

Electrolyte Imbalance

Patient Profile

E.G. is a 73-year-old woman whose daughter brings her to see the health care provider because she has had a case of the “stomach flu,” with vomiting and diarrhea for the past 3 to 4 days and is now experiencing occasional light-headedness and dizziness. Her medical history includes hypertension, hypercholesterolemia, and mild heart failure. She is taking:

- Digoxin 0.125 mg po daily
- Captopril 25 mg po twice daily
- Furosemide 40 mg po daily
- Potassium chloride 20 mEq po daily
- Atorvastatin 20 mg po at bedtime

Subjective Data

- Has been following a low-sodium diet
- States her abdomen feels bloated and she has been constipated since the onset of the “flu”
- Has been taking her medications except for the potassium chloride pill because it upsets her stomach.
- Occasionally takes an extra “water pill” when her ankles are swollen

Objective Data

Physical Examination

- Temperature 98.2°F, pulse 88, respirations 20, BP 138/86
- Lungs clear to auscultation, breathing regular and unlabored
- +1 edema bilaterally in ankles
- Muscle strength in upper extremities normal and equal and in lower extremities weak
- Sensation to all extremities normal
- Abdomen distended with hypoactive bowel sounds

Diagnostic Studies

- Lab values
 - Sodium 139.0mEq/L
 - Potassium 3.0mEq/L
 - HCO₃⁻ 25.4mEq/L
 - Chloride 99.5 mEq/L

Discussion Questions

1. What is a possible pathophysiologic cause of E.G.’s muscle weakness and dizziness? What other symptom does E.G. have that may be related to this problem?

Answer:.

Rationale:

2. What factors contributed to the development of this electrolyte imbalance?

Answer:

Rationale:.

3. What should you be on an alert for in a patient who is on furosemide and digoxin and why?

Answer: Be alerted for potassium levels, electrolytes, any signs of fluid retention, BUN and creatinine, BP, I/O, cardiac arrhythmias, muscle weakness, and seizures
Digoxin levels for toxicity, do not use if they have VFib, blood pressure and heart rate, kidney function, blood urine, stool, vomit, red spots on skin, severe stomach pain, unusual bleeding/bruising, SOB, chest pain, edema, and black stools.

Rationale:

Furosemide if given too much can cause diuresis with water and electrolyte depletion, can cause hypotension, watch for potassium because it helps the heart muscle work. Digoxin can cause extreme side effects if overdosed, its used to treat heart failure, harsh on the kidneys.

4. What additional signs and symptoms should you assess E.G. for?

Answer:

Rationale:

5. What diagnostic test is indicated and why?

Answer:

Rationale:

6. Write three nursing diagnoses that are appropriate for E.G.

Answer:

Rationale:

7. What interprofessional care would you anticipate for E.G.?

Answer:

Rationale:

8. What instructions should you give E.G. regarding the signs and symptoms of this electrolyte imbalance and how to prevent it?

Answer:

Rationale: