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LETTER

Comment on: "Predictive Value of Inflammatory Burden Index for Sepsis in Critically Ill Patients with Extensive Burns: A Decade-Long Cohort Study" [Letter]

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Dear editor

We read with great interest the recent article by Zhou et al,[1] "Predictive Value of Inflammatory Burden Index for Sepsis in Critically Ill Patients with Extensive Burns: A Decade-Long Cohort Study" The authors should be commended for addressing a clinically important question in a highly vulnerable population, in whom early identification of sepsis risk remains challenging. Particularly noteworthy is their focus on the inflammatory burden index (IBI), a simple composite marker derived from routinely available laboratory data, and their effort to evaluate both its independent association with sepsis and its incremental performance when combined with burn index. This work offers a pragmatic framework for early risk stratification in severe burn care.

Despite these strengths, several issues merit further consideration. First, the study's endpoint definition may introduce ascertainment bias. Sepsis was defined not only by microbiological evidence but also by "effective antibiotic therapy" and several clinical features that can themselves be influenced by treatment intensity, ventilatory support, sedation, or nutritional interruption. In critically ill burn patients, such criteria may partly reflect management pathways rather than the biological occurrence of sepsis alone. Future studies would be strengthened by using a more standardized endpoint framework, ideally integrating Sepsis-3 concepts, organ dysfunction trajectories, and adjudicated infection evidence, with sensitivity analyses across alternative definitions.[2]

Second, the biological specificity of IBI in this setting remains uncertain. Because IBI combines C-reactive protein and neutrophil-to-lymphocyte ratio, it may capture not only infection-related inflammation but also the profound sterile inflammatory response induced by extensive burns themselves.[3] Although the authors adjusted for burn severity, residual confounding by tissue injury burden, early operative interventions, and resuscitation status likely persists. Moreover, including CRP and IBI in the same multivariable model complicates interpretation because CRP is embedded within IBI.[4] Future research should compare prespecified models using CRP, NLR, IBI, and established burn severity variables separately, and then assess whether IBI provides true incremental value through calibration analysis, internal validation, and reclassification metrics rather than AUC alone.

Third, the study design compresses a dynamic clinical process into a single baseline measurement and a binary 28-day outcome. This may obscure whether IBI predicts genuinely future sepsis or merely identifies patients already entering an early septic trajectory at admission. Repeated biomarker measurements, landmark analyses, or time-to-event models would better define the temporal window in which IBI is most informative and distinguish immediate recognition from true prediction.[5]

In summary, this study provides valuable evidence that early inflammatory burden is linked to sepsis risk after major burns and highlights a potentially accessible marker for bedside assessment. Our comments are intended to refine the

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interpretation of these promising findings and to encourage future prospective, multicenter, time-resolved studies that can clarify the clinical role of IBI with greater precision.

Data Sharing Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this communication.

Author Contributions

Methodology, Writing—original draft, Writing—review and editing and Supervision: Tao Wu. All authors gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agreed to be accountable for all aspects of the work.

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Disclosure

None of the authors has any conflicts of interest in this communication.

References

1. Zhou S, He X, Huang Y, Zhu W, Song H. Predictive value of inflammatory burden index for sepsis in critically ill patients with extensive burns: a decade-long cohort study. *J Inflamm Res*. 2026;19:574776. doi:10.2147/JIR.S574776
2. Lindner HA, Thiel M, Schneider-Lindner V. Clinical ground truth in machine learning for early sepsis diagnosis. *Lancet Digit Health*. 2023;5(6):e338–e339. doi:10.1016/S2589-7500(23)00070-5
3. Constantinescu MC, Pertea M, Avadanei-Luca S, et al. Variation of pro- and anti-inflammatory factors in severe burns: a systematic review. *Int J Mol Sci*. 2025;26(20):10131. doi:10.3390/ijms262010131
4. Nourigheimasi S, Yazdani E, Ghaedi A, et al. Association of inflammatory biomarkers with overall survival in burn patients: a systematic review and meta-analysis. *BMC Emerg Med*. 2024;24(1):76.
5. Gao Z, Wang X, Wang W, Kang Z, Chen X. Association between neutrophil to lymphocyte ratio and the mortality of patients with sepsis: an update systematic review and meta-analysis. *Front Med*. 2025;12:1637365. doi:10.3389/fmed.2025.1637365

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