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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 mmo1/L)
- Blood pH 7.26

Discussion Questions
1. Briefly explain the pathophysiology of the development of diabetic ketoacidosis (DKA) in this patient.

   DKA is usually in type 1 diabetes patients, also sometimes called diabetes coma. DKA happens because the blood glucose is greater than 250 mg/dl, blood bicarbonate is less than 15, pH is less than 7.35, and ketoacids is present in the urine. The reason the patient blood glucose is high is because there is not insulin being made in the pancreatin's beta cells to bring down the blood glucose. The cell will start releasing free fatty acids by the liver so suppress the enzyme of the insulin to be released. But the liver is release to much fatty acid in the blood line that is what making the patient's pH and bicarbonate decrease than have ketoacid being in the urine.

2. What clinical manifestations of DKA does this patient exhibit?
   Kussmaul respiratory (breathing deep and rapid), hot and dry skin and fruity breath

3. What factors precipitated this patient's DKA?
Type 1 DM, been sick for a week so stop taking insulin for a couple of days because he was unable to eat.

4. Priority Decision: What is the priority nursing intervention for N.B.?
Get Mr. N.B start on a IV to get him back to being hydration, give him insulin, then finally give him some electrolytes replacement.

5. What distinguishes this case history from one of hyperosmolar hyperglycemic syndrome (HHS) or Hypoglycemia? He is type 1 dm, the symptoms and signs he is showing like Kussmaul respiratory, fruity breath, hot and dry skin also ketone in the urine with pH is acidosis.

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

The nurse would teach the importance about SICK day rules, S- check blood more time than normal, I- take he is insulin regular, C- drink a lot of fluids with carbs, K- check their urine for ketones.

7. What role should N.B.'s wife have in the management of his diabetes?
Making should he does the SICK day rules. Encourage him to drink a lot of fluid, so he does not get dehydrate.

8. Priority Decision: Based on the assessment data presented, what are the priority nursing diagnoses? Are there any collaborative problems?
Give Mr. N.B hydrate, insulin, and electrolytes replacement. Make should the couple understand the importance of SICK day rules. Also, we need to make should that they understood what diet the husband should be on for diabetes.

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 say Yes ma'am, you should of, but it is okay because now she would understand how important it is to follow the SICK day rules.