



Cachexia in Patients With Advanced Cancer

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Case Study

B.C. is a 72-year-old female with stage IV metastatic papillary adenocarcinoma of the ovary status post nine cycles of carboplatin and paclitaxel, three cycles of topotecan, and three cycles of weekly paclitaxel. She currently is receiving gemcitabine and arrives today on a stretcher via ambulance saying that her abdomen is getting larger and that she is unable to get out of bed, take care of herself, or eat.

On physical examination, B.C. has pale skin, sclera, and mucous membranes. Her skin turgor is poor. Her gums are red and swollen, and her tongue is coated with a yellow crust. Her hair and nails are brittle. She is not in respiratory distress and rates her pain a "1" on a 0–10 point scale. Her weight is 82 pounds, down 16 pounds since her last visit one month ago (height is 60 inches). Chest auscultation reveals decreased breath sounds bilaterally. Heart sounds are normal with no murmurs, gallops, rubs, or tachycardia. The abdomen has a well-healed midline incision with mild tenderness to palpitation. One month ago, her abdomen was distended slightly. Since then, the distention has increased. Upper and lower extremities have 2+ (on a 0–4 scale) bilateral edema, and a bilateral lower extremity generalized weakness is noticed. Her temperature is 97.8° F, pulse is 99 beats per minute and regular, blood pressure is 96/72, and respiratory rate is 26 and regular. B.C.'s laboratory study results are listed in Table 1. She is admitted to the oncology unit with the diagnoses of progressive asthenia and cachexia.

Cancer cachexia is a term derived from the Greek words *kakos* and *hexis*, meaning bad or poor condition or state of being (Fearon, Barber, & Moses, 2001; Ottery, 1995). This is a syndrome of profound, progressive weight loss and muscle wasting accompa-

nied by anorexia and altered metabolism (Glynn-Tucker, 1998; Smith & Souba, 2001). Cachexia has been described objectively as a decrease in baseline weight by 10% or more in six months or a decrease of 5% of weight in one month (Rozenzweig, 2000). Other clinical manifestations may include early satiety, weakness, fatigue, impaired immune function, decreased motor and mental skills, and decline in attention span and concentration abilities (Ottery). Cachexia is present in almost 50% of patients with cancer at the time of diagnosis and has been shown to be an independent predictor of survival (Dewys et al., 1980; Glynn-Tucker; Ottery; Smith & Souba). According to Ottery, people with cancer who lose 10% of their normal weight do not live as long as those with similar cancers at similar stages who have remained well nourished. Weight loss is seen most commonly in patients with gastric and pancreatic cancer and least commonly in patients with breast cancer and lymphoma (Dewys et al.). The frequency of weight loss increases as the number of metastatic sites increases (Dewys et al.).

Weight loss has a profound effect not only on median survival but also on quality of life. It affects one's ability to carry on the activities of daily living (performance status), as well as self-image and control (Dewys et al., 1980; Maltoni et al., 2001). Multifactorial causes (i.e., physiologic, psychological, and social) contribute to difficulty in finding treatment. People generally lose weight because of a reduction in food intake, an increase in energy expenditure, or a combination of both. Patients with cancer have specific physical problems, such as obstructions of lumens by tumors or side effects of analgesics or chemotherapy, as well as changes in metabolism, such as glucose intolerance and the secretion of cytokines, that exaggerate these processes (Fearon et

al., 2001; Smith & Souba, 2001; Tchekmedyan, 1995). In addition, anxiety, depression, and decreased socialization and performance status further compound the problem. Attempts to reverse severe nutritional depletion usually are unsuccessful (Ottery, 1995). Therefore, early assessment and intervention are necessary to prevent the morbidity and mortality, as well as the higher healthcare costs, associated with cancer cachexia.

1. Which of the following hypotheses traditionally has been used to explain the pathophysiology of cancer cachexia?
 - A. Metabolic abnormalities
 - B. Direct tumor effects
 - C. Treatment side effects
 - D. "Host feeding the tumor" effects
2. In assessing B.C., what clinical manifestations of cachexia would the nurse be looking for?
 - A. Decreased motor and physical skills, impaired immune function
 - B. Hypothermia, hypertension
 - C. Anxiety, distention of jugular veins
 - D. Hyperactivity, dietary energy intake greater than resting energy expenditure (REE)
3. Following the patient's diagnosis of cachexia, the nurse prepares to teach the patient about which of the following therapeutic options?
 - A. Caloric supplementation
 - B. Use of orexigenic agents
 - C. Pharmacologic agents that halt the wasting process
 - D. Palliative resection of the tumor

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