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# PEER-REVIEW REPORT

**Name of journal:** *World Journal of Gastroenterology*

**Manuscript NO:** 90137

**Title:** Assessing recent recurrence after hepatectomy for hepatitis B-related hepatocellular carcinoma by a predictive model based on sarcopenia

**Provenance and peer review**: Unsolicited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 04152258
**Position:** Peer Reviewer
**Academic degree:** MD
**Professional title:** Assistant Professor, Staff Physician
**Reviewer's Country/Territory:** United States
**Author's Country/Territory:** China

**Manuscript submission date:** 2023-11-27

**Reviewer chosen by:** Huo Liu

**Reviewer accepted review:** 2024-01-10 02:28

**Reviewer performed review:** 2024-01-10 03:21

**Review time:** 1 Hour

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|---|---|
| **Scientific quality** | [ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good<br>[ ] Grade D: Fair [ ] Grade E: Do not publish |
| **Novelty of this manuscript** | [ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair<br>[ ] Grade D: No novelty |
| **Creativity or innovation of this manuscript** | [Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair<br>[ ] 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** | [ ] Yes [ Y] No |
| **Peer-reviewer statements** | Peer-Review: [ Y] Anonymous [ ] Onymous |
| | Conflicts-of-Interest: [ ] Yes [ Y] No |

## SPECIFIC COMMENTS TO AUTHORS

The article "A Predictive Model to Assess Recent Recurrence after Hepatectomy for Hepatocellular Carcinoma based on Sarcopenia" by Peng and Lei et al. presents a study that aims to establish a predictive model for hepatocellular carcinoma (HCC) recurrence-based on sarcopenia. The authors claim that their SAMD model is superior to other existing models in predicting postoperative recurrence. However, there are several shortcomings in the study: 1. Limited Sample Size and Single-Center Study: The study is a retrospective single-center study with a limited sample size. This could limit the generalizability of the findings to a broader population. The results might not apply to patients from different geographical locations, ethnic backgrounds, or healthcare systems. 2. Lack of Nutritional Factors in Current Models: The authors mention that current prediction models do not consider nutritional factors. However, they do not provide a detailed explanation or evidence to support why dietary factors, specifically sarcopenia, should be included in the prediction models. 3. Retrospective Study Design: The study's retrospective nature could introduce bias, as the data was not collected with the specific research question in mind. This could affect the reliability and validity of the

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results. 4. Lack of External Validation: Although the authors used a separate group of patients for validation, these patients were from the same hospital as the training cohort. An external validation with a completely independent dataset from a different center would have strengthened the model's reliability. 5. Lack of Comparison with Other Models: The authors claim that the SAMD model is superior to other models but do not provide a detailed comparison. A head-to-head comparison with other models using the same dataset would have provided a clearer picture of the SAMD model's performance. 6. Potential Confounding Factors: The study does not seem to account for potential confounding factors that could influence the results, such as the patient's overall health status, lifestyle factors, or other comorbidities[. 7. Selection Bias: The study only included patients with a history of chronic hepatitis B with positive hepatitis B surface antigen (HBsAg), which may not represent the entire population of patients with HCC. This could introduce selection bias and limit the model's applicability to a broader HCC patient population. 8. Inclusion and Exclusion Criteria: The exclusion of patients with a history of other treatments for HCC (such as transcatheter arterial chemoembolization or chemotherapy) could also limit the generalizability of the findings. These criteria may exclude a significant portion of the HCC patient population undergoing such treatments. 9. Diagnostic Criteria for Sarcopenia: The study uses specific diagnostic criteria for sarcopenia based on the Japan Society of Hepatology Guidelines for Sarcopenia in Liver Disease. This may not be universally applicable or accepted, and different criteria could yield different results. 10. Follow-up Protocol: The follow-up imaging results were reviewed every 3-6 months, which may need to be more frequent to detect all cases of recurrence promptly. A more frequent or standardized follow-up protocol could provide more accurate data on recurrence. 11. Statistical Analysis: While the study used various software, the methods and assumptions underlying these analyses are not detailed in the search results. Any limitations in the statistical methodology could affect the validity of

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the model. 12. Data Collection: As a retrospective study, the data collection was based on records, which may not have been gathered systematically or with the current research question in mind. This could lead to information bias. 13. Outcome Measures: The study focuses on recurrence-free survival (RFS) but does not discuss overall survival or quality of life post-surgery, which are also important outcomes for patients with HCC. 14. Model Calibration and Validation: Although calibration curves indicated good consistency between predicted and observed results in the training and validation cohorts, the need for external validation in a different clinical setting or population remains a concern. 15. Online Calculator: An online calculator was developed for the model, but its accessibility, usability, and accuracy in a real-world clinical setting are not discussed. 16. Comparison with Other Models: The study compares the SAMD model with other preoperative models using AUC, but it does not discuss the clinical relevance or practical differences that might affect the choice of model in clinical practice. In summary, while the study by Peng and Lei et al. contributes to the field by proposing a new model for predicting HCC recurrence post-hepatectomy, the limitations outlined above and in the initial question suggest that further research is needed to confirm the model's effectiveness and generalizability.