Disease: hypokalemia

Student Name: Shannon O'Malley

## Pertinent Common Signs and Symptoms

- decreased Blood Pressure
- thready weak pulse
- orthostatic hypotension
- altered mental status; anxiety
- flattened T-wave, prominant U waves, ST depression
- hypoactive bowel sounds, nausea, vomiting
- weakness

## Pertinent Physical Exam Findings/Risk Factors

- overuse of diuretics
- increased secretion of aldosterone
- Cushings syndrome
- loss via GI tract: vomiting, diarrhea, NG suctioning, NPO status
- kidney disease

## Pertinent Nursing Interventions

- report abnormal findings to Provider
- assess phlebitis
- never give potassium via IM as it can cause necrosis
- monitor + maintain adequate urine output
- observe for shallow ineffective respirations + diminished breath sounds

## Disease and Brief pathophysiology

hypokalemia is the result of an increased loss of potassium from the body or movement of potassium into the cells, resulting in a serum potassium less than 3.5 mEq/L.

## Labs

Serum Potassium -
- decreased to less than 3.5 mEq/L

## Client Education/Health Promotion

- educate client regarding potassium-rich foods to consume
- teach client ways to prevent a decrease in potassium by excessive use of diuretics + laxatives

## Diagnostic Procedures

electrocardiogram - shows findings of dysrhymmias: premature ventricular contractions, ventricular tachycardia, inverted T waves, ST depression

## Pertinent Medications

- ace innibitors
- electrolytes
- diuretics
- aldosterone antagonists

## Potential Problems

- respiratory failure
- cardiac arrest

Disease: hypernatremia

Student Name: Shannon omalley

## Pertinent Common Signs and Symptoms

- thirst
- hyperthermia
- tachycardia
- orthostatic hypotension
- restlessness
- muscle twitching
- dry mucous membranes
- nausea/vomiting
- anorexia

## Pertinent Physical Exam Findings/Risk Factors

- water deprivation
- diabetes insipidus
- heatstroke
- hyperventilation
- watery stools
- burns
- excessive sweating
- excessive sodium retention

## Pertinent Nursing Interventions

- report abnormal labs to the provider
- monitor level of conciousness
- monitor vital signs + heart rhythm
- auscultate lung sounds
- monitor I+O, alert provider of inadequate urinary output

## Labs

- serum sodium
  - greater than 145 mEq/L
- serum osmolarity
  - greater than 300 mOsm/L
- urine sodium
  - decreased urine
- urine specific gravity + osmolarity
  - increased

## Disease and Brief pathophysiology

hypernatremia
increased sodium causes hypertonicity of the serum. This causes a shift of water out of the cell, resulting in dehydrated cells. This condition causes significant neurological, endocrine, and cardiac disturbance.

## Client Education/Health Promotion

- weigh daily
- consume low sodium diet, read food labels, keep record of daily sodium intake
- encourage fluids as prescribed.

## Diagnostic Procedures

- Blood tests
- urine tests for elevated sodium

## Pertinent Medications

- IV fluids

## Potential Problems

- acute hypernatremia - complications (seizures, convulsion, death) can result from acute hypernatremia if not treated immediately

Disease: hyponatremia

Student Name: Shannon O'Malley

## Pertinent Common Signs and Symptoms

- hypothermia
- tachycardia
- hypotension
- orthostatic hypotension
- diminished peripheral pulse
- headache
- confusion
- hyperactive bowel sounds
- abdominal cramping
- muscle weakness

## Pertinent Physical Exam Findings/Risk Factors

- excessive sweating
- diuretics
- wound drainage
- decreased secretion of aldosterone
- hyperlipidemia
- kidney disease
- inadequate sodium intake
- hyperglycemia
- low-sodium diet
- cerebral salt wasting syndrome

## Pertinent Nursing Interventions

replacement of sodium should not exceed 12 mEq/L in a 24-hr period because rapid rise in sodium level risks development of neurological damage due to demyelination.
if client can tolerate po fluids, sodium can be easily replaced by intake of food + fluids

## Disease and Brief pathophysiology

hyponatremia is a net gain of water or loss of sodium-rich fluids that results in sodium level less than 136 mEq/L. water moves from the ECF → ICF, causing cells to swell.

## Labs

- serum sodium
  - decreased, less than 136 mEq/L
- serum osmolarity
  - decreased, less than 270 mOsm/L

## Client Education/Health Promotion

- encourage client to weigh daily and to notify the provider of a 1- to 2-lb gain in 24 hr, or 3-lb (1.4 kg) gain in 1 week.
- instruct the client to consume a high-sodium diet, including reading food labels to check sodium content, keeping a daily record of sodium intake.

## Diagnostic Procedures

- Blood urea, potassium, calcium, magnesium, and phosphate labs
- Plasma and urine osmolality
- Blood glucose
- Urine sodium level

## Pertinent Medications

- IV sodium solutions
- medications to subside pertinent symptoms

## Potential Problems

- acute hyponatremia: complications (coma, seizures, respiratory arrest) can result from acute hyponatremia if not treated immediately.

Disease: hyperkalemia

Student Name: Shannen Meeks

## Pertinent Common Signs and Symptoms

- slow, irregular pulse
- hypotension
- restlessness
- irritability
- weakness
- Premature ventricular contraction
- V-fib
- Peaked T-waves
- increased motility
- oliguria

## Pertinent Physical Exam Findings/Risk Factors

- clients who are chronically ill
- actual potassium excess
- relative potassium excess

## Pertinent Nursing Interventions

- Prevent falls
- assess for cardiac complications
- report abdominal findings
- monitor I+O
- assess for muscle weakness
- encourage client to avoid foods high in potassium

## Disease and Brief pathophysiology

hyperkalemia the result of an increased intake of potassium, movement of potassium out of the cell, or inadequate kidney excretion resulting in a serum potassium level greater than 5.0 mEq/L. condition causes increased risk of cardiac arrest.

## Labs

Serum potassium
- increased to greater than 5.0 mEq/L

Hemoglobin + hematocrit
- increased with dehydration
- decreased with kidney failure

BUN - creatinine
- increased with kidney failure

ABG - (PH less than 7.35) w/ kidney failure

## Diagnostic Procedures

electrocardiogram - will show dysrhythmias (v-fib, peaked T waves, widened QRS)

## Pertinent Medications

loop diuretics (furosemide)
- increase the depletion of potassium from the renal system

cation exchange resin sodium polystyrene sulfonate works as a laxative and excretes excess potassium from the body

## Client Education/Health Promotion

educate client about potassium - restricted foods to consume.

teach client ways to prevent an increase in potassium by reading food labels and avoiding salt substitutes containing potassium

## Potential Problems

Cardiac arrest
- treat dysrhythmias
- continous cardiac monitoring