NON-SMALL CELL LUNG CANCER

About Lung Cancer

In 2009, more than 219,000 people in the U.S. will be diagnosed with lung cancer.[1] Approximately 1 in 13 men and 1 in 16 women will develop lung cancer in their lifetime.[2]

Lung cancer occurs when cells in the lung begin to behave abnormally and divide uncontrollably. These cancer cells multiply in the lung tissue, forming a tumor. It often takes many years to develop the disease, which typically begins with precancerous changes in the lung that do not cause symptoms and cannot be seen on an x-ray.

Approximately 85% of lung cancers are diagnosed in advanced stages (stage 3-4). The 5-year survival rate for all stages of lung cancer is approximately 15%.[1,3] When compared to the five-year survival rate, for other cancers, such as breast (88%), colon (64%), and prostate cancer (99%), lung cancer is especially deadly.[4,5]

There are two main types of lung cancer: non–small-cell lung cancer and small-cell lung cancer.

About Non-Small Cell Lung Cancer

Non-small cell lung cancer is the most common form of lung cancer, occurring in 80 to 90% of lung cancer cases.[2] There are three different types of non-small cell lung cancer:

- Squamous cell carcinoma is generally found in the middle of the lungs near a bronchus or large airway and accounts for 25 to 30% of all lung cancers.[2,4]
- Adenocarcinoma begins in the cells that line the alveoli and makes up 40% of all lung cancers.[2,4]
- Large-cell (undifferentiated) carcinoma is harder to treat because it grows in any part of the lung and spreads quickly. About 10 to 15% of lung cancers manifest in this form.[2,4]

Risk Factors for Non-Small Cell Lung Cancer

Several risk factors can increase a person's risk of developing lung cancer,[1] including:

- Smoking
- Secondhand smoke
- Radon and asbestos exposure
- Family history of lung cancer
- Air pollution

Diagnosis of Non-Small Cell Lung Cancer

Often people with lung cancer do not exhibit any symptoms, making early stage diagnosis difficult.[2] When present, symptoms may include a cough that will not go away, chest pain, hoarseness, weight loss, bloody phlegm, wheezing and shortness of breath.[2] Doctors may use chest x-rays, CT scans, PET scans, sputum cytologies (analysis of mucus from the lungs), bronchoscopies and biopsies to determine if a person has lung cancer.[4]

Treatment of Non-Small Lung Cancer

Treatment options for lung cancer vary depending on the person and the stage and type of cancer. Treatment options may include surgery to remove part of or the entire lung, radiation therapy,

chemotherapy, laser therapy, photodynamic therapy and watchful waiting.[4] New treatment options for lung cancer, including novel or targeted therapies, are currently being developed and studied.

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[1] American Cancer Society: Cancer Facts and Figures 2009. Atlanta, GA: American Cancer Society, 2009. http://www.cancer.org/downloads/STT/500809web.pdf. Last accessed May 26, 2009.

[2] American Cancer Society, Overview: Lung Cancer – Non-Small Cell, http://www.cancer.org/docroot/CRI/CRI_2_1x.asp?dt=15. Last accessed May 26, 2009.

[3] Bepler G. Lung cancer epidemiology and genetics. J Thoracic Imaging 1999; 17: 380-393.

[4] National Cancer Institute, Non-Small Cell Lung Cancer Treatment – Patient Version, http://www.cancer.gov/cancertopics/pdq/treatment/non-small-cell-lung/patient/allpages. Last accessed May 26, 2009.

[5] Ries LAG ea. SEER Cancer Statistics Review, 1975-2001. National Cancer Institute: Bethesda, MD. 2004.