

Overview

Students will be assigned to complete the following case studies as listed below to connect theory to practice. Students will be assigned specific case studies and will present their material to the class.

Endocrine Case Studies

Graves' Disease Case Study

J.P., age 38, is a real estate agent who comes to the urgent care center after several days of experiencing what she thinks is viral gastroenteritis. J.P. complains of shortness of breath on exertion, insomnia, nervousness, and fatigue. She has had diarrhea for the last 3 days. She recently separated from her husband, and she and her two school-age children have been living with her parents. She reports she had a total hysterectomy for fibroids 2 years ago, and she had similar symptoms at that time, but they finally went away. She feels exhausted all the time but attributes her fatigue to a demanding work schedule and the care of her children.

Assessment findings are as follows: blood pressure 148/92 mm Hg, heart rate 98 beats/minute and bounding, respiratory rate 22 breaths/minute, and temperature 101.2° F (38.4° C); height 5 ft 4 in, weight 102 lbs.; S₁ and S₂ heart sounds loud with grade II systolic murmur noted; lungs clear in all fields; bowel sounds hyperactive in all quadrants; skin is warm, smooth, and moist. Her general appearance is restless and anxious with a fine tremor of her fingers. She has a mild protrusion of the eyeballs but can close her eyelids over her eyes. She denies any specific pain but says she feels as if she is about to explode.

1. What clinical manifestations is J.P. experiencing related to hyperthyroidism?
2. What diagnostic testing would be done to confirm Graves' Disease?
3. What is the care for someone experiencing exophthalmia?
4. J.P. is started on propylthiouracil (PTU). What must J.P. be taught?
5. What type of diet will J.P. need during this time of hyperthyroidism?
6. Develop a prioritized plan of care for J.P. should she have a thyroidectomy.
7. If J.P. eventually has a thyroidectomy and is started on levothyroxine, what should she be taught in order to take the medication safely?

Hypoparathyroidism Case Study

S.B., 64-year-old female, is brought to the clinic by her daughter due to S.B. complaining of nausea and muscle cramps. The daughter reports S.B. has been quite irritable and anxious for the past several days. S.B. had a thyroidectomy 4 weeks ago for a thyroid tumor and the upper and lower right parathyroid glands were inadvertently surgically removed at that time too. S.B. will be admitted to the telemetry unit for treatment of hypoparathyroidism.

1. What diagnostic tests would the nurse anticipate being ordered? What results would be indicative of hypoparathyroidism?
2. What are the clinical manifestations S.B. is exhibiting related to hypoparathyroidism? What other clinical features might the nurse also find upon further inquiry and inspection?
3. S.B. states, "Why do I have to have IV calcium? It's the thyroid that was removed." How might the nurse respond?
4. Design a home diet for S.B. Provide a 3-day meal plan.
5. S.B. is discharged. What must be taught for continued treatment of hypoparathyroidism?
6. Provide patient teaching for ongoing calcium supplementation. Why would vitamin D help S.B.?

Adrenal Insufficiency Case Study

J.S. is a 58-year-old female brought to the emergency department (ED) at 7:00 am by her husband because when she got up this morning she was light-headed, confused, and so weak that she could not dress herself. J.S.'s husband immediately drove her to the ED in her pajamas. She has a history of rheumatoid arthritis and had been taking prednisone 10 mg daily. Her husband states that J.S. hasn't

been feeling good, has been tired, and has had very little appetite. He lost his job a few months ago and J.S. stopped taking her medication a couple of weeks ago because they could not afford it because they no longer had health insurance. J.S. denies a headache or blurred vision.

Physical Examination

- Temperature 98.7° F, pulse 94, respirations 20, blood pressure 100/60
- No difficulty speaking
- Oriented to name only
- Poor skin turgor
- Dry mucous membranes
- Weakness in bilateral upper and lower extremities

Diagnostic Studies

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|----------|---|------------------|------------|
| Glucose | 68 mg/dL | Potassium | 5.5 mEq/L |
| Calcium | 9.2 mg/dL | HCO ₃ | 25.4 mEq/L |
| Sodium | 130.0 mEq/L | Chloride | 93.5 mEq/L |
| Cortisol | 4 mcg/dL (<i>normal 8:00 am level is 5-23 mcg/dL</i>) | | |

1. Interpret J.S.'s laboratory results and describe their significance.
2. What other assessment findings could confirm a diagnosis of adrenal insufficiency?
3. What is the likely cause of J.S.'s adrenal insufficiency and why?
4. Would J.S.'s adrenal insufficiency be considered to be from a primary or secondary cause? Why? How would this be confirmed?
5. What is the treatment and nursing care for J.S.'s adrenal insufficiency?
6. What teaching should J.S. receive regarding taking her prednisone? What else can you do to assist J.S. in being compliant with taking her medication?

