Letter to the Editor

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Beyond One-Hour Outcomes in Pediatric Gastroenteritis Rehydration

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To the editor,

We read with interest the article by Yilmaz Donmez et al. (1) evaluating isotonic saline and Ringer's lactate for initial fluid resuscitation in children with acute gastroenteritis [Outcomes after initial rehydration with isotonic saline or Ringer's lactate in pediatric acute gastroenteritis (1-59 months): a single-center retrospective cross-sectional study]. The authors reported greater improvements in dehydration scores and in acid-base parameters with Ringer's lactate and suggested that it may be preferred as the initial replacement solution. We believe this study addresses an important clinical question; however, several aspects of the findings deserve further discussion.

The two groups differed in the severity of dehydration before treatment. Children in the Ringer's lactate group had higher dehydration scores at presentation. Because the Ringer's lactate group was more severely dehydrated at baseline, a greater absolute improvement after treatment may simply reflect the higher initial dehydration scores. Therefore, this baseline difference should be considered when interpreting the reduction in dehydration scores after treatment. In addition, because of the retrospective study design, physicians may have selected the intravenous fluid according to the patient's initial clinical severity, introducing potential treatment-selection bias. These factors make it difficult to determine how much of the observed improvement was attributable to the fluid itself. Recovery was assessed only after the first hour of treatment. Important clinical outcomes such as hospital stay, additional fluid requirements, treatment failure, PICU admission, and readmission were not evaluated. Previous studies have shown that early biochemical improvement does not always reflect overall clinical recovery (2).

Better laboratory values do not always mean better clinical outcomes. In a randomized trial, children treated with Ringer's lactate and isotonic saline had similar clinical recovery and hospital stays (2). A recent Cochrane review found better acid-base parameters with balanced solutions, but the clinical benefits were less clear (3). Although European Society of Paediatric and Neonatal Intensive Care guidelines support the use of balanced solutions, the supporting evidence is still limited (4).

The results of this study are clinically relevant. However, the apparent advantage of Ringer's lactate should be interpreted carefully. Although balanced solutions may improve acid-base parameters, current evidence has not consistently shown better clinical outcomes than isotonic saline. Prospective randomized studies powered for patient-centered clinical outcomes are needed before balanced crystalloids can be considered superior to isotonic saline.

Footnotes

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References

1. Yilmaz Donmez C, Okay B, Hatipoglu HU, Sahin K. Outcomes after initial rehydration with isotonic saline or ringer's lactate in pediatric acute gastroenteritis (1-59 months): a single-center retrospective cross-sectional study. Med Bull Haseki. 2025;63:258-66.

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2. Kartha GB, Rameshkumar R, Mahadevan S. Randomized double-blind trial of ringer lactate versus normal saline in pediatric acute severe diarrheal dehydration. J Pediatr Gastroenterol Nutr. 2017;65:621-6.
3. Florez ID, Sierra J, Pérez-Gaxiola G. Balanced crystalloid solutions versus 0.9% saline for treating acute diarrhoea and severe dehydration in children. Cochrane Database Syst Rev. 2023;5:CD013640.
4. Brossier DW, Tume LN, Briant AR, et al. ESPNIC clinical practice guidelines: intravenous maintenance fluid therapy in acute and critically ill children- a systematic review and meta-analysis. Intensive Care Med. 2022;48:1691-708.