Cancer Cachexia

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Cancer cachexia is characterized by metabolic dysregulation, inflammation, and reduced food intake, and it results in loss of skeletal muscle. Although cachexia is pervasive in patients with advanced cancer, comprehensive cachexia care is inadequate because of a lack of screening and awareness of the impact cachexia has on oncology care, including anticancer treatments, functional status, and psychosocial distress. Oncology nurses at all levels of practice need to screen for cachexia, educate patients about cachexia, monitor symptoms, facilitate interprofessional interventions, and provide psychosocial support to improve treatment outcomes and quality of life for patients with cachexia.

AT A GLANCE

- Cancer cachexia remains an underappreciated problem in oncology care, contributing to a significant number of cancer-related deaths.
- Interprofessional interventions are required to manage cachexia effectively, including nutritional counseling, physical therapy, palliative care, psychosocial interventions, and pharmacologic management.
- Oncology nurses can screen, educate, monitor, and provide psychosocial support to patients and their caregivers throughout the continuum of cachexia care.

KEYWORDS
cachexia; malnutrition; sarcopenia; anorexia; nutrition impact symptoms

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Cachexia is a complex, progressive syndrome, characterized by metabolic dysregulation, inflammation, and reduced food intake that results in skeletal muscle loss. It affects nearly every patient with advanced cancer. The prevalence of cancer cachexia is as high as 87% in pancreatic and gastric cancers; 61% in colon, lung, and prostate cancers and non-Hodgkin lymphoma; and 40% in breast cancer, sarcoma, leukemia, and Hodgkin lymphoma. In addition, cachexia accounts for 20% of all cancer-related deaths (Ni & Zhang, 2020). Patients who are malnourished face an increased risk of postoperative complications, greater treatment-related toxicity, decreased response to antineoplastic therapies, increased mortality, poor quality of life, increased length of hospital stay, and higher associated healthcare costs (Álvaro Sanz et al., 2019). Weight loss of as little as 2.4% may predict survival independently of cancer diagnosis, site, stage, or performance score (Ryan & Sullivan, 2021). Cachexia also contributes to psychosocial distress in patients and caregivers (Boyle, 2021).

Despite its significant impact on cancer care, involuntary weight loss is often overlooked and rarely managed effectively. With evidence-based nutritional interventions and holistic management, cachexia can be mitigated to some degree. Integrated palliative, supportive, and nutritional care conducted by an interprofessional team is needed to address physical symptoms and psychosocial distress (Amano, Baracos, & Hopkinson, 2019).

Pathophysiology

Cachexia develops as a sequela of advanced cancer and is characterized by systemic inflammation, negative protein–energy balance, and involuntary loss of lean body mass. Decreased skeletal muscle is the most obvious sign of cachexia and is followed by a decline in adipose tissue and cardiac muscle. This leads to functional decline, decreased efficacy of anticancer treatment, and increased mortality (Ni & Zhang, 2020). Cachexia develops progressively through various stages; severity can be classified according to the degree of depletion of energy stores and muscle loss, as well as ongoing weight loss (see Table 1).

The pathophysiology of malnutrition and cachexia is multifactorial, including metabolic changes in the disease process and the effect of nutrition impact symptoms (NISs) on oral intake (Ryan & Sullivan, 2021). The metabolic changes induced by tumor–host interaction and NISs resulting from anticancer therapy can be further broken down into primary and secondary cachexia, respectively.

Primary cachexia stems from tumor–host interaction and occurs because of abnormal metabolism. Proinflammatory cytokines are thought to induce cachexia and have many deleterious effects, including a shortage of muscle amino acids, hypothalamic appetite decrease, and induction of insulin resistance in the liver, which leads to abnormal glucose and fat metabolism. These changes result in a negative energy balance (indicated by a decline