Peer Review File

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Reviewer A

Comment 1: I have carefully reviewed your paper and I appreciate your effort and the importance of extracting the "highest-risk" patients, but I still think that the importance and clinical use of this research should be better explained through the text. Clarify the goal of the research and in what aspect it provides benefit. What exactly is obtained by selecting patients who are at risk of developing recurrence or dissemination and how they are further treated.

Reply 1: We have added a description of the goal of this research and the subsequent benefits to patients in the Introducion section.

Changes in the text: We aimed to establish develop a method of for distinguishing this subgroup of patients according tobased on clinicopathological features and extending the duration of postoperative adjuvant therapy, thereby enhancing patients' prognosis.

Comment 2: In the legend of Figure 1, explain what graph A and B are.

Reply 2: We added the descriptions of graph A and B to the figure legend of Figure 1

Changes in the text: Figure 1 Significant radiomic features analyzed by univariate Cox and LASSO Cox regression model (A, Tuning parameter (λ) selection in the LASSO model used 10-fold cross-validation via minimum criteria. B, LASSO coefficient profiles of the 833 texture features.). LASSO, least absolute shrinkage and selection operator.

Comment 3: In the results paragraph after Figure 2, there is an explanation for Table 1 - consider the insertion of Table 1 after Figure 2.

Reply 3: Indeed, Table 1 should be located after Figure 2 in the results section of the ##Construction and validation of the nomogram. The corresponding positions of figures and tables in the manuscript have been marked, and the order of the charts attached at the back is arranged in the order of figures first and then tables, which is slightly different from the order of figures and tables mentioned in the manuscript.

Comment 4: I strongly recommend that the discussion section and the introduction rewrite in a more concise and clear way.

Reply 4: We have made significant revisions to the discussion section of the manuscript, hoping that these changes align with your requirements.

In conclusion, the study is well designed and the topic is popular, without other similar research in this area, and I think that after concretizing the essence and goal of the work in terms of further clinical application and the benefits it provides, it can be considered for publication.

Reviewer B

1) First, the title needs to indicate the prognosis outcome as PFS, not "highest risk", and the combination of clinical factors and CT-radiomics as the predictors.

Reply: The main highlight of our article is to distinguish highest-risk group from high-risk GISTs. Simply using radiomics to predict patient PFS does not reflect the purpose or significance of our study.

2) Second, the abstract is not adequate and needs further revisions. The background did not explain why CT-radiomics could accurately predict the prognosis outcomes and what the current knowledge gap is. The methods need to describe the inclusion of subjects, the assessment of baseline clinical factors, follow up procedures, and the measurement of prognosis outcomes. The results need to first present the PFS and the baseline clinical characteristics of the whole sample. The conclusion needs to be made with cautions due to the large confidence intervals of the predictive accuracy parameters and the small sample size of this study.

Reply: Thank you for your advices. We have made corresponding modifications in the background and methods of the abstract section. As for the results part, our paper is not just about survival analysis, but the most important work should be model construction and model efficiency verification. Therefore, in the abstract, we think that it is not necessary to present the PFS of the whole sample.

3) Third, in the introduction of the main text, the authors need to analyze why the addition of CT-radiomics could improve the predictive accuracy of clinical factors based prediction model and what the limitations of prior studies on the prognosis prediction model of high-risk GIST.

Reply: As we mentioned in discussion section, radiomics is a promising tool extracting high-throughput image features, aids in clinical decision-making. As for the limitations of prior studies, we have described it at the end of the second paragraph of the background section. Although several clinical models have been extended to evaluate the prognosis of patients with high-risk GIST, few of them had tried to incorporate radiomics methods into assessment.

4) Fourth, in the methodology of the main text, the authors need to describe the clinical research design, sample size estimation, data collection of clinical factors, follow up, and

measurement of prognosis outcome. In statistics, please describe the threshold c-index value for a good prognosis prediction model and ensure P<0.05 is two-sided.

Reply: Because this is a retrospective study, we included consecutive cases during this period. We have described it in more detail in this section. As for patient follow-up, data collection of clinical factors, and the measurement of prognosis outcome, we have provided detailed descriptions in ##patients of the methods section. We have revised the wording in the statistical section as per the requirements.

Changes in the text: The statistical significance levels reported were all based on two-sided testing, with a significance threshold set at 0.05.

5) Finally, please consider to cite several related papers: 1. Schuetze SM. Dawn of immunotherapy treatment for gastrointestinal stromal tumors. Gastrointest Stromal Tumor 2023;6:1. 2. Kalinowska I, Zdzienicki M, Skoczylas J, Rutkowski P. A narrative review of surgical management of gastrointestinal stromal tumors. Gastrointest Stromal Tumor 2021;4:5. 3. Zhou Z, Lu J, Morelli JN, Hu D, Li Z, Xiao P, Hu X, Shen Y. Utility of noncontrast MRI in the detection and risk grading of gastrointestinal stromal tumor: a comparison with contrast-enhanced CT. Quant Imaging Med Surg 2021;11(6):2453-2464. doi: 10.21037/qims-20-578.

Reply: We have appropriately cited the references at the relevant locations in the manuscript.

Reviewer C

I have read through the Paper. You need to state how the 100 patients in this study were acquired. Was any sampling method used? or were they consecutive patients? Were there any exclusion patients and what were your criteria for excluding them.

Reply: We screened all patients with GIST from January 2006 to December 2018 based on the inclusion and exclusion criteria outlined in the article. We included consecutive cases to minimize bias. Detailed explanations and modifications regarding the inclusion of cases were provided in the manuscript.

Changes in the text: From January 2006 to December 2018, a total of 100 consecutive high-risk GIST patients from Guangdong Provincial People's Hospital were enrolled in this study.