Med Surg Exam 5

Week 11:

- Diabetes insipidus
    - Lab findings
        - Electrolyte imbalances → hypernatremia
        - Urine chemistry “think DILUTE”
            - Decreased urine specific gravity (less than 1.005)
            - Decreased urine osmolality (less than 200)
                - As urine volume increases, urine osmolality decreases
            - Decreased urine pH
            - Decreased urine potassium
        - Serum chemistry “think CONCENTRATED”
            - Increased serum osmolality (greater than 300)
                - As serum volume decreases, serum osmolality increases
            - Increased serum sodium
            - Increased serum potassium
    - Pharmacologic treatment and expected findings
        - Pharmacologic treatment
            - ADH replacement agents → desmopressin, aqueous vasopressin
        - Expected findings
            - Polyuria (abrupt onset of excessive urination, urinary output of 4-30 L/day of dilute urine): failure of the renal tubules ot collect and reabsorb water
            - Polydipsia (consumption of 2-20L/day)
            - Nocturia
            - Fatigue
            - Dehydration
            - Sunken eyes
            - Tachycardia
            - Hypotension
            - Loss or absence of skin turgor
            - Dry mucous membranes
            - Weak, poor peripheral pulses
            - Decreased cognition
- SIADH
    - Manifestations
        - Early manifestations → headache, weakness, anorexia, muscle cramps, and weight gain (without edema b/c water not sodium is retained)

        - As sodium level decreases → personality changes, hostility, sluggish DTRs, nausea/vomiting, diarrhea, and oliguria with dark concentrated urine
        - Other manifestations → confusion, lethargy, Cheyne-Stokes respirations, herald impending crisis, seizures, coma, and death can occur if sodium drops too low; symptoms of fluid volume excess (tachycardia, bounding pulses, hypertension, crackles, JVD, weight gain)
    - Interventions
        - Restrict fluids to 500-1000 mL/day
        - Flush all enteral and gastric tubes with 0.9% sodium chloride
        - Monitor I/O; report decreased urine output
        - Monitor vital signs for increased BP, tachycardia, and hypothermia
        - Auscultate lung sounds to monitor for pulmonary edema
        - Monitor for decreased serum sodium/osmolarity and elevated urine sodium/osmolarity
        - Weight the client daily
        - Report altered mental status
        - Reduce environmental stimuli and reposition the client as needed
        - Provide a safe environment for clients with altered mental status
        - Maintain seizure precautions
        - Monitor for indications of HF which can occur from fluid overload
- Cushing's
    - Manifestations
        - Hunchback, moonface
        - Weakness, fatigue, sleep disturbances, back and joint pain, altered emotional state, decreased libido, decreased immune function and inflammatory response, thin, fragile skin, hypertension, tachycardia, weight gain and increased appetite, dependent edema, acne, hyperglycemia, thinning hair, red cheeks
    - Interventions
        - Monitor I/O and daily weight
        - Assess for hypervolemia
        - Maintain a safe environment and minimize skin trauma
        - Prevent infection
        - Encourage physical activity within client limits
        - Provide meticulous skin care
        - Change the client's position at least every 2 hrs
        - Use surgical asepsis with performing dressing changes and any invasive procedures
        - Monitor WBC count with diff daily
        - Encourage sodium restricted diet
- Addison's
    - Causes

