LETTER TO THE EDITOR

Normal Anion Gap: A Knowledge Gap

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Abstract

We studied with great interest the article titled "Acute diarrhea and severe dehydration in children: Does non-anion gap component of severe metabolic acidemia need more attention?" by Takia L et al. and would express our views about the same. Normal anion gap metabolic acidosis (NAGMA) is a common entity following stool loss of bicarbonate during an acute diarrheal illness. Several studies have shown that there is a higher incidence of hyperchloremic acidosis and acute kidney injury (AKI) with normal saline (NS) when compared to balanced crystalloids like Ringer's lactate (RL) or balanced salt solutions like plasmalyte. We would like to know about the type of resuscitation fluid used in the study population as it would affect the degree of resolution of acidemia. As per the World Health Organization (WHO) guidelines, rehydration therapy for children with severe acute malnutrition (SAM) is different from other children including the fluid used for bolus, i.e., RL and oral rehydration solution (ORS), i.e., rehydration solution for malnourished (ReSoMal). We would like to know if the study population included SAM children and a subgroup analysis of the same was done as SAM is an independent risk factor for mortality and morbidity. We suggest to plan studies on cognitive outcome of these children.

Keywords: Acute diarrhea, Non-anion gap metabolic acidosis, Severe dehydration.

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Dear Editor,

The article titled "Acute diarrhea and severe dehydration in children: Does non-anion gap component of severe metabolic acidemia need more attention?" by Takia L et al.[1] was reviewed with keen interest. We congratulate the authors for their research work and we hereby express our views regarding the same.

Normal anion gap metabolic acidosis (NAGMA) is a common entity following stool loss of bicarbonate during an acute diarrheal illness. The authors studied the clinical profile of children with acute diarrhea and severe dehydration (ADSD) and severe NAGMA (sNAGMA). The authors found that higher grades of sNAGMA were associated with dyselectrolytemias like hypernatremia, hyperkalemia, hemodynamic instability, coma, and acute kidney injury (AKI). Several studies have shown that there is a higher incidence of hyperchloremic acidosis and AKI with normal saline (NS) when compared to balanced crystalloids like Ringer's lactate (RL) or balanced salt solutions like plasmalyte.[2] We would like to know about the type of resuscitation fluid used in the study population as it would affect the degree of resolution of acidemia. The study population was heterogeneous including children from 1 month to 12 years of age and also severely underweight children. As per the World Health Organization (WHO) guidelines, rehydration therapy for children with severe acute malnutrition (SAM) is different from other children including the fluid used for bolus, i.e., RL and oral rehydration solution (ORS), i.e., rehydration solution for malnourished (ReSoMal).[3] We would like to know if the study population included SAM children and if a subgroup analysis of the same was done as SAM is an independent risk factor for mortality and morbidity. Acute diarrhea and severe dehydration (ADSD) is one of the important causes of under-five mortality in the developing countries and is also associated with a high incidence of complications like dyselectrolytemias, organ dysfunction, and critical care utility, follow-up of these children for a cognitive outcome is required and further studies are required for the same.[4]

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