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ABDOMINAL IMAGING

LETTER TO THE EDITOR

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Reply: Regarding "multiparametric magnetic resonance imaging, diffusion-weighted magnetic resonance imaging, and magnetic resonance elastography: differentiating benign and malignant liver lesions"

İlkay S. İdilman

Hacettepe University Faculty of Medicine, Department of Radiology, Ankara, Türkiye

Dear Editor,

We would like to thank the author of the letter for their insightful comments and interest in our study, which evaluated the diagnostic performance of multiparametric magnetic resonance imaging (mpMRI), diffusion-weighted imaging, and magnetic resonance elastography (MRE) in characterizing focal liver lesions.[1] We appreciate the opportunity to clarify our methodology and discuss the future of multimodal liver imaging. Regarding the definition of "multiparametric," the author rightly points out that although we used several quantitative parameters, we analyzed them primarily as individual variables. In our study, the term "multiparametric" refers to the acquisition and evaluation of multiple independent quantitative biomarkers—T1/T2 mapping, apparent diffusion coefficient (ADC), and stiffness—within a single MRI session. Our primary goal was to establish the baseline diagnostic accuracy and optimal cut-off values for these emerging techniques. We agree that utilizing a logistic regression model to assess the additive value of these findings is a crucial step for future research. However, due to the retrospective nature of our study and the limited number of lesions, we focused on the individual efficacy of these quantitative measures rather than complex modeling.

Novel ultrasound (US) imaging techniques, which may aid in the characterization of focal liver lesions, have been introduced in the literature, as the author discussed.[2] Although MRI remains a reference standard for lesion characterization, we acknowledge that some advanced techniques, such as mpMRI and MRE, are not yet available in every center. Similarly, many novel US techniques, as well as contrast-enhanced US techniques, are currently restricted to specialized institutions. Consequently, optimizing the use of existing, locally available imaging modalities is a pragmatic and necessary approach. Furthermore, the suggestion to integrate MRI with US-based techniques is highly valuable; combining microvascular data from US with the tissue stiffness and diffusivity data from MRI would be an innovative approach.

We agree with the author that future research should focus on artificial intelligence-supported radiomic analyses and multimodal algorithms.[3] As we noted in our conclusion, prospective studies with larger, more homogeneous cohorts are necessary to demonstrate the impact of combining these modalities on clinical diagnostic accuracy. In summary, our findings indicate that ADC and lesion stiffness are currently the strongest individual performers among the studied parameters. We believe that moving from "analyzing parameters" to "integrated multimodal algorithms" will be the key to minimizing biopsies for focal liver lesions in the near future.

Corresponding author: İlkay S. İdilman

E-mail: ipolater@yahoo.com

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Footnotes

Conflict of interest disclosure

İkay S. İdilman, MD, serves as Section Editor of Diagnostic and Interventional Radiology. He had no involvement in the peer review of this article and had no access to information regarding its peer review..

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