ISSN 1948-9366 (online)

World Journal of

Gastrointestinal Surgery

World J Gastrointest Surg 2024 October 27; 16(10): 3074-3380

Published by Baishideng Publishing Group Inc

World Journal of Gastrointestinal Surgery

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Editorial Board Member of *World Journal of Gastrointestinal Surgery*, Michele Ammendola, MD, Research Associate, Surgical Oncologist, Science of Health Department, Digestive Surgery Unit, University of "Magna Graecia" Medical School, Catanzaro 88100, Italy. michele.ammendola@unicz.it

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RESPONSIBLE EDITORS FOR THIS ISSUE

NAME OF JOURNAL
World Journal of Gastrointestinal Surgery

ISSN
ISSN 1948-9366 (online)

LAUNCH DATE
November 30, 2009

FREQUENCY
Monthly

EDITORS-IN-CHIEF
Peter Schemmer

EDITORIAL BOARD MEMBERS
https://www.wjgnet.com/1948-9366/editorialboard.htm

PUBLICATION DATE
October 27, 2024

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World J Gastrointest Surg 2024 October 27; 16(10): 3371-3373

DOI: 10.4240/wjgs.v16.i10.3371

ISSN 1948-9366 (online)

LETTER TO THE EDITOR

Evaluation of preoperative blood markers for predicting intra-abdominal infection during colorectal cancer resection: A commentary on recent findings

Shi-Yan Zhang, Juan Chen, Na Cai

Specialty type: Gastroenterology and hepatology

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification

Scientific Quality: Grade A, Grade C, Grade C

Novelty: Grade B, Grade B, Grade C

Creativity or Innovation: Grade B, Grade B, Grade C

Scientific Significance: Grade B, Grade B, Grade B

P-Reviewer: Rajakumar HK; Ren S; Wanta A

Received: March 27, 2024

Revised: August 21, 2024

Accepted: August 29, 2024

Published online: October 27, 2024

Processing time: 185 Days and 2.9 Hours

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Abstract

This commentary evaluates the study by Liu *et al*. This study investigates the predictive utility of the neutrophil-lymphocyte ratio, platelet-lymphocyte ratio, systemic immune-inflammation index, and carcinoembryonic antigen levels for post-operative intra-abdominal infection following colorectal cancer (CRC) surgery. The study highlights the critical need for analyzing diverse patient demographics and delves into the potential impact of various confounding factors on the predictive accuracy of these markers. Additionally, the commentary advocates for the initiation of prospective studies aimed at validating and enhancing the clinical utility of these biomarkers in the context of CRC treatment. The commentary aims to underscore the importance of broadening the research framework to include a wider patient demographic and more comprehensive factor analyses, thereby enriching the predictive model's applicability and relevance in clinical settings.

Key Words: Neutrophil-lymphocyte ratio; Platelet-lymphocyte ratio; Systemic immune-inflammation index; Carcinoembryonic antigen; Intra-abdominal infection; Colorectal cancer; Predictive model; Nomogram

Core Tip: This commentary highlights the pioneering study by Liu *et al* on the use of the neutrophil-lymphocyte ratio, platelet-lymphocyte ratio, systemic immune-inflammation index, and carcinoembryonic antigen as predictive markers for postoperative intra-abdominal infection in colorectal cancer (CRC) patients. This study underscores the need for broadening the patient demographics, intensifying the examination of confounding variables, and the crucial need for prospective validation to ensure the clinical applicability of these markers. Additionally, further research should include multicenter trials and the exploration of additional biomarkers to increase the model's predictive accuracy and clinical relevance. This study also highlights the importance of integrating predictive models into clinical workflows, making them user-friendly for healthcare professionals, and thereby optimizing patient outcomes in CRC management.

Citation: Zhang SY, Chen J, Cai N. Evaluation of preoperative blood markers for predicting intra-abdominal infection during colorectal cancer resection: A commentary on recent findings. *World J Gastrointest Surg* 2024; 16(10): 3371-3373
URL: https://www.wjgnet.com/1948-9366/full/v16/i10/3371.htm
DOI: https://dx.doi.org/10.4240/wjgs.v16.i10.3371

TO THE EDITOR

We read with interest the study by Liu *et al*[1]. on the predictive value of the neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), systemic immune-inflammation index (SII), and carcinoembryonic antigen (CEA) for postoperative intra-abdominal infection (IAI) in colorectal cancer (CRC) surgery, published in the *World Journal of Gastrointestinal Surgery*.

The meticulous approach to correlate preoperative blood markers with postoperative IAI outcomes highlights an essential area of surgical oncology that merits further exploration. Notably, the study's methodology, involving a patient cohort and the application of robust statistical analyses, provides a solid foundation for the proposed predictive model. These findings underscore the potential of the NLR, PLR, SII, and CEA as viable predictors for IAI, which could guide preoperative assessments and postoperative strategies, thereby enhancing patient outcomes.

However, additional considerations could enhance the study's impact and clinical applicability: Confounding factors: While the study acknowledges potential confounders, a more detailed examination of factors such as underlying liver conditions, comorbidities, and varying treatment regimens could offer insights into their impact on the predictive accuracy of the markers[2]. Additionally, the potential influence of preoperative interventions, patient nutritional status, and the specifics of the surgical techniques employed, which might vary significantly even within the same institution, warrant closer scrutiny. Clinical implementation: The translation of a statistical prediction model into practical tools for clinical use remains a challenge. Future efforts could focus on simplifying the model for easy integration into clinical workflows, perhaps through the use of digital tools or simplified scoring systems.

