1. Clarity and Structure: While the manuscript is generally well-structured, some sections could benefit from clearer headings and transitions. For example, the results section could explicitly delineate between different machine learning models and their respective performances, perhaps using subheadings for each model.

Response: We thank the reviewer for this helpful suggestion. In the revised manuscript, we have reorganized the Results section by introducing clear subheadings, which now separate baseline data, feature selection, model construction, comparative model performance, test set validation, and SHAP-based model interpretation. This restructuring improves the logical flow of the section and allows for more direct comparison between different machine learning algorithms. Additionally, performance metrics for all five models (RF, LR, KNN, XGBoost, SVM) are now clearly presented in Table 2, and discussed with reference to their respective strengths and limitations.

Discussion of Limitations: The authors mention the limitations of a single-center study and a relatively small sample size but do not elaborate on how these factors might affect the generalizability of the results. A more thorough discussion about potential biases, the impact of demographic differences, and the need for multicenter studies would strengthen the manuscript.

Response: We thank the reviewer for this important suggestion. In response, we have revised the 2. 2. Limitations section of the Discussion to elaborate on how single-center data collection and sample size may restrict the external validity of our findings. Specifically, we have added discussion on potential selection bias, institutional procedural homogeneity, and regional demographic characteristics that could limit generalizability. We have also emphasized the need for future multicenter prospective validation to enhance the robustness and applicability of our model in diverse clinical settings.

3. Further Validation: The study would greatly benefit from a plan for further validation of the predictive model in larger, diverse cohorts. This could be addressed in a future work section, outlining how the authors propose to confirm the findings in different clinical settings.

Response: We appreciate the reviewer's insightful suggestion regarding external validation. In fact, we have already initiated a prospective, multicenter study involving three independent hospitals to evaluate the robustness and generalizability of the predictive model across diverse clinical settings. Data collection and model application are currently underway, and we plan to report these validation results in a subsequent publication. We have also briefly noted this ongoing work in the revised manuscript under the "Future Research Directions" section.

4. Ensure that all abbreviations are defined upon their first use in the text to enhance clarity for readers who may not be familiar with them.

Response: We appreciate the reviewer's valuable suggestion. We have carefully reviewed the entire manuscript and ensured that all abbreviations are clearly defined upon their first appearance in the text to improve clarity for all readers.

5. Consider including a dedicated section on future research directions that could stem from this study, such as exploring additional machine learning techniques or integrating patient-reported outcomes into the predictive model.

Response: We sincerely thank the reviewer for this constructive suggestion. In response, we have added a dedicated subsection on future research directions in the Discussion section. This new

content outlines possible extensions of our current work, including the incorporation of additional machine learning techniques, the integration of patient-reported outcome measures (PROMs), and the validation of the model in multicenter and prospective cohorts. We believe this addition enhances the completeness and forward-looking perspective of the manuscript.