

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 the body does not have enough insulin to get the blood sugar into the cells and use it as energy this is known as DKA. As a result, the liver breaks down fat for fuel and is a process that produces acids called ketones.
2. What clinical manifestations of DKA does this patient exhibit?
Fruity acetone smell on breath, skin flushed and dry, rapid and deep breathing, BG <240 (730mg/dL), pH below 7.3.
3. What factors precipitated this patient's DKA?
Being a new type 1 diabetic, and stopped taking insulin 2 days ago
4. Priority Decision: What is the priority nursing intervention for N.B.?
Fluid/electrolyte replacement and insulin therapy
5. What distinguishes this case history from one of hyperosmolar hyperglycemic syndrome (HHS) or Hypoglycemia?
This pt. has a high blood glucose 730 rather than a hypoglycemic pt which theirs would be around 70 or below.
6. Priority Decision: What is the priority teaching that should be done with this patient and his family?
Still try to mange to eat some type of easy to mange carbohydrate such as toast or crackers. As well as continue to take insulin.
7. What role should N.B.'s wife have in the management of his diabetes?
Encourage her husband to eat a small carb when he is not feeling well plus the insulin.
8. Priority Decision: Based on the assessment data presented, what are the priority nursing diagnoses?
Are there any collaborative problems?
BG 730mg/dL High Blood sugar and serum pH <7.35
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, being sick can rise your blood sugar levels even higher. It is especially important to continue giving your husband insulin when sick.