        - Damage or dysfunction of the adrenal cortex
    - Manifestations
        - Weight loss, craving for salt, hyperpigmentation (dark skin), weakness, fatigue, nausea/vomiting, abdominal pain, constipation or diarrhea, dizziness with orthostatic hypotension, severe hypotension, dehydration, hyponatremia, hyperkalemia (peak T waves, prominent U waves), hypoglycemia, hypercalcemia
        - Can be acute (sudden onset of symptoms) or chronic (slow development of symptoms)
- Pheochromocytoma
    - Manifestations
        - Hypertension accompanied by symptoms of sympathoadrenal stimulation should be referred to a HCP for definitive diagnosis
        - Assess the patient for the classic triad of symptoms → severe pounding HA, tachycardia, and profuse sweating
        - Monitor the BP immediately if the patient is having an "attack"
- Myxedema Coma
    - Manifestations
        - Respiratory failure, hypotension, hypothermia, hypoventilation, bradycardia, dysrhythmia, hyponatremia, hypoglycemia, coma
    - Nursing interventions
        - Maintain airway patency, initiate aspiration precautions, administer IV fluids as prescribed
- Thyroid storm
    - Causes
        - Uncontrolled hyperthyroidism (Grave's disease), acute event (infection, trauma, emotional stress, DKA, and digitalis toxicity), following a surgical procedure or a thyroidectomy as a result of manipulation during surgery
    - Manifestations
        - hyperthermia/hyperpyrexia (104-106 F), hypertension, delirium/agitation, vomiting, abdominal pain, tachydysrhythmias, chest pain, dyspnea, palpitations
    - Pharmacologic treatment
        - Beta-blockers, thionamide, iodine solution, iodinated radiocontrast agent, glucocorticoids
    - Nursing interventions
        - Maintain a patent airway, provide continuous monitoring for dysrhythmias, administer acetaminophen to decrease temperature (ASA is contraindicated)
- Diabetes mellitus
    - Diagnostic labs and values pertinent to each
        - Diagnostic criteria for diabetes include two findings (on separate days) of at least one of the following:

            - Manifestations of diabetes plus casual blood glucose concentration greater than 200 (without regard to last mealtime)
            - Fasting blood glucose greater than 126
            - Oral glucose tolerance test with 2-hr reading greater than 200
            - Glycosylated hemoglobin (A1C) greater than 6.5%
                - Expected reference range 4-6%
                - Acceptable reference range for diabetics 6.5-8% (target of less than 7%)
                    - Older adult clients can be acceptable up to 8%
- Hypoglycemia
    - Manifestations
        - Mild shakiness, mental confusion, sweating, palpitations, headache, lack of coordination, blurred vision, seizures, and coma
    - Interventions
        - Check blood glucose level
        - Instruct client who has hypoglycemia (70 or less) to take 15 to 20 g of a readily absorbable carbohydrate (4-6 oz of juice/soda, glucose tablets, hard candy)
        - Repeat the administration of carbohydrate if not within normal limits, and recheck glucose in 15 min
        - If client is unconscious:
            - Administer glucagon SQ or IM; repeat in 10 min if still unconscious
            - Place the client into side-lying position
            - In acute care, nurses should administer 50% dextrose in IV access is available
        - Follow glucagon/carbohydrate snack with oral carbohydrates and protein
- DKA
    - Manifestations
        - Polyuria, polydipsia, polyphagia, weight loss, GI effects (nausea, vomiting, abdominal pain), blurred vision, weakness, headache, orthostatic hypotension, fruity odor of breath, kussmaul respirations, mental status changes, metabolic acidosis
    - Lab findings
        - Serum glucose greater than 300
        - Serum electrolytes → sodium can be low, normal, or high; potassium initial levels depend on how long DKA existed prior to treatment, then decreases with treatment
        - Increased BUN (greater than 30) and creatinine (greater than 1.5)
        - Ketones present in serum and urine
        - Elevated serum osmolarity
        - Metabolic acidosis → pH less than 7.3
    - Treatment
        - Treat the underlying cause, correct hyperglycemia

