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We would like to thank the reviewers', the Editor, and the Company editor-in-chief for the constructive comments and suggestions, and for efforts towards improving our manuscript. We have revised and improved the whole manuscript as detailed in the comments below. We have improved the manuscript English language. The title was modified as "Current status of magnetic resonance imaging radiomics in hepatocellular carcinoma: a quantitative review with radiomics quality score" in order to avoid the "MRI" abbreviation in the title.

We also proceeded to modify Figures and Table captions and provided the Figures cited in the original manuscript in the form of PPT, and the Tables in a separate file.

Article highlights section was added.

All remarks have been addressed in the revised manuscript highlighting the revised/added contents with yellow color. A detailed point-by-point reply specific to each point raised by reviewers is attached below (our replies in *Italic*).

Reviewer 1

This is an interesting manuscript. In this manuscript, authors attempt to summarize the current status of MRI radiomic studies concerning HCC, evaluating the radiomics analysis conducted in previous articles by means of RQS to assess the quality of the methodology used in each study. Authors consulted a large number of articles and classified and analyzed them. The results showed that MRI radiomics could provide information about the diagnosis, prognosis, and prediction of pathologic outcomes and molecular expression for the management of HCC. RQS was positively correlated with journal Impact Factor, 5-years Impact Factor, number of patients involve, number of radiomics features extracted and time of publication in the study. MRI radiomics can potentially satisfy the urgent need for noninvasive, radiation-free strategies. This study showed us a better and more comprehensive use case of MRI radiomics for HCC



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patients. However, the study also revealed that studies in this field still lack the quality required to allow its introduction in clinical practice. It will definitely increase the quality of the manuscript if the number of included patients and the number of extracted features can be increased. In particular, external validation and the standardization of radiomics features are necessary. On the whole, I think it's a very valuable manuscript and this study provides a new idea of taking advantage of the benefits arising from MRI technique in HCC.

We thank the reviewer for the comments. To improve the quality of the manuscript, we proceeded to revise the manuscript English, to clarify Figures legends. Article highlights section was added. Moreover, also according to the reviewer's 2 comments, we considered it appropriate to highlight that 0% indicates the lowest RQS quality and 100% is the highest. Therefore, we modified the methods section as follows:

"The total score ranges between -8 and 36 and can be translated into a final 0-100 RQS percentage, with -8 to 0 defined as 0%, indicating the lowest quality, and 36 as 100%, indicating the highest quality in terms of the methodology and reporting standards of the radiomics study[2]". We also cited the study by Lambin et al., in which further details were explained.

Concerning the subheading "Statistical analysis", we modified the its title both in the Methods and in Results sections as "Correlation analysis between RQS and journal metrics", since the paragraph is focused on correlation between RQS and journal metrics.



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Reviewer 2

I read with great interest the paper “Current status of MRI radiomics in hepatocellular carcinoma: a quantitative review with radiomics quality score” by Brancato V et al. This is an interesting systematic review and has a significant amount of work. The authors assessed the quality of MRI radiomic studies concerning HCC using the radiomics quality score (RQS). The authors concluded that studies in this field still lack the quality required to allow its introduction in clinical practice. I suggest publication of the paper. Below are just some minor comments. 1. In Method, there is a need to mention that 0% indicates the lowest quality and 100% is the highest, especially for readers not familiar with RQS. 2. The subheading “Statistical analysis” in Result is not appropriate. It is about correlation between RQS and journal metrics.

We thank the reviewer for the comments and agree with the reviewer concerning the raised issues. In order to highlight that 0% indicates the lowest quality and 100% is the highest, we modified the methods section as follows:

“The total score ranges between -8 and 36 and can be translated into a final 0–100 RQS percentage, with -8 to 0 defined as 0%, indicating the lowest quality, and 36 as 100%, indicating the highest quality in terms of the methodology and reporting standards of the radiomics study[2].” We also cited the study by Lambin et al., in which further details were explained.

Concerning the subheading “Statistical analysis”, we modified the its title both in the Methods and in Results sections as “Correlation analysis between RQS and journal metrics”.