OP24 SWEET, SALTY AND DEADLY

AA HING[1], AS YAHYA[1,2], MA MOHIDIN[1]

[1] *EMERGENCY AND TRAUMA DEPARTMENT, HOSPITAL SULTANAH AMINAH, JOHOR BAHRU*
[2] *DEPARTMENT OF EMERGENCY MEDICINE, HOSPITAL UNIVERSITI SAINS MALAYSIA*

Introduction

Diabetic ketoacidosis (DKA) usually presented with wide varieties of electrolyte imbalances. Hypernatremia in DKA however is a rare entity.

Case description

We reported two case series of DKA presented with hypernatremia. A 33-year-old woman, presented to casualty with an acute onset of altered sensorium associated with fever and vomiting. Upon arrival, she was tachypneic with Kussmaul's breathing with Glasgow Coma Scale (GCS) of eight. Initial laboratory parameter revealed high anion gap metabolic acidosis, ketonuria and elevated capillary blood sugar correlated with diagnosis of DKA. Her measured sodium level was 169 mmol/L. She was intubated for airway protection and was given 0.9% saline for fluid resuscitation before it was changed to 0.45% saline. She was also started on intravenous insulin infusion and broad-spectrum antibiotic. Initial head CT showed generalized cerebral oedema. Her blood sugar level improved however she remained acidotic and succumbed to death after nine hours.

The second case involved a 28-year-old male who presented with two days history of altered sensorium associated with intractable vomiting. Upon arrival, he was in shock, with GCS of seven. He has neck stiffness with a positive Kernig's sign. Initial point of care test showed elevated capillary blood glucose, high anion gap metabolic acidosis and ketonuria. His initial sodium level was 152 mmol/L. He was intubated for airway protection and started on fluid resuscitation with normal saline 0.9% and intravenous insulin infusion. His fluid choice was changed to 0.45% saline after adequate volume status achieved. Initial head CT was normal. His sugar level remained high, and he was persistently acidotic. He succumbed to death after 20 hours.

Discussion

Managing DKA complicated with hypernatremia is a challenging task. The fluid choice must be balanced between the benefit of fluid resuscitation and risk of worsening hypernatremia leading to brain insult. Overcorrection of sodium must also be avoided to prevent cerebral oedema.

Conclusion

A careful consideration regarding the fluid resuscitation and close monitoring is vital in the treatment of DKA with hypernatremia.

Keywords
Diabetic ketoacidosis, hypernatremia