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Dapagliflozin-Induced Severe Hypernatremia in a Non-Communicative Stroke Patient on Enteral feeding

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Case Study : Sodium-glucose co-transporter 2 (SGLT2) inhibitors are commonly used for the purpose of glycemic control but also provide substantial cardiovascular and renal benefits. However, they can cause dehydration and electrolyte imbalances due to their osmotic diuretic effect, especially in individuals who cannot regulate fluid intake. cerebrovascular accidents (CVA) is common among elderly population and if these patients have poor communication and require enteral feeding they are at higher risk of dehydration and hypernatremia. We describe a case of life-threatening hypernatremia in a stroke patient treated with dapagliflozin through a Levin tube. A 75-year-old male with a history of hypertension, type 2 diabetes, subtotal gastrectomy, dementia, and past cerebral infarction presented with an acute onset of left-sided weakness. Brain MRI showed a right pontine infarction. Due to dysphagia, a Levin tube was inserted, and dapagliflozin 10 mg was administered from December 12-19, 2023. On December 19, serum sodium reached 163 mmol/L with an estimated water deficit of 7.2L. The patient could not express thirst, which further compounded his dehydration. Dapagliflozin was stopped on December 20, and controlled fluid resuscitation was started. Serum sodium, urine glucose, and renal function parameters gradually recovered to baseline, with resolution of Acute kidney injury. This case highlights the potential for osmotic diuresis from SGLT2 inhibitor use to lead to life-threatening hypernatremia in non-verbal patients on tube feeds after a CVA. Their impotence to control oral intake leads to significate dehydration. Therefore clinicians should exercise great caution during prescription of SGLT2 inhibitors in such person, closely monitoring hydration status, electrolytes, and performing early noninvasive intervention to prevent complications. Individualized treatment decisions based on the patient's ability to communicate and hydration status are critical to ensure safe therapy.

Fig.1.jpg

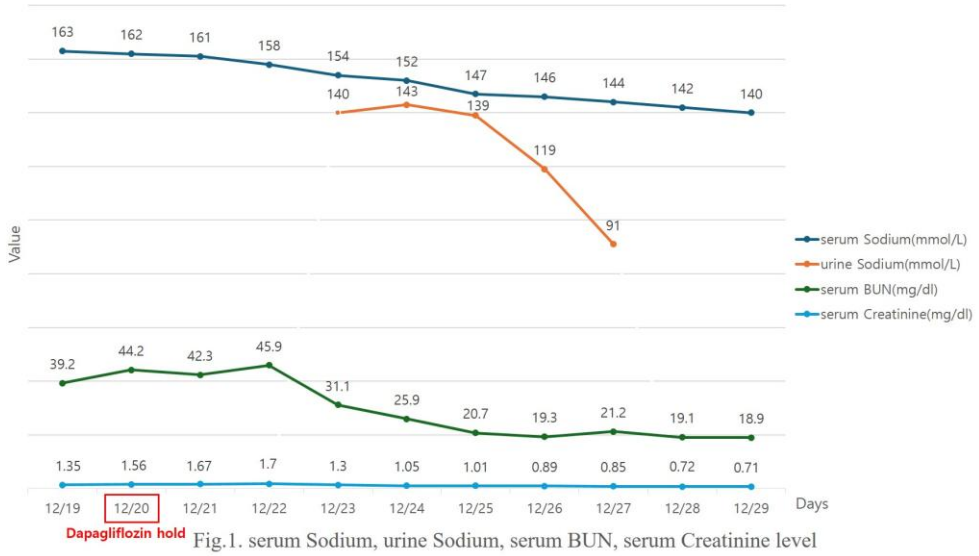

Fig.1. serum Sodium, urine Sodium, serum BUN, serum Creatinine level

Fig.1.jpg

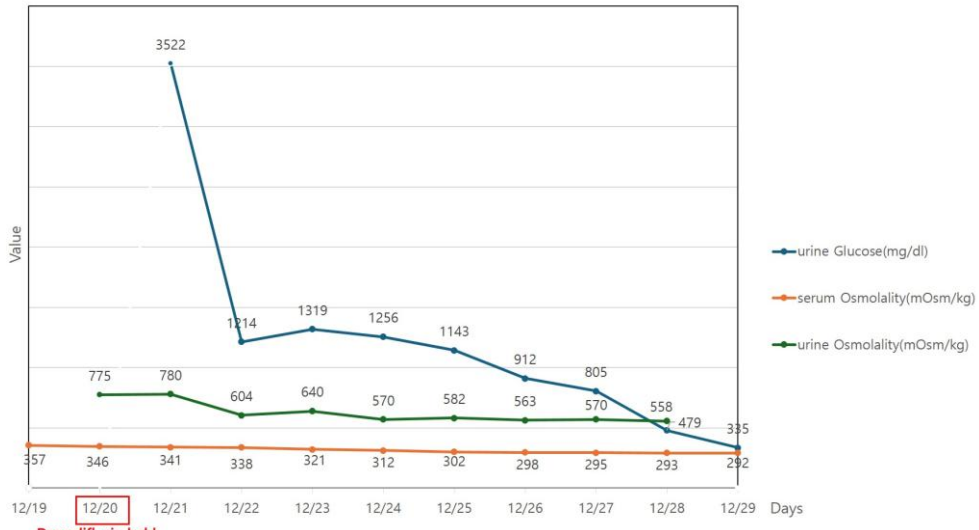

Fig.2. urine Glucose, serum Osmolality, urine Osmolality level