Euglycemic Diabetic Ketoacidosis

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Abstract

Introduction: Widened anion gap metabolic acidosis is encountered in the emergency department with regularity and has a limited differential diagnosis. We present a case where the etiology was not immediately apparent but was eventually determined to be caused by the recent initiation of dapagliflozin, a SGLT2 inhibitor, for the management of Type 2 diabetes.

Case Presentation: A 67 year-old-male with insulin requiring Type 2 diabetes presented to the ED with nausea and vomiting for several weeks. He had been recently noted by his endocrinologist to be losing weight and was warned his insulin requirement may decrease as a result. He had been started on a new drug but was unable to recall its name. He also complained of being weak and fatigued. He had no infectious symptoms. His physical exam, including vital signs, were unremarkable. Noteworthy labs included glucose 171, CO2<5 with a venous pH 7.058 and BUN/Creatinine 15/1.0. Urinalysis and CXR were normal. He denied ingestion of or exposure to toxic alcohols, salicylates or other agents that could produce a widened anion gap metabolic acidosis. It was subsequently established that the medication he had recently been started on was dapagliflozin.

Final Diagnosis: Euglycemic DKA

Management: He was admitted to the ICU and treated with an insulin infusion and D5 ½ NS. Especially close monitoring of the glucose and insulin infusions was continued until resolution of the metabolic acidosis. Once his acidosis corrected, he was transferred out of the ICU and was subsequently discharged home with instructions to discontinue dapagliflozin and follow up with his endocrinologist.

Learning Objectives

- Identify euglycemic diabetic ketoacidosis in the emergency department setting.
- Treat widened anion gap metabolic acidosis.