        - Rehydration → initially, 0.9% sodium chloride solution is administered at a rapid rate
        - Restoring electrolytes → monitor potassium and replace as needed
        - Reversing acidosis → insulin
    - Insulin Administration
        - Insulin is usually infused intravenously at a low continuous rate (5 units/hr)
        - Hourly blood glucose values must be measured
        - IV fluid solutions with higher concentrations of glucose such as NS are administered when blood glucose levels reach 250-300 to avoid too rapid a drop in blood glucose
        - Insulin must be infused continuously until SQ administration of insulin can be resumed; ay interruption in administration may result in the reaccumulation of ketone bodies and worsening acidosis
- HHS
    - Treatment
        - Similar to that of DKA
        - Treatment focuses on fluid replacement, correction of electrolyte imbalances, and insulin administration
        - Close monitoring of volume and electrolyte status is important
        - Insulin plays a less important role in the treatment of HHS because it is not needed for the reversal of acidosis, like with DKA
        - Insulin is administered at a continuous low rate to treat hyperglycemia

Week 12:

- Pancreatitis
    - Manifestations
        - EXPECTED FINDINGS:
            - Sudden onset of severe, boring pain (goes through the body)
            - N/V
            - Weight loss
        - PHYSICAL ASSESSMENT FINDINGS:
            - Turner's sign
            - Cullen's sign
            - Generalized jaundice
            - Absent or decreased bowel sounds
            - Warm, moist skin
            - Fruity breath
    - Lab findings
        - Serum lipase increases slowly but remains elevated for up to 2 weeks
        - WBC count à increased d/t infection/inflammation
        - Serum liver enzymes and bilirubin à increased with associated biliary dysfunction
    - Pain-relief interventions
        - Opioid analgesics

        - Antibiotics
        - Histamine receptor antagonists
        - Proton pump inhibitors
        - Pancreatic enzymes
- EGD
    - Client education pre-procedure
        - NPO for 6-8 hrs before procedure
        - Instruct client to remove dentures if applicable
        - Instruct client to lay on their left side
        - Instruct the client not to drive for 12-18 hours following the procedure
        - Teach client to use throat lozanges for sore throat following the procedure
    - Nursing interventions
        - Obtain informed consent
        - Position the client for the procedure
        - Monitor vital signs and respiratory status
        - Maintain a patent airway
        - Notify the provider of bleeding, abdominal or chest pain and any evidence of infection
        - Withhold fluids until return of the gag reflex
        - d/c IV fluids when client can tolerate oral fluids
- GI bleeds
    - Priority assessment
        - Monitor and compare baseline vital signs to keep track of patient progress
- AKI
    - Causes
        - Reduced blood flow to the kidneys usually due to
            - Low blood volume
            - Excessive vomiting
            - Excessive diarrhea
            - Severe dehydration
    - Lab findings
        - Serum Cr gradually increases 1-2 mg/dL every 24-48 hr, or 1-6 mg/dL in 1 week or less
        - BUN can increase 80 to 100mg/dL within 1 week
        - Urine specific gravity varies in postrenal type; can be elevated up to 1.030 in prerenal type or diluted as low as 1.000 in intrarenal type
        - Serum electrolytes: sodium can be decreased (prerenal azotemia) or increased (intrarenal azotemia); hyperkalemia, hyperphosphatemia, hypocalcemia
        - Hct: decreased
        - UA: presence of sediment (RBS, casts)
        - ABG: metabolic acidosis

