## Atypical Fatigue

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Case Study: Mrs. S is a 63-year-old retired teacher who returns to the office for breast cancer follow-up. She was diagnosed with intraductal carcinoma, and her treatment included a modified radial mastectomy followed by four cycles of doxorubicin and cyclophosphamide. Her tumor was estrogen receptor—positive, progesterone receptor—positive, and human epidermal growth factor receptor 2—negative by fluorescence in-situ hybridization. Chemotherapy was completed nine months ago, and she is taking adjuvant tamoxifen. She has recovered quite well; her only complaint is fatigue. She states, "I expected to be tired during and immediately after chemotherapy, but I thought I would have all my energy back by now. I still feel the need to take a nap in the afternoon. In fact, I feel sleepy all the time!" Mrs. S's medical history is significant for moderate obesity and hypertension for 10 years, which is controlled with the angiotensin converting enzyme inhibitor lisinopril. She has not exercised since her breast cancer diagnosis but has been trying to lose weight with dietary changes. She believes that tamoxifen is hampering her weight-loss efforts. She takes no other medications.

Fatigue may be caused by multiple physical and emotional factors. Common causes are depression, cancer-related fatigue, anemia, sleep disturbances, hypoxia, fluid or electrolyte imbalances, and medications. Other comorbid conditions, including hypothyroidism and immune system disorders, also should be considered because they may contribute to fatigue (National Comprehensive Cancer Network [NCCN], 2007) (see Figure 1). Before beginning to examine this patient, the advanced practice nurse (APN) should mentally review the typical causes of fatigue, which will guide the interview process and the physical examination.

## **Review of Systems**

Likely causes of fatigue in patients treated for breast cancer in the previous year are depression, hypothyroidism, anemia, metabolic disorders, sleep disturbances, and medications. Cancer-related fatigue and tamoxifen should be considered as causes or contributing factors; however, other causes must be investigated and systematically eliminated. Nurses

should inquire about comorbidities such as chronic anemia, unusual bleeding, endocrine deficiencies, immune system disorders, recent infections, and hepatic disorders because the conditions may contribute to fatigue. Patients should be questioned about emotional stressors. Ask the obvious question: "Have you ever been diagnosed with chronic fatigue syndrome?" Question patients specifically about sleep patterns (sound or restless) and the presence of snoring, which could indicate obstructive sleep apnea (OSA). Review a current list of medications, noting any new medications or changes in dosages (NCCN, 2007; Silverberg, Iaina, & Oksenberg, 2002; Victor, 2004).

Mrs. S denies any mood changes, feelings of sadness, loss of interest in usual activities, or early morning awakenings, all typical of depression. She also denies any hair, skin, or nail changes that might indicate altered thyroid function. She reports that she is asleep as soon as her head hits

the pillow and feels that she sleeps well; however, she does not feel rested when she gets up in the morning. She is a widow, sleeps alone, and is unsure whether she snores. She notes that her mental processing seems to be a little slower when she is balancing her checkbook.

## **Physical Examination**

The review of systems, Mrs. S's reports of slower mental processing, and prioritizing of likely diagnoses by the APN guide the physical examination. In addition to evaluation of the breasts, chest, and lymphatic system indicated by the diagnosis of breast cancer, the examination includes an evaluation of body habitus; head, eyes, ears, nose, and throat (HEENT); and cardiovascular, respiratory, neurologic, integumentary, and psychiatric systems, all of which are pertinent to the differential diagnosis of fatigue.

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