

# Updates in Small Cell Lung Cancer Treatment

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Lung cancer is the leading cause of cancer death among men and women in the United States. The American Cancer Society estimates that 157,200 people (88,400 men and 68,800 women) will die from lung cancer in 2003, accounting for 28% of all cancer deaths (Jemal et al., 2003). Currently, more Americans die from lung cancer than colon, breast, and prostate cancers combined (Jemal et al.).

Lung cancer is divided into two major histologic types: small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). SCLC accounts for about one-fifth of all lung cancers (American Cancer Society, 2003). SCLC is one of the most biologically aggressive of all cancers; approximately 70% of patients with SCLC already have detectable metastases at diagnosis (Elias, 1997; Loehrer, 1995). About one-third of patients with SCLC are diagnosed with limited disease, and two-thirds have extensive disease at the time of diagnosis (Hirsch et al., 1988). These designations are defined in Figure 1.

The etiology of SCLC often is apparent at diagnosis. Cigarette smoking is implicated in a vast majority of cases and accounts for a continuing rise in SCLC deaths among women (Splinter, 1997). SCLC also may be attributed to exposure to pollutants and substances such as asbestos, coal, copper, nickel, and uranium, and these substances may produce an additive risk when combined with cigarette smoking (Steenland, Loomis, Shy, & Simonson, 1996).

The prognosis for patients diagnosed with SCLC generally is poor. Without treatment, half of those with initially localized disease die in 12–15 weeks. When metastases are

Lung cancer is divided into two major histologic types: small cell lung cancer (SCLC) and non-small cell lung cancer. SCLC is rapidly progressive and, without treatment, may be fatal in as few as 12 weeks. Fortunately, SCLC is a very chemotherapy- and radiation-sensitive disease, and a variety of chemotherapy agents have demonstrated activity against it. This article provides an overview of SCLC, including current treatment strategies for limited, extensive, and recurrent disease. By understanding the various traditional and emerging treatment modalities, nurses can better assess their patients and help to reduce potential SCLC treatment complications.

**Key Words:** carcinoma, small cell; antineoplastic combined chemotherapy protocols; paraneoplastic syndromes

present at diagnosis, life expectancy is, on average, just 6 weeks (Kelly, 2000). Only 20% of patients with SCLC who have limited disease and receive chemotherapy and radiation therapy live five years (Livingston, 1997). The median duration of survival for patients with limited disease who receive combination therapy is 21 months (Bonomi, 1998). For patients diagnosed with extensive disease, median survival is 8–13 months (Elias, 1997).

## Prevention

Smoking avoidance and cessation remain the keys to preventing SCLC. Pharmacologic smoking-cessation strategies include nicotine-replacement therapy and the antidepressant bupropion (Hughes, Stead, & Lancaster, 2000; Silagy, Mant, Fowler, & Lancaster, 2000). Counseling from healthcare providers also has been shown to improve smoking-cessation rates (Rice & Stead, 2000; Silagy, 2000).

Chemoprevention strategies for lung cancer thus far have been disappointing. Two

large trials reported increased rates of lung cancer in smokers who received beta carotene supplements (Albanes & Heironen, 1994; Omenn et al., 1996).

## Screening

Presently, no recommended screening examinations exist for lung cancer. Low-dose spiral computed tomography (CT) scanning can detect pulmonary nodules at an earlier stage of disease (Henschke et al., 1999). However, researchers do not know whether earlier detection results in reductions in mortality. Additionally, CT scanning

may result in a high number of invasive procedures for benign lesions (Diederich et al., 2002). The impact that CT scanning may have on early detection of SCLC also is unknown, as this histology is detected infrequently at an early stage regardless of the particular screening test being used (Ginsberg, Vokes, & Rosenzweig, 2001). The National Cancer Institute recently initiated the National Lung Cancer Screening Trial, with an expected accrual of 50,000 individuals at risk for developing lung cancer (National Cancer Institute, 2003). Participants are randomized to receive either spiral CT or chest x-ray lung cancer screening.

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