January 19, 2021 Objectives

Potassium, Dr. Nimri

1. Describe the laboratory evaluation that must be obtained to work up the hyperkalemic patient. (Comment on pseudohyperkalemia, EKG findings and sensitivity, and the required urine studies.)
2. Describe the acute management of the hyperkalemic patient including steps to stabilize the myocardial membrane, shift potassium into the cells, and lower the total body potassium. Know the appropriate doses, methods of delivery, and contraindications to calcium gluconate, insulin and glucose, beta-agonists, and kayexalate.
3. Know when to hospitalize and when to treat hyperkalemia.

CKD, Dr. Dahl

1. Define chronic kidney disease. Define the 5 stages of CKD according to the National Kidney Foundation, and define the KDIGO staging system for CKD based on albuminuria and GFR.
2. When should a patient with CKD be referred to a nephrologist? Explain the reasons for this.
3. Describe some of the diseases of other organ systems associated with CKD. What is the most common cause of death in patients with CKD?
4. Know the medications that CKD patients should avoid to prevent worsening of renal function.
5. Know the indication for ACEI and ARB medications for the treatment of proteinuria and blood pressure goals for patients with CKD.
6. Understand the risks of hyperphosphatemia, its management, and goal levels in patients with CKD.
7. Describe the KDIGO guidelines for goal transferrin saturation, ferritin level, and hemoglobin in patients with CKD.
8. What is the goal serum bicarbonate level in CKD patients?

Hyponatremia, Dr. Schinker

1. Define hyponatremia (mild, moderate, and severe), and specifically the time frame of acute versus chronic hyponatremia.
2. Describe the signs and symptoms of hyponatremia from subtle to severe.
3. Describe the initial management of a patient with severe, symptomatic hyponatremia.
4. Give the differential diagnosis for the following:
   1. Hypertonic hyponatremia
   2. Isotonic hyponatremia
   3. Hypotonic hyponatremia (What is the serum osmolality threshold for this?)
5. What is the first step in determining the etiology of a HYPOTONIC hyponatremia?
6. Describe the urine studies and lab findings (urine osmolality and/or urine sodium) that can help distinguish between the different causes of HYPOTONIC hyponatremia. Know the management of each of these diagnoses.
7. Describe how to determine the free water deficit in a patient with hypernatremia and how to manage the patient to avoid osmotic demyelination.