A Client with Cushing’s Syndrome

Sara Domico is a 30-year-old lawyer living in a major metropolitan area. She has never been married, and she shares her life with her cat, Beau, and her parents, who live nearby. Her physician recently diagnosed Ms. Domico as having Cushing’s syndrome and admits her to the hospital for surgery for an adrenal cortex tumor (adrenalectomy). She has been having increased muscle weakness, so much so that she has difficulty climbing the one flight of stairs to her apartment. She has also had difficulty sleeping, irregular menstrual periods, and hypertension. Ms. Domico is especially concerned about her protruding abdomen, round face, development of facial hair, and the numerous bruises that have appeared on her skin.

ASSESSMENT
When Ms. Domico arrives at the hospital the morning of surgery, she is admitted by her case manager, Ann Sprengel, RN, CNS. Ann completes a physical assessment that includes abnormal findings of thin lower extremities, an enlarged abdomen, purple striae over the abdomen and buttocks, a round face, and obvious facial hair. Her blood pressure is 160/96. Ms. Domico tells Ann that she is always tired and that sometimes it “just wears me out to walk from the bedroom to the kitchen.” Diagnostic tests conducted prior to admission reveal the following abnormal findings (all except cortisol levels are corrected before surgery).

Glucose: 186 mg/dL (normal range: 70 to 110 mg/dL)
Sodium: 152 mEq/L (normal range: 135 to 145 mEq/L)
Potassium: 3.2 mEq/L (normal range: 3.5 to 5.0 mEq/L)
Calcium: 4.3 mEq/L (normal range: 4.5 to 5.5 mEq/L)
Cortisol: 35 mg/dL (normal for A.M.: 5 to 23 mg/dL)

DIAGNOSIS
• Fluid volume excess, related to sodium retention causing edema and hypertension
• Risk for injury, related to generalized fatigue and weakness
• Risk for infection, related to impaired immune response and edema
• Body image disturbance, related to physical changes secondary to Cushing’s syndrome

EXPECTED OUTCOMES
• Regain a normal body fluid balance.
• Remain free of injury.
• Remain free of infection.
• Verbalize understanding of the physical effects of the disease process and realistic expectations of desired changes in appearance.

PLANNING AND IMPLEMENTATION
• Weigh each morning, using the same scale.
• Maintain an accurate record of intake and output.
• Ensure adequate lighting in the room, and wear glasses and shoes when getting out of bed.
• Develop a written schedule of rest and activity periods.
• If agreeable, provide a private room, and restrict visitors to parents at this time.
• Use strict medical and surgical asepsis when providing care.
• Provide time for discussion of the disease and treatment; encourage verbalization of feelings and identify successful coping mechanisms used in the past.
• Encourage turning, coughing, and deep breathing and/or incentive spirometry every 2–4 hours.

EVALUATION
Ms. Domico states that she is “ready to have surgery and start feeling better.” She has not fallen or injured herself, and she has remained free of infection. Although edema is still present, she has lost 8 lb (3.6 kg), and her blood pressure is decreased. Ms. Domico has openly discussed her concerns about the way she looks and feels; she understands that symptoms will improve following surgery. She has strong religious beliefs and family support, both of which provide strength and help her cope with the effects of the disorder and the need for any further treatment.

Critical Thinking in the Nursing Process
1. When Ms. Domico was admitted to the hospital, several of her test results were abnormal. Describe the pathophysiologic reason for those results.
2. List the assessments that nurses can make to determine body fluid balance.
3. Develop a plan of care for this client for the nursing diagnosis Fatigue.

See Evaluating Your Response in Appendix C.

PATHOPHYSIOLOGY
There are many possible causes of Addison’s disease. The etiologies include:

• Autoimmune destruction of the adrenals. This is the most common cause, accounting for about 80% of spontaneous cases (Tierney et al., 2001). It may occur alone, or as part of a polyglandular autoimmune syndrome (PGA). Type 2 PGA is seen in adults, often associated with autoimmune thyroid disease (usually hypothyroidism), type 1 diabetes, primary ovarian or testicular failure, and pernicious anemia.
• Clients who are taking anticoagulants, have major trauma, or are having open heart surgery. Such clients may have bilateral adrenal hemorrhage.
• Adrenoleukodystrophy, an X-linked disorder characterized by an accumulation of very long chain fatty acids in the adrenal cortex, testes, brain, and spinal cord.
• ACTH deficit, resulting from pituitary tumors, pituitary surgery or irradiation, and the use of exogenous steroids.
• Clients who are abruptly withdrawn from long-term, high-dose steroid therapy. Other clients at risk are those with tuberculosis or acquired immune deficiency syndrome (AIDS); the pathogens responsible for either disease can infiltrate and destroy adrenal tissue.

Adrenocortical destruction initially causes a decrease in adrenal glucocorticoid reserve. Basal glucocorticoid secretion is normal, but does not increase in response to stress and surgery. Trauma or infection can precipitate an adrenal crisis. As the de-