

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.

Patient stopped taking insulin two days ago when he was unable to eat so his hyperglycemia is the result of insulin deficiency and probably dehydration.

2. What clinical manifestations of DKA does this patient exhibit?

Breathing deep and rapid (Kussmaul breathing), fruity smell on breath, Ph 7.26

3. What factors precipitated this patient's DKA?

He is a Type 1 diabetic, he is sick, and he stopped taking his insulin

4. Priority Decision: What is the priority nursing intervention for N.B.?

Fluid/Electrolyte replacement

5. What distinguishes this case history from one of hyperosmolar hyperglycemic syndrome (HHS) or Hypoglycemia?

The Kussmaul breathing, the fruity breath smell, and the glucose of 730 mg/dL

6. Priority Decision: What is the priority teaching that should be done with this patient and his family?

Do not stop taking your insulin even when you are sick (sick day rules).

7. What role should N.B.'s wife have in the management of his diabetes?

Help to monitor sugar levels and remind him to not stop taking insulin

8. Priority Decision: Based on the assessment data presented, what are the priority nursing diagnoses? Are there any collaborative problems?

Fluid volume deficit. The collaborative problem is bringing the sugar levels down.

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, constantly check the BG levels and continue to give the insulin.