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Reply to Letter to the Editor: "Reevaluating Prognostic Nutritional Index in Post-Coronary Artery Bypass Grafting Mortality: A Call for Caution"

LETTER TO THE EDITOR
REPLY

To the Editor,

We would like to express our sincere thanks to the readers for their constructive and thoughtful comments[1] regarding our recently published article.[2] Their engagement reflects a shared commitment to improving the understanding and clinical use of nutritional indices in cardiac surgery. We welcome the opportunity to address the points raised.

Regarding the in-hospital mortality rate of 21.8%, it is important to emphasize that this figure does not reflect routine clinical outcomes at our institution. This rate is a direct consequence of the study's nested case-control design, which employed a 1 : 4 matching ratio to enhance statistical power in mortality-related analyses. Patients with emergency status, active malignancy, dialysis-dependent renal failure, or hepatic dysfunction were excluded to ensure a controlled cohort. Thus, the elevated mortality percentage is a result of methodological enrichment and does not represent our standard practice outcomes.

On the question of multicollinearity due to simultaneous inclusion of prognostic nutritional index (PNI) and albumin in the regression models, multicollinearity diagnostics (variance inflation factor <2) confirmed no statistical concern. Nonetheless, to ensure clarity, we evaluated PNI and albumin in separate multivariable models. The results consistently demonstrated the superior predictive value of PNI over albumin, supporting its use as a composite biomarker of nutritional and inflammatory status in surgical patients.[2]

The observation of elevated postoperative lymphocyte counts in non-survivors, despite lower PNI values, is notable. This finding likely results from a temporal mismatch: while PNI was calculated using laboratory data within the first 24 hours postoperatively, the lymphocyte values reflect peak measurements during ICU stay. This temporal discrepancy may capture a reactive inflammatory response, potentially secondary to complications such as infection or sepsis, and does not contradict the systemic burden suggested by low PNI.

We acknowledge the readers' concern regarding the interpretative nature of recommending early nutritional intervention based on observational data. However, our statement was not intended as a clinical directive but rather as a hypothesis-generating interpretation based on robust and consistent statistical associations. In line with previous literature, identifying patients with low PNI may provide an opportunity for closer monitoring and more individualized management strategies, especially in high-risk surgical populations.[3]

With respect to the comparison of PNI to established risk models such as EuroSCORE II or STS, we recognize their proven clinical value. However, these scores do not incorporate objective nutritional parameters such as albumin and lymphocyte count. Our study focused specifically on the prognostic relevance of

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PNI, and the findings contribute novel insight into its potential role alongside existing tools.

In summary, we appreciate the scholarly discussion generated by our work. We believe the points raised have offered an opportunity to reinforce and clarify the methodological integrity and interpretative framework of our study. The PNI remains a promising marker for mortality risk stratification in the setting of coronary artery bypass grafting.

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