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Letter to the Editor
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# Management of Patients with Severe Acidosis in the Emergency Department

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**Dear Editor,**

I read with great interest the article titled "Outcome of Cardiac Arrest and Non-Cardiac Arrest Patients with Severe Acidosis in the Emergency Department: A Retrospective Cohort Study" written by Öztürk et al. (1), published in the latest issue of the Eurasian Journal of Emergency Medicine. This study, which focuses on the management and mortality predictors of patients with severe acidosis in the emergency department, provides very valuable data for our clinical practice. I congratulate the authors for their comprehensive work.

In order to understand the findings of the study more deeply and strengthen its contribution to clinical practice, I would like to draw attention to the following two critical points.

## Treatment Heterogeneity and Bicarbonate Use

In the study, the relationship between severe acidosis (pH<7.1) and high mortality was clearly revealed. However, the effect of sodium bicarbonate treatment on outcomes in this patient group remained unclear. In retrospective studies, the decision to administer bicarbonate often depends on the physician's preference, which can create significant heterogeneity in outcomes. Bicarbonate itself is known to increase paradoxical intracellular acidosis, especially in lactic acidosis, leading to side effects such as hypernatremia. The authors' analysis of the difference in mortality between patients receiving bicarbonate and those not receiving bicarbonate would be much more enlightening for readers, especially in light of discussions in the current literature (such as the BICAR-ICU studies) (1-4).

## Classification of Acidosis Etiology

Although the prognostic value of lactate levels is emphasized in the article, it is important to note that the etiological origin of acidosis (e.g.; type A lactic acidosis, ketoacidosis, or uremic acidosis) has not been detailed. A subgroup analysis, especially on the anion gap, can help us understand which type of acidosis is more lethal and which group is more susceptible to emergency intervention.

Conditions such as lactic acidosis (type A or type B) and ketoacidosis differ in terms of their underlying pathophysiology and response to treatment. For example, acidosis is generally better tolerated in ketoacidosis, while lactic acidosis (particularly shock-induced type A) is associated with a poorer prognosis (5).

The authors' further classification of acidosis etiology using anion gap calculations and comparison of the mortality rates of these subgroups will add a deeper clinical significance to the findings.

In this case, the authors' inclusion of the limitation that anion gap values may not always be available due to missing records in the retrospective data would further strengthen the article.

In conclusion, the study of Öztürk et al. (1) provides important data to the field of emergency medicine. However, a more in-depth analysis of critical variables such as treatment heterogeneity and a detailed classification of acidosis etiology would strengthen the clinical implications of the article and provide more concrete guidance to emergency physicians.

Best regards.

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## Footnotes

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