Dear Editor,

Thank you very much for your decision letter and valuable advice on our manuscript (Manuscript No.: 91428, Retrospective Cohort Study) entitled "Development and validation of a Bayesian network-based survival prediction model for patients having undergone post-transjugular intrahepatic portosystemic shunt for portal hypertension". We are grateful to the reviewers for their constructive comments and suggestions. We have thoroughly revised the manuscript accordingly, and the revised/added contents have been highlighted in yellow in the revised manuscript. In addition, our point-by-point responses to the comments are listed below this letter.

This revised manuscript has been edited and proofread by Medjaden Inc. to ensure high-quality language and presentation.

We hope that our revised manuscript is now acceptable for publication in your journal and look forward to hearing from you soon.

With best wishes,

Yours sincerely,

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Point-by-point responses:

Comment1: Authors should expand the introduction and discussion part with additional content for comparative implications of with the following published reports.

Response: We are grateful to you for your review of our work. Regarding your comment on the Introduction and Discussion sections, we have expanded both of these to provide more comprehensive background and analysis.

Comment 2: I am satisfied with the model validation by the accuracy, precision, recall, and F1 score were 0.90, 0.92, 0.97, and 0.95 respectively, with the AUC-ROC being 0.72. However, I would expect greater than 0.8 that makes a very good validation but there is novelty in the study.

Response: Thank you for your comment. We acknowledge that the AUC-ROC value of 0.72 is slightly below the ideal standard of 0.8. However, we believe that this result is still valuable in the context of our study. Our model demonstrates excellent performance on other key metrics, including an accuracy of 0.90, precision of 0.92, recall of 0.97, and an F1 score of 0.95, all significantly exceeding standard benchmarks. The focus of our study on a specific patient population may have influenced the AUC-ROC value; however, in this context, the practicality and accuracy of the model are more significant than a single metric. This model provides insightful and practical guidance for future clinical decision-making for this particular group of patients. In addition, we recognize the critical importance of improving the model's AUC-ROC value, which has been acknowledged as a limitation in the revised manuscript, and directions for future improvements in this regard have been proposed.

Comment3: "Conclusion should be explained vividly."

Response: Thank you for your comment to enhance the vividness of the conclusion. In response, we have restructured sentences and refined expressions to improve

readability and emphasis, such as changing "signifies a first application" to "signifies the first application." Additional details were added to emphasize the study's contributions, highlighting how it fills a critical gap and offers novel insights into PHT post-TIPS management. The broader implications for future clinical studies are now more clearly articulated, with expanded focus on the practical applications of our research for improving patient outcomes. We believe these revisions have successfully made the conclusion more engaging and reflective of our study's impact and significance. All revised and added contents are highlighted in yellow in the revised manuscript for ease of review.

Comment4: "Line by line proofreading is potentially required."

Response: Thank you for your recommendation on conducting a thorough line-by-line proofreading of our manuscript. We have thoroughly reviewed and proofread the entire manuscript to correct any linguistic and formatting errors. Additionally, we have engaged a professional editing service to ensure good quality of language in our manuscript.