- CKD
    - Dietary restrictions with examples of each
        - Sodium restriction (less than 800 mg/day)
        - Fluid restriction (1L/day)
        - Protein restriction (dependent upon body weight)
        - Limiting potassium and phosphorus
    - Lab findings
        - UA: hematuria, proteinuria, and decrease in specific gravity
        - Serum creatinine: gradual increase over months to years
        - BUN: gradual increase with elevated serum Cr over months to years
        - Serum electrolytes: Decreased Na+ (dilutional) and calcium; increased K+, Ph-, Mg+
        - CBC: decreased Hgb and Hct from anemia secondary to loss of erythropoietin in CKD
    - Nursing interventions
        - Report & monitor irregular findings
        - Assess and monitor vascular access or peritoneal dialysis insertion site
        - Obtain a detailed medication and herb history to determine the client’s risk for continued kidney injury
        - Control protein intake based on the client’s stage of CKD and type of dialysis prescribed
        - Restrict dietary Na+, K+, Ph-, and Mg+
        - Provide a diet that is high in carbohydrates and moderate in fat
        - Restrict intake of fluids (based on urinary output)
        - Adhere to meticulous cleaning of areas on skin not intact and access sites to control infections
        - Balance the client’s activities and rest
        - Prepare the client for hemodialysis, peritoneal dialysis, and hemofiltration if indicated
        - Provide skin care in order to increase comfort and prevent breakdown
        - Provide emotional support to the client and family
        - Encourage the client to ask questions and discuss fears
        - Administer medications as prescribed
- Peritoneal dialysis
    - What is it, how does the system work
        - Peritoneal dialysis is the treatment of choice for older adults who require dialysis who are: unable to tolerate anticoagulants, have difficulty with vascular access, have chronic infections, are unstable, chronic diseases such as diabetes, heart failure, or hypertension
        - Peritoneal dialysis uses the peritoneal cavity as a filtration system. While in your cavity, it filters waste and extra fluid.
- ESRD
    - Manifestations
        - Neurological

    - Asterixis
    - Behavior changes
    - Burning of soles of feet
    - Confusion
    - Disorientation
    - Inability to concentrate
    - Restless legs
    - Seizures
    - Tremors
    - weakness/fatigue
- Integumentary
    - Coarse, thin hair
    - Dry, flaky skin
    - Ecchymosis
    - Gray-bronze skin color
    - Pruritus
    - Purpura
    - Thin, brittle nails
- Cardiovascular
    - Engorged neck veins
    - Hyperkalemia, hyperlipidemia, hypertension
    - Pericardial effusion
    - Pericardial friction rub
    - Pericardial tamponade
    - Pericarditis
    - Periorbital edema
    - Pitting edema (feet, hands, sacrum)
- Pulmonary
    - Crackles
    - Depressed cough reflex
    - Kussmaul breathing patterns
    - Pleuritic pain
    - SOB
    - Tachypnea
    - Thick, tenacious sputum
    - Uremia pneumonitis
- GI
    - Ammonia odor to breath
    - Anorexia, n/v
    - GI tract bleeding
    - Constipation or diarrhea
    - Hiccups
    - Metallic taste
    - Mouth ulcerations and bleeding

- Hematological
  - Anemia
  - Thrombocytopenia
- Reproductive
  - Amenorrhea
  - Decreased libido
  - Infertility
  - Testicular atrophy
- Muskuloskeletal
  - Bone fractures
  - Bone pain
  - Foot Drop
  - Loss of muscle strength
  - Muscle cramps
  - Renal osteodystrophy

· Kidney biopsy
  - o Nursing interventions
    - Clients receive sedation and ongoing monitoring
    - Pre-procedure
      - Obtain informed consent
      - Obtain urine specimen
      - Review coagulation studies
      - NPO for 4-6 hrs
    - Post-procedure
      - Monitor VS following sedation
      - Assess dressings and UO (hematuria)
      - Review Hgb and Hct values
      - Administer prn pain medications

· Kidney transplants
  - o Contraindications
    - Age <2
    - Age >70
    - Advanced, untreatable cardiac disease
    - Chemical dependency
    - Chronic infections or system diseases
    - Coagulopathies and certain immune diseases
    - Morbid obesity
    - DM
    - COPD
    - Untreated GI diseases, such as peptic ulcer disease
  - o Organ rejection manifestations
    - Hyperacute: occurs within 48 hrs after surgery
    - Acute: Occurs 1 week to 2 years after surgery
    - Chronic: Occurs gradually over months to years

    - Flu-like symptoms such as: fever, nausea, headache, dizziness, pain around kidney area, fluid retention (swelling), and sudden weight gain

Dialysis types

- Hemodialysis
- Peritoneal dialysis