

Lung Cancer: Sobering Statistics and Good News

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November is Lung Cancer Awareness Month. First, I will start off with some of the sobering statistics followed by GOOD NEWS.

Lung cancer is the number one cancer killer in the United States and across the world. In the USA, lung cancer accounts for more cancer deaths each year than breast, prostate, and colon cancer combined. Tobacco smoking causes 70-80% of all lung cancers, but 20-30% occur in never or minimal smokers, and is more common in women than men.

Screening: In 2013, the United States Preventive Services Task Force recommended screening for lung cancer with low-dose (radiation) chest CT (LDCT) scans yearly in high-risk individuals defined as 50-80 years old, 20 pack-years of smoking (1 pack of cigarettes per day for 20 years, or 2 packs per day for 10 years, etc.), and current or former smokers who quit smoking within the past 15 years. The radiation dose with LDCT is less than the average yearly environmental exposure to radiation that each of us receives per year. The goal of doing a low-dose CT scan is to find lung cancer in people who don't show any symptoms and catch it at an early stage. This is when there's the highest possibility of a cure with treatment. Unfortunately, only 5-10% of eligible individuals undergo LDCT screening yearly in different states of the US. If you or your loved one is potentially eligible for screening, then be sure to ask your doctor if screening is appropriate for you.

More Good News: Treatment Options

Surgery for lung cancer has substantially improved over the last 10-15 years and is less invasive with video-assisted thoracic surgery (VATS) or robotic-assisted thoracic surgery (RATS). This has resulted in decreased complications from surgery, shorter hospital stays and faster recovery. While surgery is the treatment of choice for early-stage disease, a precise form of radiation

therapy, known as stereotactic body radiotherapy (SBRT), can be used with the goal of completely getting rid of the disease in certain cases of early-stage (Stage I) lung cancer.

Major advances have been made in the treatment of advanced stage (Stage IV) non-small cell lung cancer (NSCLC). Molecular testing of cancer tissue has identified specific genetic mutations, known as driver mutations, for which targeted therapies have been developed. These targeted therapies are mostly oral medications and differ from traditional chemotherapy. Next Generation Sequencing (NGS) of tissue biopsies or blood samples can help identify these driver mutations. Currently, there are FDA-approved targeted therapies for seven different driver mutations, such as EGFR, ALK, and ROS1. Treatment with these targeted therapy drugs has been shown in clinical trials to be superior to chemotherapy in the initial treatment. While treatment with these targeted therapies does not cure the cancer, it can result in prolonged remission of the lung cancer, sometimes for years. Driver mutations in lung cancer are more common in never smokers or those with a minimal smoking history. BE SURE to ask your medical oncologist about NGS testing for your lung cancer before deciding on the initial treatment.

Another major treatment advance involves using a special kind of immune-boosting drug given through a vein. These drugs are known as "immune checkpoint inhibitors." Immunotherapy alone or in combination with chemotherapy has become standard treatment in those individuals with no driver mutations identified by NGS testing. In the past, the median survival of patients with Stage IV NSCLC treated with systemic chemotherapy was 9-12 months, with less than 5% of patients surviving 5 years. Treatment with immunotherapy, with or without chemotherapy, has led to people living on average for about 24 months. Also, 20-30% of these people are still alive and cancer-free after 5 years.

In summary, the past decade has witnessed marked improvement in early detection of lung cancer and treatment with surgery, radiation, and systemic therapy of advanced-stage lung cancer.

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