Peer Review File

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Reviewer A

Comment 1:Under statistical analysis page 7: .....based on the data distribution. Describe when continuous variables should use parametric (Student T-test) and non-parametric analysis (Mann–Whitney U)

Reply 1:Thanks for your comments. We have revised a detailed description of the statistical analysis methods for continues variables in "Research methods" section as follows:

"The differences between the groups were evaluated with the application of Student's t test for normally distributed continuous variables and non-parametric Mann–Whitney U test for non-normally distributed variables."

Changes in the text: page 7, line21-23.

Comment 2:Univariate and multivariate logistic analysis: Please explain the step of the analysis to demonstrate that the data fit the model

Reply 2:Thanks for your comments. We have revised a detailed description of the step of the analysis to demonstrate that the data fit the model in "Research methods" section as follows:

"We conducted univariate and multivariate logistic regression analysis to determine the predictive factors for reduced exercise tolerance. Significance of association between predictive factors and reduced exercise tolerance was assessed with univariate logistic regression. All preoperatively available variables (Demographics, medical history, medication history, laboratory data, echocardiographic parameters, coronary angiography data and CPET parameters) significant on univariate analysis with $p<0.05$ were including the multivariate logistic regression analysis."

Changes in the text: page 7, line 24-30 and page 8,line 1.

Comment 3: Nomogram development: Please describe step by step how the nomogram was developed.

Reply 3: Thanks for your comments. We have revised a detailed description of the step of the analysis to demonstrate that the data fit the model in “Research methods” section as follows:

“Based on the multivariate logistic regression model, we then constructed a nomogram model to predict the exercise ability. Independent predictors ($P < 0.05$) were assessed by the multivariate logistic regression and then recruited to develop the nomogram using the data for predicting the occurrence of low exercise tolerance. Predictor lines were drawn upward to confirm the points received from the nomogram. The sum of these points was located on the “Total Points” axis; subsequently, a line was drawn downward to project on the bottom scales, which determined the possibility of low exercise tolerance. Thereafter, the visual prediction model was externally validated. The Hosmer−Lemeshow test was used to assess the goodness of fit of the model. The receiver operating characteristic (ROC) curve, area under the ROC curve (AUC), concordance index (C-index), and calibration curve were used to evaluate the predictive accuracy and conformity of the model. The calibration was assessed by bootstrapping with 1000 resamples.”

Changes in the text: page 8, line 2-14 .

Comment 4: Discuss why only 4 variables were found as significant predictors for risk low exercise tolerance.

Reply4: Thanks for your suggestion. we revised as follow: Nomogram is a graphical calculation tool that visualizes the results of logistic regression analysis, which is beneficial for healthcare professionals to more intuitively analyze the risk weight of a certain indicator occurrence. In this study, the nomogram prediction model was established based on the results of multivariate logistic regression analysis, and the model was verified to have good prediction ability through the correction curve and receiver operating characteristic.

Changes in the text: page 11, line25-30.

Comment 5: An example of nomogram use (page 10, line 15) should be placed after Figure 2 footnotes. Page 10, line 18 how did you get the point of 30 instead of 50?

Reply 5: we have revised.

Changes in the text: page 11, line 34 and page 12 , line 3.

Comment 6: The follow-up results can be used for validation purposes pertaining to how good the nomogram is as the screening tool in predicting future mortality. Hence, the author can calculate the sensitivity, specificity, NPV, PPV. The authors can use this as another selling point

Reply 6: Thanks for your suggestion. It's very good, but the current research follow-up time is not enough, and the number of deaths is too small. The existing model may still be more reasonable in predicting low exercise tolerance. After expanding the sample and increasing follow-up, we will further attempt to construct a prediction model for death outcomes.

Reviewer B

Comment 1: No aims in abstract

Reply 1: We have revised a detailed description in “abstract” section as follows:

This study aimed to evaluated the safety of the CPET and assessed the predictors and clinical influence of exercise capacity measured by CPET in patients with AMI within 1 week after PCI.

Changes in the text: page 1, line 31-33.

Comment 2: I do not see Killip class in analysis

Reply 2: We have revised a detailed description in “Research participants” section as follows:

All patients have a Killip classification of I or II

Changes in the text: page 5, line 3.

Comment 3: Severe patients were excluded

Reply 3: The recovery time for sever patients is relatively long, and they were mostly unable to complete CPET within one week after PCI, so sever patients were excluded.

Comment4: Authors did not mention about pressors, LVAD (IABP) – I understand that all of that patients were excluded?

Reply 4: Yes, these patients were excluded, and we have added the following to the exclusion criteria:

(VI) use of cardiac assist devices such as IABP, left ventricular assist devices during hospitalization.

Changes in the text: page 5, line 14-15.

Comment 6: May be authors try to draw a relationship between VO2 and prognosis and try to plot an inflection point for worse prognosis based on MACE.

Reply 6: "We appreciate the reviewer's insightful suggestion to explore the relationship between VO2 and the prognosis of our patients, potentially identifying an inflection point at which the prognosis significantly worsens based on MACE. One of the shortcomings of our study is not providing this turning point; we have already pointed this out in the article.

Changes in the text: page 12, line 16-19.