

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.

When NB stopped taking his insulin 2 days ago the insulin became insufficient so the glucose couldn't be used for energy causing ketosis, hyperglycemia, and acidosis (DKA)

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

Kussmaul respirations, sweet fruity breath, vomiting, Low pH

3. What factors precipitated this patient's DKA?

Illness (gastroenteritis), inadequate insulin dose

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

Hydration!

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

He has T1 DM, It was rapid onset, He has a pH of <7.3, presumed + ketones due to insufficient insulin

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

Provide adequate education to never stop taking insulin, or food even if it is as little as Jello or Gatorade

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

NB's wife should have encouraged fluid & food intake, she also should have been monitoring his BG levels while he was

8. Priority Decision: Based on the assessment data presented, what are the priority nursing diagnoses?

Are there any collaborative problems? **Deficient fluid volume related to vomiting, ineffective self-help management related to illness, imbalanced nutrition related to vomiting. Some collaborative problems hyperglycemia due to not taking insulin, electrolyte disturbance.**

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 monitor BG levels and maintain insulin doses even when sick to prevent hyperglycemic incidences.**