**Too little too late – Therapeutic inertia leading to hypokalaemia during management of diabetic ketoacidosis highlighting protocol non-adherence**

Objective: Diabetic ketoacidosis (DKA) is a serious and potentially fatal acute complication of diabetes if incorrectly managed. Most hospitals have protocols or guidelines to assist with DKA management. These protocols typically require strict monitoring and management of hyperglycaemia, ketosis, intravenous fluid and electrolyte status simultaneously. Hypokalaemia during treatment is not uncommon. We conducted an audit of protocolised DKA management to identify areas for improvement.

Method: All DKA episodes (n= 30) from November 2024 – April 2025 were audited via the electronic medical record. DKA was designated based on conventional criteria (pH<7.30, blood ketones>1.5mmol/L). Baseline characteristics, admission parameters, time-to-resolution and length of stay were recorded. Complications including hypokalaemia (potassium <3.5 mmol/L), severe hypokalaemia (potassium <3.0 mmol/L), hypoglycaemia (glucose <4.0 mmol/L) and recurrent ketosis were documented. We assessed the total intravenous (IV) potassium delivered in relation to the total IV potassium recommended according to the institutional protocol (rate and concentration) during the IV insulin infusion.

Results: Thirty patients were audited (mean age 35±16). Most patients, 57% (17/30), experienced hypokalaemia and 17% severe hypokalaemia. Patients with hypokalaemia were hypokalaemic for 34% of the total time on the insulin infusion. Only 12% (2/17) of patients were appropriately escalated to a potassium infusion rate of 20 mmol/L/hr. Overall, patients were only administered 32% of the total protocol recommended amount of IV potassium. On medical wards, following severe hypokalaemia the average time to next electrolyte measure was 4.0 hours.

Conclusion: Inadequate administration of IV potassium is a driving factor in the high institutional rate of hypokalaemia during DKA management. Complications are further contributed to by therapeutic inertia when treatment should be escalated or initiated. We propose that digitisation of the DKA protocol with real-time prompts may reduce variation from recommended best practice.