

Dec 31, 2023

Dear Reviewers:

I would like to express my heartfelt gratitude to you for spending your precious time on our study, which provides evidence that machine learning and radiomics may improve the prognostic predictions for gastric cancer. We thank you for providing constructive critiques, comments, and suggestions that have improved the overall quality of the paper. By incorporating your comments and questions, we have made significant revisions to the manuscript. In the following pages, I provided detailed response to the Reviewers' questions/comments.

Sincerely yours

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Response to individual reviewer's comments:

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

This paper investigated 141 patients with locally advanced gastric cancer and developed OACRS using machine learning and radiomics. The research design is reasonable, the data description is clear, and the conclusion part also puts forward suggestions for future research, but there are still some areas that can be further expanded.

Answer: We greatly appreciated the reviewer's spending precious time in reviewing our study and his/her encouraging comments. We apologize for the language problems in the original manuscript. We have carefully and thoroughly read the manuscript and tried our best to correct all the grammar mistakes and typos. Meanwhile, the revised

manuscript was polished by professional English language editing company. As the reviewer suggested, we have made some revisions, the details are as follows:

Point 1 The sample size of the article is more than 140 data from 2013 to 2019. Although the time span is large, the sample size is small. It is recommended to consider expanding the sample size in future research and establish a more comprehensive training, verification and test set to ensure the robustness and generalization ability of the model.

Answer: We agreed the reviewer's opinion that a further investigation with a large sample size is still need to ensure the robustness and generalization ability of the model, and we have mentioned this in the 'Conclusions' section of the original manuscript. Considering the useful suggestion, we will conduct a multi-center investigation with large sample to validate OACRS in the future.

Point 2: It is recommended to add a comparative analysis of the general eigenvalues of the samples between your study and TCIA in the patients section, and explain its statistical significance.

Answer: Thanks for your professional suggestion. We added the comparison of general eigenvalues between the discovery cohort and TCIA cohort in the table 1, and explain these statistical significance.

Point 3 For the analysis of the calibration curve of the model, it is suggested to further explore its robustness in the case of limited sample size, and consider using other evaluation indicators to evaluate the performance of the model more comprehensively.

Answer: In this study, we evaluated the model using several indicators, such as c-index, time dependent AUCs and calibration curves, which are more suitable methods for survival analysis compared to AUC and ROC used in some previous studies. In order to further evaluate the model, Decision Curve Analysis (DCA) was adopted to assess the performance of the model in the discovery cohort and TCIA cohort (Supplementary figure 1), and the data indicated that the model included OACRS outperformed models

included SMI or SMD.

Point 4 In the discussion section, you can further explore the significance of the research and the direction of future research.

Answer: As the reviewer suggested, we added contents about significance of the research and the direction of future research in the and the direction of future research.