January 12, 2024

Dear editors，

The comments of you and the reviewers were highly insightful and enabled us to greatly improve the quality of our manuscript. We highlighted the revised/added contents with yellow color in the revised manuscript. We hope that the revisions in the manuscript and our accompanying responses will be sufficient to make our manuscript suitable for publication in *World Journal of Gastrointestinal Surgery*.

We shall look forward to hearing from you at your earliest convenience.

Here are our replies to the issues raised in the peer review report:

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors:

I am really grateful to review this manuscript. In my opinion, this manuscript can be published once some revision is done successfully. I made one suggestion and I would like to ask your kind understanding. This study used numeric data from 259 patients, applied monogram and achieved the area under the curve of 91.6% for the prediction of short-term postoperative complication in intestinal resection for Crohn's disease. This study presented monogram construction as well. I would argue that this is a good achievement. However, it can be noted that the random forest often outdoes monogram and random forest variable importance and Shapley Additive Explanations (SHAP) summary plot are very effective to identify the strength and direction of association between the complication and its major predictor. In this context, I would like to ask the authors to derive the random forest variable importance and SHAP summary plot.

Response: Thank you for your thoughtful review and valuable feedback on our manuscript. We sincerely appreciate the time and effort you dedicated to evaluating our work. Firstly, your positive feedback on the nomogram construction for predicting short-term postoperative complications in intestinal resection for Crohn's disease is encouraging. We also appreciate your suggestion regarding the application of random forest analysis. Notably, the rapid and high-quality development of machine learning-based models in recent years has indeed enhanced their accuracy in predicting medical outcomes and identifying high-risk patients.

In the revised manuscript, we incorporated the content of random forest analysis (as follows).

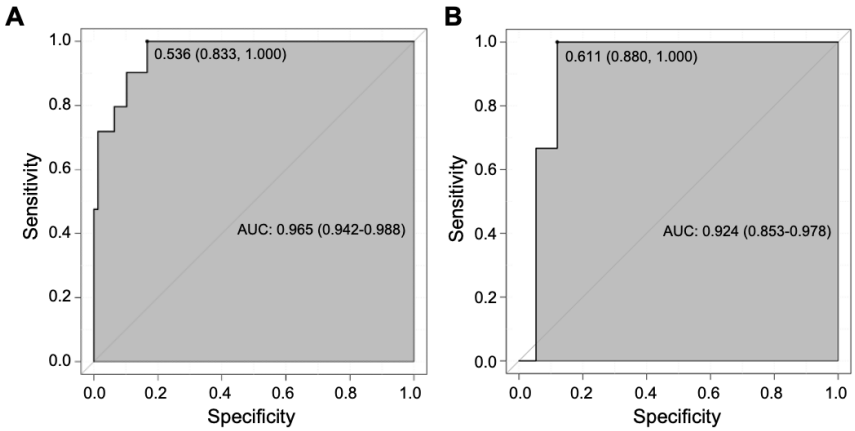

Figure 3 Performance of random forest model. (A) shows the receiver operating characteristic curves (ROC) of the random forest (RF) model in the training cohort. (B) shows the ROC of the RF model in the validation cohort. AUC: area under the curve.

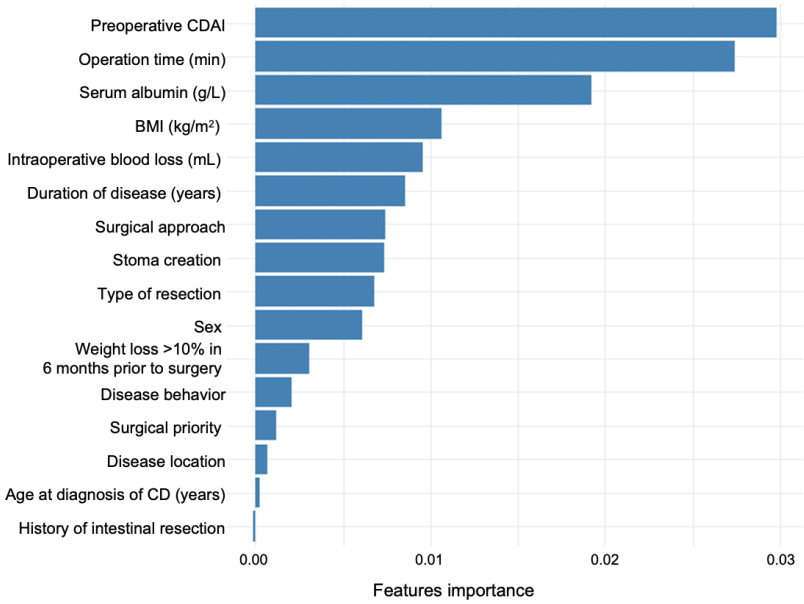

Figure 4 Feature importance ranking of the random forest model. CDAI: Crohn's disease activity index; BMI: body mass index; CD: Crohn's disease.

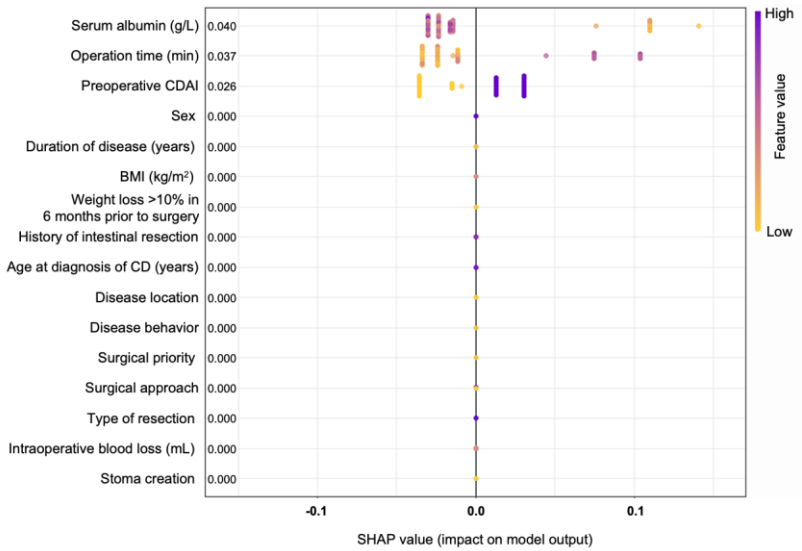

Figure 5 SHapley Additive exPlanations summary plots of the random forest model. The y-coordinate of each point is determined by the feature it represents, while the x-coordinate is determined by its impact on the model's output. The color of each point indicates its value from high to low, according to the color bar on the right. The features on the y-axis are ordered by their importance. CDAI: Crohn's disease activity index; BMI: body mass index; CD: Crohn's disease.

(Due to the relatively small sample size, the SHAP value plot here may look different from the plot generated with a larger sample size)

The results demonstrated that its AUROC was significantly superior to the traditional logistic regression model. However, it is worth noting that the first three variables selected by random forest—preoperative CD activity index, serum albumin levels, and operation time—are the same as those included in logistic regression. This suggests the importance of these three factors in influencing short-term major postoperative complications in patients with CD. Leveraging the supplementary content of random forest analysis, we conducted a comprehensive and systematic revision of the manuscript, significantly enhancing its quality. We, therefore, thank you again for your constructive comments.

We also sent our revised manuscript to a professional English language editing company to polish the manuscript to meet the publication requirement. We are committed to addressing all the points raised and look forward to resubmitting the improved manuscript for your further evaluation. Thank you for your time and consideration.

Sincerely,

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