published before.”

**Q:** As a reader, i would be pleased to have one diagram describing the hypothesis or objective of the manuscript . Something like figure 3 of <https://www.nature.com/articles/s41575-021-00426-4> and figure 2 of <https://www.ajtmh.org/view/journals/tpmd/106/4/article-p1026.xml> 4. (Optional) Also one table something like table described in <https://www.ajtmh.org/view/journals/tpmd/106/4/article-p1026.xml> is also interesting. This will improve the quality of the manuscript 5. Also, include limitation and future perspective before the conclusion

**A:** Thanks for your comments. As requested, we created an illustrated diagram to summarize and quickly identify the most common pathological liver entities in COVID-19 patients (Figure 1). Moreover, to gain readability we added a specific table with a summary of the most common imaging findings of different liver involvement by using US, CT and MRI (Table 1). Finally, considering that the main aim of this review was to summarize the most common and known data reported in literature, we briefly add limitations and future perspectives in the conclusion section, as suggested.

## **Reviewer 2**

**Q:** This is a excellent summary of the most important imaging features of liver involvement in patients with COVID-19. The imaging tools mainly described in this article are ultrasound, CT and MRI. At the same time, the types of liver injury caused by COVID-19 were described. The five most common diseases were hepatomegaly and steatosis, portal vein thrombosis, drug-induced liver injury, acute hepatitis, and biliary and gallbladder involvement. For liver diseases, these three

types of imaging examinations are routine examinations, each with its own advantages and disadvantages. It'll be better for the author to illustrate whether these liver diseases caused by COVID-19 are different from those caused by other problems in imaging.

**A:** Thanks for your comments. The first aim of our study was to summarize the most common hepatic pathological findings of COVID-19 patients. On these bases, we reported different entities which are not typical for COVID-19 and can be appreciable in current clinical practice in other medical or surgical settings. We deeply searched the international literature, and We did not find any significant study aimed to determine if these pathological conditions are linked to COVID-19 exclusively or not. For these reasons, and to avoid a too extensive paper, we decided to be focused only on COVID-19 patients, without citing other pathological conditions, avoiding the high risk of off-topic. To increase readability, we added a specifically illustrated graph (Figure 1) and a summarizing table (table 2), as kindly suggested by the other reviewers.

### **Reviewer 3**

**Q:** Dear author, In their manuscript “Liver Involvement in Patients with COVID-19 infection: a comprehensive overview of diagnostic imaging features” the authors explored the spectrum of COVID-19 liver involvement and the most common imaging features of COVID-19 liver damage with a descriptive correlation to the underlying pathogenesis. In this review, liver damage can result in different ways, such as hepatomegaly, acute hepatitis, steatosis and steatohepatitis, portal vein thrombosis and liver infarction, biliary and gallbladder involvement, up to drug-induced liver injury, et al. Imaging examination plays an important role in the detection and follow-up of COVID-19 liver involvement. The subject of this study is interesting and useful for clinical applications. It is recommended to add a table, which contains manifestations of different degrees

of COVID-19 liver injury in different imaging examinations (US, CT, MRI, et al)so that to make readers benefit faster and more efficient.

**A:** Thanks for your comments. As requested, to gain readability, we added a specific table with a summary of the most common imaging findings of different liver involvement by using US, CT and MRI (Table 1).