• Manifestations of potassium imbalance (hypokalemia or hyperkalemia) to report to health care provider
• Recommendations for monitoring serum potassium levels
• If taking digitalis, manifestations of digitalis toxicity to report to health care provider
• Managing gastrointestinal disorders that cause potassium loss (vomiting, diarrhea, ileostomy drainage) to prevent hypokalemia

THE CLIENT WITH HYPERKALEMIA

Hyperkalemia is an abnormally high serum potassium (greater than 5 mEq/L). Hyperkalemia can result from inadequate excretion of potassium, excessively high intake of potassium, or a shift of potassium from the intracellular to the extracellular space. Pseudohyperkalemia (an erroneously high serum potassium reading) can occur if the blood sample hemolyzes, releasing potassium from blood cells, before it is analyzed. Hyperkalemia affects neuromuscular and cardiac function.

PATHOPHYSIOLOGY AND MANIFESTATIONS

Impaired renal excretion of potassium is a primary cause of hyperkalemia. Untreated renal failure, adrenal insufficiency (e.g., Addison’s disease or inadequate aldosterone production), and medications (such as potassium-sparing diuretics, the antimicrobial drug trimethoprim, and some NSAIDs) impair potassium excretion by the kidneys.

In clients with normal renal excretion of potassium, excess oral potassium (e.g., by supplement or use of salt substitutes) rarely leads to hyperkalemia. Rapid intravenous administra-

Nursing Care Plan

A Client with Hypokalemia

Rose Ortiz is a 72-year-old widow who lives alone, although close to her daughter’s home. Ms. Ortiz has mild heart failure and is being treated with digoxin (Lanoxin) 0.125 mg, furosemide (Lasix) 40 mg PO daily, and a mildly restricted sodium diet (2 g daily). For the last several weeks, Ms. Ortiz has complained that she feels weak and sometimes faint, light-headed, and dizzy. Serum electrolyte tests ordered by her physician reveal a potassium level of 2.4 mEq/L. Potassium chloride solution (Kaochlor 10%, 20 mEq/15 mL) PO twice daily is prescribed, and Ms. Ortiz is referred to Nancy Walters, RN, for follow-up care.

ASSESSMENT

Ms. Ortiz's health history reveals that she has rigidly adhered to her sodium-restricted diet and has been compliant in taking her prescribed medications, with the exception of occasionally taking an additional “water pill” when her ankles swell. She takes a laxative every evening to ensure a daily bowel movement. She states that she is reluctant to take the potassium chloride the doctor has ordered because her neighbor complains that his potassium supplement upsets his stomach. Physical assessment findings included T 98.4, P 70, R 20, and BP 138/84. Muscle strength in her upper extremities is normal and equal; lower extremity strength is weak but equal. Sensation is normal.

DIAGNOSES

• Risk for injury related to muscle weakness
• Risk for ineffective health maintenance related to lack of knowledge about how diuretic therapy and laxative affect potassium levels

EXPECTED OUTCOMES

• Maintain potassium level within normal limits (3.5 to 5.0 mEq/L).
• Regain normal muscle strength.
• Remain free of injury.
• Verbalize understanding of the effects of diuretic therapy and laxatives on potassium levels.

• Identify measures to avoid gastrointestinal irritation when taking oral potassium.
• Identify potassium-rich foods.

PLANNING AND IMPLEMENTATION

• Explain need to use caution when ambulating, particularly when climbing or descending stairs.
• Discuss side effects of furosemide, and explain how taking additional tablets may have contributed to hypokalemia.
• Discuss alternative measures to prevent constipation without using laxatives on a regular basis (e.g., high-fiber diet, adequate fluid intake).
• Explain purpose of the prescribed potassium and its role in reversing muscle weakness.
• Teach to take potassium supplement after breakfast and supper, diluted in 4 oz of juice or water, and to sip it slowly over a 5- to 10-minute period. Advise to call if gastric irritation occurs.
• Discuss dietary sources of potassium; provide a list of potassium-rich foods.

EVALUATION

On a follow-up visit 1 week later, Ms. Ortiz states that her muscle weakness, dizziness, and other symptoms have resolved. She is taking the prescribed drugs as directed and is using laxatives only two or three times a week. Ms. Ortiz reports that she has increased her intake of potassium-rich foods and fluids and of high-fiber foods. Her potassium level is within normal limits.

Critical Thinking in the Nursing Process

1. What is the pathophysiologic basis for Rose’s muscle weakness and dizziness?
2. How may the chronic overuse of laxatives contribute to hypokalemia?
3. Describe the interaction of digitalis, diuretics, and potassium.
4. Develop a plan of care for Ms. Ortiz for the nursing diagnosis Constipation.

See Evaluating Your Response in Appendix C.