

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 occurs when there is a great deficiency of insulin within the body.

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

Dry skin, Kussmaul respirations, sweet, fruity breath, and a pH <7.3 (7.26).

3. What factors precipitated this patient's DKA?

Type 1 Diabetic, Hx of gastroenteritis (infection), inadequate doses of insulin or lack of insulin dose.

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

Administering oxygen and making sure his airway is clear due to him being unconscious.

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

HHS occurs gradually and usually to Type 2 diabetics who are older, whereas DKA happens to Type 1 diabetics and has a rapid onset. N.B. is middle-aged and recently diagnosed with Type 1 DM. Also the pt.s BS was high and therefore wouldn't be hypoglycemic.

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

The proper way to administer his insulin and to do so as it's prescribed.

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

N.B.'s wife should be very supportive of him, by making sure that he is getting his insulin like he's supposed to as well as maintaining the proper diet to refrain from hypo/hyperglycemia from occurring.

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

That the pt. has DKA from not properly maintaining his blood sugar. The collaborative problem would be for him to get the proper nutrition he needs.

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?

I would tell her that even if he's sick, he should still be receiving his insulin as if he wasn't, or it could lead to DKA again.