

Dear Editors and Reviewers:

Thank you for your letter and the reviewers' comments concerning our manuscript entitled "**Machine learning-assisted ensemble analysis for the prediction of urinary tract infection in elderly patients with ovarian cancer after cytoreductive surgery**" (ID: 79082). These comments have important guiding significance for our research. We have carefully studied the comments and corrected them in the hope of approval. The modified part is marked in red on the paper. The main corrections in the paper and the responses to the comments of editors and commentators are as follows:

Responses to the Reviewer 1 comments:

Scientific Quality: Grade C (Good)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Major revision

Specific Comments to Authors: Overall, the scientific data is reliable. The English grammar might use some serious polishing. The citation style was improper. Regarding your statistical technique in references 15 and 16, could you may be explain as I don't grasp. The data in Tables 1 and 2 could be more clearly presented, and the text size should be adjusted. The text in Figures 2 through 6 and Supplementary Figure 1 was too tiny to read. The references were not formatted correctly.

Response:

1. Question: The English grammar might use some serious polishing.

Response: Thanks for your advice, we have submitted to our paper, the Charlesworth Author Services (CAS) team (<https://www.cwauthors.com.cn/>) had helped us improve our language and correct grammatical errors existed in our manuscript. The CAS team confirmed that their proofreader had done a very good job of improving language and correcting grammatical errors. We also checked the manuscript again and again, and we couldn't find grammatical errors.

Besides, we also extensively revise English in the text with the help of Bullet Edits. As follows:



2.Question:The citation style was improper. Regarding your statistical technique in references 15 and 16, could you may be explain as I don't grasp.

Response: Thanks for your question, we have cited the references 15 and 16 in this study, because the principle of 'OOB error' was employed to screen the model variables, that is, this principle is based on the random forest algorithm. For the specific source of the algorithm, we have referred to the relevant content of Reference 15. Similarly, for the inter group comparison, we used the correction method, and we also referred to the relevant content in Reference 16, namely Bonferroni corrected probability values were used to compare the qualitative data. In a word, we have referred to the previous research

literature for the source of methods in statistical analysis, so we have strictly cited them in the article.

3.Question:The data in Tables 1 and 2 could be more clearly presented, and the text size should be adjusted. The text in Figures 2 through 6 and Supplementary Figure 1 was too tiny to read. The references were not formatted correctly.

Response: Thanks for your question, according to your suggestions, we have revised the charts related to the article to ensure that the clarity of the pictures can meet the readers' requirements and readability. In the same way, we have also revised the document citation format.

Responses to the Reviewer 2 comments:

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors: The manuscript is well-written. The authors found some excellent findings, including the vital factor for detecting urinary tract infections. These results suggest that the ML-based prediction model built using the RFC may be used to detect elderly ovarian cancer patients, guiding therapeutic decisions and improving clinical outcomes. This kind of study is essential to assist doctors in making decisions. Due to the growing number of patients per doctor, it is often challenging for doctors to monitor a patient's condition and make the best decision. The authors analyzed and used data from 674 elderly patients over 6years intervals. The inclusion and exclusion criteria were clear, and the data collection and quality assessment were well-designed. This can help them simplify the issue, assist the physician in picking the appropriate treatment, and improve clinical outcomes. The manuscript's structure is decent, but the research gap and the need for this solution are not convincing. Also, the novelty of the study is not apparent. The background study should include more related work on this application and approach. Also, data distribution is not clear in the manuscript. The data was split into a 70% training set and a 30% validation set, as stated by the authors. There is no mention of test data. Without any testing, the authors can not determine the feasibility or reliability of the model. Again, the author did not provide any hypothesis behind choosing this study's five mentioned models. Finally, authors should use proper citations instead of links in the body of the manuscript.

Response:

1.Question: The manuscript's structure is decent, but the research gap and the need for this solution are not convincing. Also, the novelty of the study is not apparent. The background study should include more related work on this application and approach.

Response: Thank you very much for your valuable suggestions. For the innovation of the article, we have supplemented it in the discussion section of the article, as follows:

Our findings indicated that actively controlling catheter-related UTIs and correcting postoperative malnutrition were important links to preventing and controlling UTIs in the elderly after ovarian cancer cell reduction.

At the same time, we also explained the application of this research in the Introduction section, as follows:

Nowadays, predictive models based on advanced algorithms have been gradually applied to the medical field, which also enables many diseases to be detected and diagnosed early. Among them, the machine learning algorithm mainly relies on repeated iterative operations to accurately output the results, so it can improve the accuracy and robustness of prediction. Given the superior ability of the machine learning (ML)-based algorithm to improve the accuracy of muscular invasion prediction, we applied the ML-assisted decision-support model to assess the risk of UTI using clinical parameters and direct clinical decision-making prior to treatment decisions.

2.Question: Also, data distribution is not clear in the manuscript. The data was split into a 70% training set and a 30% validation set, as stated by the authors. There is no mention of test data. Without any testing, the authors can not determine the feasibility or reliability of the model.

Response: Thank you very much for your comments and suggestions. In this study, we conducted an internal verification of the data set, that is, 70% of the data set was used to train the prediction model, and the remaining 30% was used to verify the generalization of the model. In addition, because this study is a retrospective study of a single center, it was not included in an external queue for verification, which also prompts us to continue to conduct auxiliary verification of external data in the future, Therefore, the universality of the prediction model is further discussed.

3.Question:Again, the author did not provide any hypothesis behind choosing this study's five mentioned models.

Response: Thank you very much for reminding us that we have corrected and supplemented the inclusion rules of the prediction model in the methodology section of the article, as follows:

That was to say, based on the above algorithm principles, we have included five commonly used machine algorithm prediction models in this study, namely, random forest classifier (RFC), support vector machine (SVM), extreme gradient boosting (XGboost), and artificial neural network (ANN) and decision tree (DT). Among them, RFC and DT are mainly based on the algorithm principle of "branching and pruning", while ANN is based on "hidden layer" iteration, and SVM and XGboost are also based on their iterative algorithm principle.

4.Question:Finally, authors should use proper citations instead of links in the body of the manuscript.

Response: Thank you very much for your proposal. We have corrected the references according to the requirements of the magazine.

Responses to editorial office's comments:

(1) Science editor:

The manuscript has been peer-reviewed, and it's ready for the first decision.

Language Quality: Grade C (A great deal of language polishing)

Scientific Quality: Grade C (Good)

Response: Thanks for your advice, we also extensively revise English in the text with the help of Bullet Edits.

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Clinical Oncology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content. Before final acceptance, when revising the manuscript, the author must supplement and improve the highlights of the latest cutting-edge research results, thereby further improving the content of the manuscript. To this end, authors are advised to apply a new tool, the RCA. RCA is an artificial intelligence technology-based open multidisciplinary citation analysis database. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: <https://www.referencecitationanalysis.com/>.

Response:

1. Question: Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.

Response: Thanks for your suggestion, we have provided the original figure documents

and arrange the figures using PowerPoint.

2. Question: Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022.

Response: Thanks for your suggestion, we have added the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT).

3. Question: Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned.

Response: Thanks for your suggestion, we ensure that the contents of each cell in the table conform to the editing specifications, and the lines of each row or column of the table are aligned.

We have responded point-to-point to the valuable opinions and suggestions put forward by the reviewers. We firmly believe that these opinions have very important guiding value for the improvement of our research. Once again, thank you for your valuable comments and suggestions.