

Megan Hennig

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.
Due to the patient having the stomach flu, he was suffering from vomiting causing him to be unable to eat. The patient decided to stop taking his insulin as well. The combination of the illness, lack of insulin and dehydration led to DKA in this patient.
2. What clinical manifestations of DKA does this patient exhibit?
Anorexia, vomiting, Kussmaul respirations, poor skin turgor, dehydration, dry skin, sweet/fruity breath. Blood glucose greater than 250 and pH is less than 7.30.
3. What factors precipitated this patient's DKA?
His failure to take his insulin while being ill.
4. **Priority Decision:** What is the priority nursing intervention for N.B.?
To administer O2 to ensure his airway/breathing.
5. What distinguishes this case history from one of hyperosmolar hyperglycemic syndrome (HHS) or Hypoglycemia?
It was a rapid onset, and he is a Type 1 diabetic.
6. **Priority Decision:** What is the priority teaching that should be done with this patient and his family?
When a type 1 diabetic is ill, it is important for the patient to continue taking their insulin as prescribed and to stay well hydrated.
7. What role should N.B.'s wife have in the management of his diabetes?
Encourage his to follow his treatment plan as his HCP has given. Encourage him to stay hydrated and can assist in the administration of insulin if needed.
8. **Priority Decision:** Based on the assessment data presented, what are the priority nursing diagnoses? Are there any collaborative problems?
The priority nursing diagnosis would be fluid resuscitation. The patient having gastroenteritis always plays a role in the dehydration of the patient.
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 very important for a diabetic to maintain their insulin regimen even when ill. As the stress from the illness can cause elevated blood sugars.