EUGLYCEMIC DIABETIC KETOACIDOSIS IN THE POSTOPERATIVE PERIOD: A CASE SERIES OF BARIATRIC SURGERY PATIENTS.

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Introduction

- Euglycemic Diabetic Ketoacidosis (EDKA) is a rare form of metabolic disorder occurring in 2-3% of diabetic ketoacidosis (DKA) cases:
  - Blood glucose levels <250mg/dL.
  - Acidosis.
  - Ketones in urine.
- Risk factors include Sodium Glucose Cotransporter-2 Inhibitors (SGLT2i) and fasting periods with surgical procedures.
- In bariatric surgery patients, EDKA may be overlooked as its symptoms can mimic complications such as anastomotic leak, portal vein thrombosis, or bleeding.

Methods

- We are presenting two cases of severe EDKA in postoperative bariatric surgery patients.
- Clinical presentation, management, and outcomes were reviewed and described, emphasizing the potential impact of SGLT2i use on postoperative complications

Results

Case #1:

- 53-year-old female with class III obesity (BMI 40), hypertension, and type 2 diabetes taking a GLP1a and a SGLT2i (stopped 3 days prior as per our guidelines) who underwent a Laparoscopic Roux-en-Y Gastric Bypass. The surgery was uncomplicated, and discharged home on post-operative day 1.
- On postoperative day 3, she presented to the emergency room with tachycardia, vomiting, reduced oral intake, and severe anion gap metabolic acidosis (34mmol/L) with elevated Beta-Hydroxybutyrate (>8.0 mmol/L), though her blood glucose was <250mg/dL.
- After ruling out sepsis and thrombosis, she was diagnosed with EDKA and admitted to the MICU.
- Treatment with insulin and fluids led to rapid improvement, and she was discharged home on postoperative day 5.
- **Both patients were sent home on basal and corrective insulin dosages as per endocrinology.**

Results

Case #2:

- 35-year-old male with class III obesity (BMI 41) hyperlipidemia, obstructive sleep apnea, and type 2 diabetes taking a biguanide and a SGLT2i (stopped 3 days before surgery) who underwent an uncomplicated Laparoscopic Sleeve Gastrectomy.
- Immediately postoperatively, he developed significant anion gap metabolic acidosis (27mmol/L), elevated Beta-Hydroxybutyrate (6.1 mmol/L), and glucose level < 220.
- He was treated in the SICU with rehydration and insulin drip. His acidosis and electrolytes improved with treatment.

Conclusions

- EDKA, though rare, can occur in bariatric surgery patients due to a combination of factors.
- **Management with insulin and dextrose to address ketosis, even with normal blood glucose, unlike in DKA.**
- Further studies are needed to fully understand the risk of developing EDKA in patients on SGLT2i preparing for bariatric surgery, particularly in prolonged states of hypoalimentation/protein malnutrition.