Cushing's Case Study

H.G., a 34-year-old female aerobics instructor, comes to the health care provider's office with concerns about weight gain, amenorrhea, insomnia, changes in her skin, and depression that have occurred in the past 3 months. She informs the nurse that she has been unable to teach aerobics because of weakness, low back pain, and embarrassment about the way she looks. She states that she has multiple bruises for no apparent reason and has facial acne for the first time in her life. She has been waxing her upper lip and chin frequently to remove excess hair. When asked about her diet, she says she has no appetite because "eating makes me sick." She does not take prescription medications, smoke cigarettes, or drink alcohol. Her mother is diabetic and her father has hypertension.

Her vital signs are temperature 99.6° F (37.5° C), blood pressure (BP) 150/82, pulse 90 beats/minute, respiratory rate 22 breaths/minute. Her physical examination reveals a moon face, acne on her forehead, and hyperpigmentation on both cheeks. Her skin is thin and she has multiple bruises on various areas of her body. Hirsutism is present on her upper lip and chin. Truncal obesity and striae over the abdomen are noted, along with thin peripheral extremities. She has 2+ pitting edema of the anterior aspect of her lower legs.

It is suspected that H.G. has Cushing's syndrome, and the health care provider schedules her for laboratory testing, including blood work for hematology and chemistries; a urinalysis; and a 24-hour urine test for urinary calcium, free cortisol, and 17-ketosteroids.

1. Differentiate Cushing's syndrome from Cushing's disease.
2. Evaluate results of diagnostic testing in a patient with adrenal hyperfunction.
3. Identify relevant assessment data for a patient with adrenal hyperfunction.
4. Differentiate clinical manifestations related to excess glucocorticoids and mineralocorticoids.
5. Develop a nursing care plan for a patient undergoing an adrenalectomy.
6. Prioritize nursing care for a patient after an adrenalectomy.
7. Appropriately delegate nursing care of a patient after an adrenalectomy.

8. Develop an individualized teaching plan for a patient following an adrenalectomy for Cushing's syndrome.

Diabetes Insipidus Case Study

S.G., 45 year old female, previously healthy, presented to her physician complaining of polydipsia, polyuria, nocturia and weight loss for the past 4 months. Diabetes mellitus (DM) was excluded and she was admitted for study of possible diabetes insipidus. Water deprivation test was suggestive of CDI. Magnetic resonance imaging (MRI) showed infundibular hypophysitis. Autoimmune diseases, infections and infiltrative diseases were excluded. No other pituitary deficits were shown. She started therapy with oral desmopressin with clinical improvement.

1. What lab tests would the nurse anticipate being ordered? What results would indicate DI?
2. What must S.G. be taught about taking oral desmopressin?
3. S.G. asks the nurse, "Why have I been diagnosed with diabetes insipidus? No one in my family has any diabetes." How would the nurse respond? Why?
4. Outline what is essential to teach S.G. upon discharge.
5. Differentiate between central (or neurogenic) diabetes insipidus and nephrogenic diabetes insipidus.

Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH) Case Study

R.P. is a 24-year-old male who was admitted yesterday afternoon for observation after experiencing a closed head injury from a skateboarding accident. R.P. was wearing a helmet. Although R.P. was oriented x3 upon admission, he is now slightly confused and lethargic. Over the past 18 hours, he has had x5 episodes of vomiting small amounts of clear/yellow emesis and has voided 500mL of concentrated clear urine. The physician is notified of the change in LOC and decreased UO.

1. What clinical manifestations does R.P. have that suggest he might be developing SIADH?
2. What diagnostic testing would be done to confirm SIADH? Why?
3. R.P. complains about having to measure all intake and output. How would the nurse respond?
4. What must R.P. (and family) be taught about SIADH?
5. R.P.'s mother states, "He's never had a seizure in his life. Why is he on seizure precautions?" How would the nurse address the concern?
6. Develop a discharge plan for R.P. and his family.