Potential typo in the reporting of ORs with 95%CIs: The authors state, "The results indicated that NLR, PLR, SII, and CEA were risk factors for IAI in patients with CRC after radical resection of CRC (odds ratio > 1, $P < 0.05$) (Table 3)" in the RESULTS Section (P455); "This study found that NLR, PLR, SII, and CEA levels may be risk factors for IAI in patients with CRC after radical resection." in the CONCLUSION Section (P459). However, in Table 3, the 95%CIs for the NLR and PLR are listed as follows: the NLR ($P = 0.017$, OR = 1.199, 95%CI: 0.053-1.750) and the PLR ($P = 0.024$, OR = 1.978, 95%CI: 0.960-1.997), which approach the null value of 1 for the ORs. Although the upper bounds are correctly above 1, the lower bounds fall below 1, which does not typically strongly support the assertion that the NLR and PLR are risk factors, despite the P values being < 0.05. Recent analyses highlight the nuanced interpretation of ORs and CIs in determining risk factors, underscoring that lower bounds falling below 1 could weaken the argument for a variable being a risk factor [3]. Proposed solutions for these inconsistencies include the following: (1) Reevaluate the data by performing additional analyses, including multivariate adjustments, to control for confounding variables and obtain more precise estimates of the effects of the NLR and PLR; or (2) Increase the sample size to obtain more robust estimates, potentially narrowing the CIs and reinforcing the NLR and PLR as reliable predictors.

A technical suggestion for Table 4: In Table 4, regarding the diagnostic value of the receiver operating characteristic curve evaluation index, the authors could include additional metrics along with the 95%CI to enhance the comprehensibility of the diagnostic index. These metrics could include the sensitivity, specificity, accuracy, diagnostic odds ratio, positive predictive value, negative predictive value, positive likelihood ratio, and negative likelihood ratio. These metrics are crucial for a comprehensive understanding of the diagnostic value, as they provide a more detailed assessment of the model's performance in correctly identifying true positives, true negatives, and the overall diagnostic accuracy[4].

Sample size and single-center nature of the study: The study was conducted with a relatively small sample size of 80 patients at a single center. This limitation might restrict the generalizability of the findings to broader populations with diverse demographic and genetic backgrounds.

Retrospective design: The retrospective nature of the study might introduce selection bias and recall bias. Prospective studies are needed to validate the findings and assess the real-time clinical applicability of the nomogram.

Integration with clinical decision-making: Investigating how the nomogram can be integrated into clinical workflows to aid in decision-making processes would be valuable. Research could focus on developing user-friendly tools or software that clinicians can easily use to assess the risk of IAI in CRC patients.

Exploration of additional biomarkers: The exploration of additional biomarkers, including emerging genetic and molecular markers, could provide deeper insights into the mechanisms underlying IAI post-CRC surgery[5]. This could also help refine the predictive model for better accuracy.

Selection and recall biases: Selection bias could arise because the sample was limited to a single hospital, potentially limiting the generalizability of the findings and possibly overestimating the predictive value of the blood markers. Recall bias is also a concern owing to the study's retrospective nature, where participants might have inaccurately reported preoperative conditions or events, affecting the observed associations between biomarkers and IAI. To address these biases, future research should include more diverse samples and use prospective designs for more accurate data collection. While the study offers valuable insights, the findings should be interpreted with caution, considering these potential biases.

In conclusion, the study by Liu *et al*[1]. represents a significant step forward in our ability to predict and manage IAI in CRC patients postsurgery. We commend the authors for their contribution and anticipate further research that builds on these findings to improve clinical outcomes for patients with CRC.

FOOTNOTES

Author contributions: Zhang SY led the manuscript writing, idea conception, and correspondence; Chen J analyzed methodology and results analysis, assisted in drafting the manuscript; Cai N conducted the literature review, and discussed improvements; all the authors have read and approved the final manuscript.

Supported by Joint Project of the Natural Science Foundation of Ningde, No. 2023J49.

Conflict-of-interest statement: All the authors report no relevant conflicts of interest for this article.

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Corresponding Author's Membership in Professional Societies: Laboratory Medicine Branch of the Chinese Society of Geriatrics, No. 00039276.

S-Editor: Qu XL
L-Editor: A
P-Editor: Zhao YQ

REFERENCES

1 **Liu CQ**, Yu ZB, Gan JX, Mei TM. Preoperative blood markers and intra-abdominal infection after colorectal cancer resection. *World J Gastrointest Surg* 2024; **16**: 451-462 [PMID: 38463368 DOI: 10.4240/wjgs.v16.i2.451]

2 **Flynn DE**, Mao D, Yerkovich ST, Franz R, Iswariah H, Hughes A, Shaw IM, Tam DPL, Chandrasegaram MD. The impact of comorbidities on post-operative complications following colorectal cancer surgery. *PLoS One* 2020; **15**: e0243995 [PMID: 33362234 DOI: 10.1371/journal.pone.0243995]

3 **Andrade C**. How to Understand the 95% Confidence Interval Around the Relative Risk, Odds Ratio, and Hazard Ratio: As Simple as It Gets. *J Clin Psychiatry* 2023; **84** [PMID: 37256636 DOI: 10.4088/JCP.23f14933]

4 **Monaghan TF**, Rahman SN, Agudelo CW, Wein AJ, Lazar JM, Everaert K, Dmochowski RR. Foundational Statistical Principles in Medical Research: Sensitivity, Specificity, Positive Predictive Value, and Negative Predictive Value. *Medicina (Kaunas)* 2021; **57** [PMID: 34065637 DOI: 10.3390/medicina57050503]

5 **Ogunwobi OO**, Mahmood F, Akingboye A. Biomarkers in Colorectal Cancer: Current Research and Future Prospects. *Int J Mol Sci* 2020; **21** [PMID: 32726923 DOI: 10.3390/ijms21155311]

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