

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.

DKA can develop fast or over days or weeks. It is characterized by a deficiency in insulin and is shown through hyperglycemia. It is shown through ketosis, dehydration, and acidosis. The pts' DKA is because of a lack of insulin and his gastroenteritis that increases the demand of insulin.

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

Breathing deep and rapid, fruity breath odor, and dry flushed skin

3. What factors precipitated this patient's DKA? N.B. has gastroenteritis with vomiting + anorexia which is having his caloric intake decrease. With a lack of insulin he is going through hyperglycemia. His cells were getting glucose and this caused dehydration and his dry skin and he had hypotension that caused the deep rapid breathing

4. Priority Decision: What is the priority nursing intervention for N.B.? Start an IV and administer fluid and electrolytes. Assess airway and administer oxygen as needed

5. What distinguishes this case history from one of hyperosmolar hyperglycemic syndrome (HHS) or HHS is an emergency that is shown Hypoglycemia? through dizziness, irritability, tremors, or loss of consciousness. The pt can also prevent enough insulin to prevent DKA. HHS is more common in T2DM.

6. Priority Decision: What is the priority teaching that should be done with this patient and his family? He should keep getting plenty of fluids + a healthy diet because his body needs more energy. Monitor his blood glucose frequently. Tell a HCP if fever or nausea occur

7. What role should N.B.'s wife have in the management of his diabetes? She can help manage and check his blood glucose. She can also make sure he gets plenty of fluids and watching his diet.

8. Priority Decision: Based on the assessment data presented, what are the priority nursing diagnoses? Decreased fluid and imbalanced nutrition. Are there any collaborative problems? Hyperglycemia, decreased electrolytes, loss of consciousness

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? She should have checked his blood glucose level and administer glucose as needed