

PEER-REVIEW REPORT

Name of journal: *World Journal of Gastrointestinal Surgery*

Manuscript NO: 91461

Title: Predicting short-term thromboembolic risk following Roux-en-Y gastric bypass using supervised machine learning

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02731847

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Instructor

Reviewer's Country/Territory: Brazil

Author's Country/Territory: United States

Manuscript submission date: 2023-12-30

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-12-31 17:10

Reviewer performed review: 2024-01-01 23:12

Review time: 1 Day and 6 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input checked="" type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input checked="" type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The paper aims to develop and validate a scoring system for predicting the individualized risk of venous thromboembolism (VTE) within the first 30 days after Roux-en-Y gastric bypass (RYGB) surgery. Using data from 6526 patients, the authors identified four preoperative variables (history of chronic obstructive pulmonary disease, prior venous thrombosis, chronic kidney disease, and HbA1C > 7%) and created a risk model with an area under the curve (AUC) of 0.75, demonstrating good discriminatory power, with a sensitivity of 0.51 and specificity of 0.71. While the paper addresses a crucial aspect of postoperative care in RYGB patients, the AUROC of 0.75, sensitivity of 0.51, and specificity of 0.71 might limit its clinical utility. The sensitivity is relatively low, potentially leading to underestimation of actual VTE cases, while the specificity might result in false positives. It is encouraging that the authors employed machine learning for risk prediction, but optimizing the model to achieve higher AUROC, sensitivity, and specificity is crucial for its clinical applicability. The study is promising, but refining the model could enhance its accuracy and impact on improving patient outcomes in RYGB surgery. I would like to review a revised paper, featuring an optimized AI model that

yields improved results. Additionally, I suggest the authors include a TRIPOD checklist. TRIPOD, which stands for Transparent Reporting of a Multivariable Prediction Model for Individual Prognosis or Diagnosis, is a set of guidelines aimed at ensuring transparency and completeness in reporting studies related to the development, validation, or updating of prediction models.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Gastrointestinal Surgery*

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Reviewer's code: 02731847

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Instructor

Reviewer's Country/Territory: Brazil

Author's Country/Territory: United States

Manuscript submission date: 2023-12-30

Reviewer chosen by: Xin-Liang Qu

Reviewer accepted review: 2024-02-29 12:08

Reviewer performed review: 2024-02-29 12:14

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

My concerns have been addressed.