

# Depression in Patients With Advanced Cancer

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Depression is one of the most prevalent syndromes worldwide, affecting as many as 340 million people and resulting in significant disability (Greden, 2001). People with cancer are three times more likely than the general public to experience a depressive disorder. An estimated 20%–25% of patients with cancer experience depression at some point during their illness (Bottomley, 1998; van't Spijker, Trijsburg, & Duivenvoorden, 1997). In the advanced stages of cancer, the incidence of major depressive syndromes increases to 58% (Breitbart, Bruera, Chochinov, & Lynch, 1995). Greater incidence of depression is correlated with site of malignancy (e.g., pancreatic, lung, or gynecologic cancer), stage of disease (e.g., late versus early), symptom distress (e.g., polysymptomatic versus controlled symptoms), social support (e.g., isolated versus integrated), functional level (e.g., bedbound versus ambulatory), and history of prior psychiatric morbidity (Roth & Holland, 1994). Many of the symptoms experienced in the advanced stages of cancer mimic, mask, or compound depression. Therefore, oncology nurses must be educated in assessment criteria that will aid the differential diagnosis and management of clinical depression during the final phase of life.

Each year, more than half a million people die of cancer (Jemal et al., 2003). Many are burdened by considerable physical and psychological symptom distress prior to death. Depression consistently is ranked as one of the top 10 most troublesome symptoms for people living with an advanced stage of illness (Hotopf, Chidgey, Addington-Hall, & Ly, 2002). Evidence exists that depression can impair quality of life, reduce capacity

Sadness is a normal reaction to the fears, anxieties, and uncertainties during any stage of cancer but is especially problematic during the advanced stage. Depressive symptoms and syndromes frequently coexist during this time and affect quality of life. Depression is an overlooked and undertreated symptom during late-stage cancer. This article provides an overview of the epidemiology, neurophysiology, diagnostic and screening approaches, risk factors, and treatment modalities for depression in patients with advanced cancer.

**Key Words:** depression, antidepressive agents, cognitive therapy

for pleasure, decrease survival time, exacerbate pain and other symptoms, increase length of hospitalization, elevate healthcare costs, enhance desire for hastened death, and heighten risk for suicide during the advanced stages of cancer (Block, 2000; Breitbart et al., 1995, 2000; Lovejoy & Matteis, 1997). Despite the high incidence and devastating consequences of depression among patients with cancer, under-recognition and inadequate treatment prevail.

Grief is a frequent corollary of advanced cancer. Losses of health, autonomy, functional ability, roles, and relationships often prompt significant sadness, a normal psychological response to loss. Depression, a more intense and debilitating version of sadness, results from multiple factors that overwhelm coping resources as losses are actualized or anticipated. A constellation of psychological and physical features characterize depression. They include depressed mood, loss of pleasure, difficulty concentrating, appetite changes, sleep disturbance, and a number of other manifestations (American Psychiatric Association, 2000). These features range in duration and intensity.

## Neurophysiology of Depression

Psychological distress in patients with cancer evolves from complex interactions of social, psychological, and biologic factors. Depression results when an interruption of homeostasis within the central nervous system causes neurochemical, neuroendocrine, neuroimmune, and neuroanatomical alterations (McDaniel, Musselman, Porter, Reed, & Nemeroff, 1995). The psychobiologic alterations leading to depression emanate from deficiencies of several key chemical messengers called neurotransmitters in the mood-sensitive regions of the brain (Keltner, Folks, Palmer, & Powers, 1998). The biologic basis of depression is best described by the monoamine hypothesis, which theorizes that behavioral depression is caused by insufficient activity of the neurotransmitters, namely dopamine and norepinephrine, and serotonin (5-HT); deficits of these neurotransmitters may cause a chemical imbalance at certain sites within the brain, which may lead to depression (Stahl, 1998a).

The malignant disease process may play a causal role in the evolution of depression. Immune activation secondary to tissue destruction and associated inflammation may prompt the activation of pro-inflammatory

*Submitted September 2002. Accepted for publication October 25, 2002. (Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Clinical Journal of Oncology Nursing or the Oncology Nursing Society.)*

Digital Object Identifier: 10.1188/03.CJON.281-288