

In Reference to: “Preventing Hypoglycemia Following Treatment of Hyperkalemia in Hospitalized Patients”

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Boughton et al.¹ reported a high incidence of hypoglycemia resulting from glucose-with-insulin (Gwl) infusion used to treat acute hyperkalemia. This has been reported by other investigators—particularly in subjects without preexisting diabetes² and resonates with the experiences of clinicians practicing in Internal Medicine or Diabetes.

The authors suggested that patients at risk of hypoglycemia be identified and offered a regimen containing less insulin. However, for subjects without preexisting diagnosis and not at high risk of diabetes, we question the physiological logic and the safety basis for administering insulin.

Infusion of glucose only (GO) to subjects with intact pancreatic function and insulin sensitivity stimulates endogenous insulin secretion in a dose-dependent manner, resulting in a reduction in extracellular fluid potassium with no risk of hypoglycemia.^{3,4}

It is unclear why Gwl historically entered mainstream practice rather than GO, but the rationale may have been based on the potential risks of paradoxical hyperglycemia-mediated hyperkalemia (HMK) being induced by GO. In practice, HMK was only observed in subjects with diabetes.⁵

As there is an ongoing need to reduce the impact of iatrogenic hypoglycemia, revisiting of the prematurely abandoned GO regimen in hyperkalemia management is warranted. Such approach may offer a safe and physiological alternative to Gwl in nondiabetic patients with hyperkalemia.

We advocate that GO be prospectively evaluated against Gwl for the treatment of hyperkalemia in subjects without diabetes, against the endpoints being noninferiority in respect of efficacy and maintenance of euglycemia in respect of safety.

Disclosures: Nothing to declare

References

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