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HYPERGLYCEMIC HYPEROSMOLAR STATE: A PRAGMATIC APPROACH TO PROPERLY MANAGE SODIUM DERANGEMENTS

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ABSTRACT **Introduction** Although hypovolemia remains the most relevant problem during acute decompensated diabetes in its clinical manifestations (diabetic ketoacidosis, DKA, and hyperglycemic hyperosmolar state, HHS), the electrolyte derangements caused by the global hydro electrolytic imbalance usually complicate the clinical picture at presentation and may be worsened by the treatment itself **Aim:** This review article is focused on the management of dysnatremias during hyperglycemic hyperosmolar state with the aim of providing clinicians a useful tool to early identify the sodium derangement in order to address properly its treatment. **Discussion:** The plasma sodium concentration is modified by most of the therapeutic measures commonly required in such patients and the physician needs to consider these interactions when treating HHS. Moreover, an improper management of plasma sodium concentration (pNa+) and plasma osmolality during treatment has been associated with two rare potentially life-threatening complications (cerebral edema and osmotic demyelination syndrome). Identifying the correct composition of the fluids that need to be infused to restore volume losses is crucial to prevent complications. **Conclusion:** a quantitative approach based on the comparison between the measured pNa+ (pNa+M) and the pNa+ expected in the presence of an exclusive water shift (pNa+G) may provide more thorough information about the true hydro electrolytic status of the patient and may therefore, guide the physician in the initial management of HHS. On the basis of data derived from our previous studies, we propose a 7 step algorithm to compute an accurate estimate of pNa+G

KEYWORDS :

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