

Case Study 1: Patient N.B.

Diabetic Ketoacidosis

Patient Profile

N.B., a 34-year-old Native American man, was admitted to the emergency department after he was found unconscious by his wife in their home.

Subjective Data (Provided by Wife)

- Was diagnosed with type 1 diabetes mellitus 12 mo. ago
- Was taking 50 U/day of insulin: 5 U of lispro insulin with breakfast, 5 U with lunch, and 10 U with dinner
Plus 30 U of glargine insulin at bedtime
- States a history of gastroenteritis for 1 wk with vomiting and anorexia
- Stopped taking insulin 2 days ago when he was unable to eat

Objective Data

Physical Examination

- Breathing deep and rapid
- Fruity acetone smell on breath
- Skin flushed and dry

Diagnostic Studies

- Blood glucose level 730 mg/dL (40.5 mmol/L)
- Blood pH 7.26

Discussion Questions

1. Briefly explain the pathophysiology of the development of diabetic ketoacidosis (DKA) in this patient.
NB's blood glucose increased after he stopped taking his insulin and ketones were produced.
2. What clinical manifestations of DKA does this patient exhibit?
-Fruity breath
-dry skin
-kussmaul respirations
3. What factors precipitated this patient's DKA?
-illness from gastroenteritis
-stopped taking insulin
4. Priority Decision: What is the priority nursing intervention for N.B.?
-Rehydration therapy
-Insulin administration
-Electrolyte replacement
5. What distinguishes this case history from one of hyperosmolar hyperglycemic syndrome (HHS) or Hypoglycemia?
-DKA is mostly seen in T1DM
-HHS is negative for ketones
-Hypoglycemia is defined by a blood glucose that is too low
6. Priority Decision: What is the priority teaching that should be done with this patient and his family?
SICK day rules:
-check glucose every 2-3 hours
-always take insulin
-increase fluids
-check urine for ketones every 4 hours
7. What role should N.B.'s wife have in the management of his diabetes?
NB's wife should have a supporting role in his care especially in the facilitation of insulin and sugar intake.
8. Priority Decision: Based on the assessment data presented, what are the priority nursing diagnoses?
Are there any collaborative problems?
-Blood glucose of 730 should be treated with a rapid acting insulin.
-gastroenteritis must also be addressed and treat the underlying cause
-fluid/electrolyte replacement to bring the pH back to balance

9. Evidence-Based Practice: N.B.'s wife asks you if she should have given her husband insulin when he got sick? How would you respond?

Yes, it is important to always take insulin even when sick.