

Review of: "Outcomes of PIANO Score for No-Reflow in Patients Undergoing Primary Percutaneous Coronary Intervention: A Retrospective Study"

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Potential competing interests: No potential competing interests to declare.

This study investigates the effectiveness of the PIANO score in predicting the no-reflow phenomenon in patients undergoing primary percutaneous coronary intervention (PCI). By analyzing a retrospective cohort, the authors aim to validate the PIANO score's predictive utility and its potential impact on clinical outcomes. The study provides a comprehensive analysis of the score's performance, highlighting its strengths and areas for improvement.

Below is a detailed review, focusing on strengths and suggestions for enhancing the manuscript's clarity, methodology, and overall impact.

1. Introduction:

Strengths:

- The introduction provides a foundational overview of the no-reflow phenomenon and its implications in primary percutaneous coronary intervention (PCI).

Suggestions:

1.1. Background and Clinical Relevance: The introduction lacks a detailed explanation of the background and the clinical relevance of no-reflow. It is essential to emphasize the impact of no-reflow on patient outcomes and how the PIANO score aims to address this clinical challenge. Enhancing this section will help readers understand the significance of the study from the outset.

1.2. Elaboration on Clinical Variables: Consider elaborating on the specific clinical variables included in the PIANO score within the introduction. This will provide readers with a clearer understanding of the factors considered in the score and set the stage for the detailed discussions in the Methods and Results sections.

2. Methods:

Strengths:

- The patient selection process is clearly outlined, providing a solid framework for the research.

Suggestions:

2.1. Study Design and Setting Clarification: The "Study Design and Setting" section should provide a detailed description of the study's setting and design. Currently, it focuses more on the predictive importance of the PIANO score rather than the specifics of the study setup. Clearly stating whether the study is random sampling or convenience sampling, how this sample size was determined (e.g., power calculation), and indicating whether participants, clinicians, and/or researchers were blinded to the intervention will enhance the reader's understanding.

2.2. Data Collection Clarification: Specifying the tools and instruments used for data collection (e.g., questionnaires, imaging equipment) would be highly appreciated.

2.3. Detailed PIANO Score Calculation: Rather than just referring to previous articles for the calculation of the PIANO score, it would be more helpful to include a brief explanation of how the score is calculated within this study. This could be supplemented with a table or appendix outlining the specific variables and their weights. Such transparency will improve reproducibility and help readers follow the methodology without needing to consult external sources.

3. Results:

Strengths:

- The results section is comprehensive, effectively differentiating between the No-Reflow and No No-Reflow groups. The use of statistical measures like AUC, sensitivity, and specificity is appropriate and clearly presented.

Suggestions:

3.1. Highlight Significant p-values: To enhance the clarity of the tables, consider highlighting significant p-values in bold. This will draw attention to key findings and help readers quickly identify statistically significant results.

3.2. Include Multivariable Analysis: To address potential confounders, consider including a multivariable analysis. This addition would strengthen the validity of the findings by adjusting for variables that could influence the outcomes.

4. Discussion:

Strengths:

- The discussion contextualizes the findings well within the broader literature and underscores the clinical implications of the PIANO score.

Suggestions:

4.1. Expand on Limitations: The limitations section should be expanded to address potential biases inherent in retrospective studies, such as selection bias and information bias. Discussing these limitations transparently will enhance the credibility of the study.

4.2. Generalizability and Future Research: Address the generalizability of the findings, particularly in diverse patient populations. Discussing future research directions, such as the prospective validation of the PIANO score and long-term outcomes like mortality and recurrent myocardial infarction, would provide valuable insights for readers as the study's follow-up period is relatively short. Including follow-up data on long-term outcomes would be beneficial to assess the prognostic value of the PIANO score over time.

5. Conclusion:

Suggestions:

5.1. Integration into Clinical Workflows: Reinforce the potential for integrating the PIANO score into clinical workflows and decision-making processes. Discuss how the score can be utilized in everyday clinical practice to improve patient outcomes.

5.2. Barriers to Implementation: Addressing potential barriers to the implementation of the PIANO score in clinical settings would provide a balanced perspective. Discussing these challenges and proposing solutions will add practical value to the study's conclusions.

Final Thoughts:

This paper provides a valuable contribution to the understanding of the no-reflow phenomenon in patients undergoing primary PCI. By addressing the suggested improvements, the authors can enhance the clarity, transparency, and impact of their findings. The integration of the PIANO score into clinical practice holds promise for improving patient outcomes, and further research in this area is warranted.