

Comment on: early lactate clearance and short-term outcomes in ICU patients admitted from the emergency department

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Dear Editor,

I read with great interest the recent article by Taştumur and Demir¹ entitled “Prognostic significance of early lactate clearance in patients with suspected infection admitted to the intensive care unit from the emergency department”. The authors should be commended for addressing a clinically relevant and operationally important question at the interface of emergency medicine and intensive care.

From the perspective of an emergency physician, the study highlights a critical phase of care: the early transition from the emergency department to the intensive care unit, where initial resuscitative decisions and trajectory-defining interventions occur. In this context, the demonstration that early lactate clearance within the first six hours is associated with 28-day mortality reinforces the concept that dynamic metabolic markers provide incremental prognostic value beyond static measurements obtained at presentation.²

I particularly appreciate the pragmatic inclusion criteria based on “suspected infection,” which more accurately reflect real-world emergency department practice, where treatment decisions often precede definitive diagnostic confirmation. This approach enhances the external validity of the findings and aligns with the time-sensitive nature of emergency care.

The study also underscores an important clinical nuance: patients with similar baseline severity scores (e.g., APACHE II) may exhibit divergent physiological trajectories, as captured by lactate kinetics.³ This observation is highly relevant in emergency settings, where early risk stratification must often rely on limited yet rapidly evolving data. Serial lactate assessment may therefore serve as a valuable adjunct to clinical judgment, helping to identify patients who require more aggressive monitoring or escalation of care during the early resuscitation window.⁴

From an operational standpoint, the integration of lactate clearance into emergency department workflows is feasible, given the widespread availability of point-of-care or rapid laboratory lactate measurements. The emphasis on a 6-hour reassessment window is also consistent with current

resuscitation practices and could be incorporated into protocolized care pathways without substantial resource burden.

We also find the discussion on the dissociation between inflammatory markers and lactate dynamics particularly insightful. This reinforces the growing understanding that metabolic and immunological responses in critical illness may evolve independently, further supporting the need for multimodal assessment strategies in early patient evaluation.⁵

While acknowledging the inherent limitations of a single-center retrospective design, we believe this study contributes meaningfully to the ongoing effort to refine early risk stratification in patients with suspected infection. Future prospective, multicenter investigations incorporating standardized resuscitation protocols and time-dependent interventions would be valuable to further validate and operationalize these findings.

In conclusion, this work provides clinically actionable insight for both emergency and critical care physicians and supports the integration of dynamic lactate monitoring into early decision-making processes. I thank the authors for their contribution to this important field.

ETHICAL DECLARATIONS

Peer Review Process

This letter was externally peer-reviewed.

Conflict of Interest

The author declare no conflicts of interest.

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Author Contributions

The author is solely responsible for the conception, data collection, analysis, and writing of this manuscript.

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Author reply: "prognostic significance of early lactate clearance in patients with suspected infection admitted to the intensive care unit from the emergency department"

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Dear Editor,

We thank the author for their thoughtful comments on our study, "prognostic significance of early lactate clearance in patients with suspected infection admitted to the intensive care unit from the emergency department".

The author correctly points out that using "suspected infection" as a primary inclusion criterion reflects the daily reality of emergency and intensive care. In practice, life-saving interventions often begin well before a formal diagnosis is confirmed. Our findings support the idea that lactate clearance provides a dynamic view of a patient's physiological trajectory that static scores, like APACHE II, might miss at a single time point.

We also agree that the observed gap between inflammatory markers and lactate kinetics suggests a complex metabolic-immune interaction. This reinforces the need for a multimodal approach during the first hours of resuscitation.

In conclusion, these comments underscore the clinical utility of serial lactate monitoring in identifying high-risk patients during the transition from emergency to critical care. We appreciate the author's perspective, which further validates the importance of dynamic monitoring in early patient management.

Sincerely,