



Advanced lung cancer inflammation index predicts the outcomes of patients with non-metastatic gastric cancer after radical surgical resection

Chenyu Huo^{1#}, Yuanlin Liu^{2#}, Fei Xie^{2#}, Lin Zhao², Hailang Huang², Qingbo Feng²

¹West China School of Medicine, West China Hospital, Sichuan University, Chengdu, China; ²Department of General Surgery, Kweichow Moutai Hospital, Renhuai, China

[#]These authors contributed equally to this work.

Correspondence to: Qingbo Feng, MD, PhD. Department of General Surgery, Kweichow Moutai Hospital, 135 Fuyang Road, Central Sub District, Renhuai 564500, China. Email: fqb9175doc@163.com.

Comment on: Chen H, Zhang F, Luo D, *et al.* Advanced lung cancer inflammation index predicts the outcomes of patients with non-metastatic gastric cancer after radical surgical resection. *J Gastrointest Oncol* 2023;14:85-96.

Submitted Apr 06, 2023. Accepted for publication Jun 08, 2023. Published online Jun 20, 2023.

doi: 10.21037/jgo-23-315

View this article at: <https://dx.doi.org/10.21037/jgo-23-315>

Advanced lung cancer inflammation index (ALI) was initially investigated as a biomarker of prognosis in non-small cell lung cancer (1). Although subsequent studies have demonstrated that ALI has significant prognostic value in patients with colorectal and nasopharyngeal cancers (2,3), no study has yet assessed its prognostic significance in non-metastatic gastric cancer (4). Therefore, Chen *et al.* began to study it and concluded that preoperative ALI is associated with survival outcomes in patients undergoing radical surgical resection for non-metastatic gastric cancer. However, we believe that there are some noteworthy issues in the authors' study that need to be addressed.

Firstly, based on the data presented in *Tab. 4*, there was no significant difference in overall survival (OS) ($P=0.229$) and cancer-specific survival (CSS) ($P=0.089$) between the low-ALI and high-ALI groups following propensity score matching (PSM). Additionally, univariable analysis for predictors in the propensity-score matched cohort showed that low ALI was not an independent prognostic factor for CSS [hazard ratio (HR) =1.39; 95% confidence interval (CI), 0.96–2.02; $P=0.082$] (as shown in *Tab. 6*). These two statistical findings contradict the article's conclusion, and therefore, we suggest that the authors provide a reasonable explanation for this discrepancy.

Secondly, multiple previous studies have demonstrated a strong association between the systemic inflammatory response (SIR) and the development and progression of

malignancy (5,6). Additionally, hematological markers from routine blood tests, such as the neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and lymphocyte-to-monocyte ratio (LMR), have been identified as potential prognostic biomarkers in cancer patients (7,8). As ALI is based on NLR, we suggest that the authors conduct a Kaplan-Meier (KM) survival curve analysis to compare the effects of ALI, NLR, and PLR on patient prognosis to fully explore their findings.

Thirdly, in this article, the authors obtained the optimal cut-off value of 24.81 using the X-tile software, which is a simple method that produces reliable results. Additionally, some researchers use the survival receiver operating characteristic (ROC) method to determine the best cut-off value and draw a ROC curve to calculate the area under the curve. Although the statistical principles behind these two methods differ, both are considered suitable. We suggest that the authors complement their findings by using the ROC method, and if similar conclusions are reached using both methods, then the results of the study are considered more reliable.

Fourthly, ALI is a dynamic biomarker, and therefore the ALI calculated from a particular dataset in the database may not accurately represent a patient's current condition. Furthermore, this study lacked continuous data, and the results could have been more persuasive if there were records of dynamic changes in the chosen

indicators before and after resection. Additionally, all of the clinicopathological data in this article were collected from the cancer database of the Sixth Affiliated Hospital of Sun Yat-sen University, meaning that several records may not be entirely accurate. While the data were obtained within 2 weeks before surgery, the patient's height, weight, and preoperative serum indices might not have been from the same time period, which could lead to bias in data collection.

In conclusion, we are immensely grateful to the authors for their efforts in conducting this study. Undoubtedly, this study is the first to examine the prognostic value of ALI in patients with non-metastatic gastric cancer who undergo radical surgical resection. However, we hope that the authors can provide more details to support their conclusion and carry out a multicenter prospective study to verify the reliability of their findings, as outlined in their article.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was a standard submission to the journal. The article did not undergo external peer review.

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <https://jgo.amegroups.com/article/view/10.21037/jgo-23-315/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the

formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

References

1. Jafri SH, Shi R, Mills G. Advance lung cancer inflammation index (ALI) at diagnosis is a prognostic marker in patients with metastatic non-small cell lung cancer (NSCLC): a retrospective review. *BMC Cancer* 2013;13:158.
2. Kusunoki K, Toiyama Y, Okugawa Y, et al. Advanced Lung Cancer Inflammation Index Predicts Outcomes of Patients With Colorectal Cancer After Surgical Resection. *Dis Colon Rectum* 2020;63:1242-50.
3. Topkan E, Ozdemir Y, Kucuk A, et al. Low Advanced Lung Cancer Inflammation Index Predicts Poor Prognosis in Locally Advanced Nasopharyngeal Carcinoma Patients Treated with Definitive Concurrent Chemoradiotherapy. *J Oncol* 2020;2020:3127275.
4. Chen H, Zhang F, Luo D, et al. Advanced lung cancer inflammation index predicts the outcomes of patients with non-metastatic gastric cancer after radical surgical resection. *J Gastrointest Oncol* 2023;14:85-96.
5. Silverman AM, Nakata R, Shimada H, et al. A galectin-3-dependent pathway upregulates interleukin-6 in the microenvironment of human neuroblastoma. *Cancer Res* 2012;72:2228-38.
6. Liu JQ, Hu A, Zhu J, et al. CD200-CD200R Pathway in the Regulation of Tumor Immune Microenvironment and Immunotherapy. *Adv Exp Med Biol* 2020;1223:155-65.
7. Nayak A, McDowell DT, Kellie SJ, et al. Elevated Preoperative Neutrophil-Lymphocyte Ratio is Predictive of a Poorer Prognosis for Pediatric Patients with Solid Tumors. *Ann Surg Oncol* 2017;24:3456-62.
8. Li X, An B, Zhao Q, et al. Combined fibrinogen and neutrophil-lymphocyte ratio as a predictive factor in resectable colorectal adenocarcinoma. *Cancer Manag Res* 2018;10:6285-94.

Cite this article as: Huo C, Liu Y, Xie F, Zhao L, Huang H, Feng Q. Advanced lung cancer inflammation index predicts the outcomes of patients with non-metastatic gastric cancer after radical surgical resection. *J Gastrointest Oncol* 2023;14(3):1653-1654. doi: 10.21037/jgo-23-315