Peer Review File

<mark>Reviewer A</mark>

I would like to express my appreciation for the opportunity to review the manuscript titled "Lack of clinical benefit from preoperative short-term parenteral nutrition on the clinical prognosis of patients treated with radical gastrectomy for gastric cancer: a two-center study based on propensity score matching analysis" I have thoroughly read the manuscript and acknowledge the potential significance of the topic. However, to maximize the impact and quality of the publication, there are several areas that require attention and improvement.

In summary, this case report is promising, and addressing these areas of improvement would contribute to a more impactful and well-rounded publication.

1.The number N in Table 3 and the sum of the numbers of patients in the table are not equal. Please review again.

Response to reviewers: Thank you for pointing out the error. We may have changed the numbers carelessly when reformatting the table. We checked the subsequent Logistic analysis again, and these errors had no impact on the subsequent results.(see Page 24, table 3)

2.Why is multivariable regression analysis not incorporating all factors in Table 3? This is because even if certain factors may not be statistically significant in univariable regression analysis, when analyzed in multivariable regression analysis, they may yield statistically significant results.

Response to reviewers: Please allow us to combine your second and third questions. Please refer to the answer to the next question for details.

3.Why, in the multivariable Cox regression analysis in Table 4, do some factors only show p-values but not 95% confidence intervals? Therefore, I request the author to review it again. Addressing the points mentioned above will enhance the clarity, depth, and overall quality of the manuscript, making it a valuable contribution to the field.

Response to reviewers: Because there are many independent variables, we use meaningful variables in the single factor analysis and screen out some variables that may be meaningless. We used the "Forward: LR" method in the multi-factor analysis. Since "Forward" method is suitable for exploratory testing and the likelihood ratio test (LR) considers the fit of the entire model, the results are relatively reliable. The "Forward: LR" method only shows the P-value and 95%CI of the ultimately meaningful factors, and for the meaningless factors, only the P-value can be displayed, not that we missed the data. We also tried to include all factors in the multivariate analysis (both logistic and cox regression analysis), and the remaining meaningful factors and their results (P-values and 95%CI) were consistent with the current results, and the P-values of the excluded factors were slightly changed, but this did not affect our final

conclusion, so we kept the original results. We will explain in more detail in the description of statistical methods. (see Page 6, line 195-196)

1) First, I suggest the authors to indicate the prognosis outcomes and clinical research design in the title such as a retrospective cohort study.

Response to reviewers: Thanks for your suggestion, we have modified the title.(see Page 1, line 4)

2) Second, the abstract needs some revisions. The background did not indicate the potential clinical needs for this research focus. The methods need to describe the inclusion of subjects, the assessment of baseline clinical factors, follow up procedures, and measurements of prognosis outcomes. The results need to briefly describe the clinical characteristics of the PN and non-PN groups in the whole sample and provide the outcome data of the two groups i.e., mean and SD values of postoperative length of stay. The conclusion needs to be tone down because of the selection bias in the PSM samples.

Response to reviewers: Thank you for pointing out our shortcomings, we have revised the presentation of the abstract according to your comments. Due to the word limit of the abstract, we only describe the P-value results of the comparison rather than the specific numerical values. We have described the levels of the two groups of comparison results, which will not cause ambiguity to readers.(see Page 2, line 40-71)

3) Third, in the introduction of the main text, the authors need to review what has been known on factors associated with prognosis of GC after surgical treatment and analyze the relative importance of nutrition factors among these factors reviewed. The authors need to analyze why the patients who are not malnourished still received PN support and in the clinical practice the criteria for such treatment are. The authors only described the knowledge gap but did not explain the clinical significance of this research focus.

Response to reviewers: we have modified our text as advised (see Section *"Introduction",* Page 3, line 84-99, and Section *"Discussion",* Page 10, line 311-319)

4) Fourth, the methodology of the main text needs to describe the clinical research design, sample size estimation, details of follow up such as telephone or outpatient visits, and measures of these prognosis outcomes. The authors should be aware of the limitation of PSM due to its potential selection bias, so I suggest the authors to present the results from the whole sample including the adjustment analysis. Findings from PSM samples can only

be viewed as a sensitivity analysis of the main analysis with the whole sample. In statistics, please consider Cox regression analysis to analyze the survival data.

Response to reviewers:

1. In the main text, we have described patients' origin, characteristics, number, grouping basis and complication rating(Clavien-Dindo classification system). See Page 1, line 4

2. We have updated the follow-up details (See Page 4, line 149-151).

3. The main advantage of PSM is to control for confounding factors in observational studies. Table 1 listed the baseline characteristics of all samples and patients after PSM, and it could be found that the characteristics of the two groups after PSM were similar (See Page 18). The effect was similar to a randomized controlled study, making the comparison between the experimental group and the control group more reasonable. Table 2 also showed the surgical complications of all samples and patients after PSM. No significant difference was found in complications between the two groups before and after PSM (See Page 22), which further indicated that preoperative short-term PN had no significant impact on postoperative complications.

4. As described in *"Statistical analysis"*, Cox regression analysis was used for risk factor analysis of survival data in this study, Kaplan-Meier analysis was used for comparison of survival curves, and significance was determined using the log-rank test (See Page 6, line 191-199).

5) Finally, please consider to cite several related papers: 1. Chen X, Zhang Z, Zhang F, Tao X, Zhang X, Sun Z, Sun S. Analysis of safety and efficacy of laparoscopic radical gastrectomy combined with or without indocyanine green tracer fluorescence technique in treatment of gastric cancer: a retrospective cohort study. J Gastrointest Oncol 2022;13(4):1616-1625. doi: 10.21037/jgo-22-508. 2. Zhu X, Zhao Q, Xiong W, Luo L, Zheng Y, Huang H, Li J, Wan J, Xie W, Wang W. Anatomical observation and clinical significance of the left gastric vein in laparoscopic radical gastrectomy. J Gastrointest Oncol 2021;12(4):1407-1415. doi: 10.21037/jgo-21-352. 3. Xi X, Yang MX, Wang XY, Shen DJ. Predictive value of prognostic nutritional index on infection after radical gastrectomy: a retrospective study. J Gastrointest Oncol 2022;13(2):569-580. doi: 10.21037/jgo-22-192.

Response to reviewers: We appreciate your valuable comments and recommended references on our manuscript, as well as your suggestion to cite the reference you have provided. After careful consideration, we chose to cite one of them.