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PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 82118

Title: Preoperative prediction of macrotrabecular-massive hepatocellular carcinoma through dynamic contrast-enhanced magnetic resonance imaging-based radiomics

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05562744
Position: Editorial Board
Academic degree: FACS, MD, PhD
Professional title: Professor, Senior Scientist
Reviewer's Country/Territory: Turkey
Author's Country/Territory: China

Manuscript submission date: 2022-12-12

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-12-28 05:59

Reviewer performed review: 2023-01-05 11:17

Review time: 8 Days and 5 Hours

Scientific quality	[Y] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [Y] Accept (General priority) [ ] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

In brief: Methods: This retrospective study enrolled 232 (training set, 162; test set, 70) hepatocellular carcinoma patients. A total of 3111 radiomics features were extracted from dynamic contrast-enhanced MRI, followed by dimension reduction of these features. Logistic regression (LR), K-nearest neighbour, Bayes, Tree, and support vector machine algorithms were used to select the best radiomics signature. Multivariable logistic regression was used to select the useful clinical and radiological features, and different predictive models were established. Finally, the predictive performances of different models were assessed by evaluating the area under the curve The authors have found that 0.739 in the training and test sets, respectively. In the multivariable analysis, age (OR=0.956, P=0.034), alpha-fetoprotein (OR=10.066, P<0.001), tumour size (OR=3.316, P=0.002), tumour-to-liver ADC ratio (OR=0.156, P=0.037), and rad-score (OR=2.923, P<0.001) were independent predictors of MTM-HCC. The nomogram performed best, with AUCs of 0.896 and 0.805 in the training and test sets, respectively. The manuscript is well written

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Reviewer's code: 03479136
Position: Editorial Board
Academic degree: FEBS, MD, PhD
Professional title: Assistant Professor, Surgeon
Reviewer's Country/Territory: Italy
Author's Country/Territory: China

Manuscript submission date: 2022-12-12

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-01-13 12:43

Reviewer performed review: 2023-01-14 14:55

Review time: 1 Day and 2 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [Y] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No creativity or innovation

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Scientific significance of the conclusion in this manuscript	[ ] Grade A: Excellent [ ] Grade B: Good [Y] Grade C: Fair [ ] Grade D: No scientific significance
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Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Thank you for having the opportunity to review the manuscript entitled "Preoperative prediction of macrotrabecular-massive hepatocellular carcinoma through dynamic contrast-enhanced MRI-based radiomics". - Reference 9 appears to have been cited inappropriately. There is no consensus or internationally agreed guideline recommending avoiding liver transplantation in such patients. Moreover reference 9, on which the Authors base their statement, cites a study aimed at predicting the microvascular invasion in HCC patients through deep learning but with restrictive selection criteria not adequate to draw conclusions regarding liver transplantation for HCC (e.g. Child-Pugh only A, excluded all patients with locoregional or systemic treatments, …). - Reference 12 is cited in an inappropriate and highly misleading way. The Authors state that. "MRI has gradually become the mainstream of preoperative tumour evaluation" when the AASLD guidelines cited clearly report that: "2. The AASLD recommends diagnostic evaluation for HCC with either multiphasic CT or multiphasic MRI because of similar diagnostic performance characteristics. Quality/Certainty of Evidence: Low for CT versus MRI. Strength of Recommendation:

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Strong". Moreover, the 2018 AASLD Imaging for the Diagnosis of Hepatocellular Carcinoma: A Systematic Review and Meta-analysis conclude that: "CT, extracellular contrast– enhanced MRI, or gadoxetate-enhanced MRI could not be definitively preferred for HCC diagnosis in patients with cirrhosis". Therefore, it cannot be said that MRI is the preferred imaging method, in fact in the Western World the highly majority of HCC patients undergo CT rather that MRI imaging. - The clinical data included appear to be very limited, not taking into account the aetiology of the liver disease, if not for the HBV status, the severity of the liver disease, BCLC stage, … - It appears to be no mention of satellite nodules, biliary invasion and other relevant oncologic characteristics. - What do the Authors think are the clinical applications of their model that they mention in the conclusions? Which patients would have a different therapeutic strategy (and which ones) due to their observations" Do they think their results are sufficient to change the clinical practice and preclude some patients the present consensus preferred treatment due to their radiomics predictions and do the Authors consider it ethically sound?