5 Treatment Options for Lung Cancer

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Lung Cancer Treatment

Lung cancer most commonly occurs in two forms — small-cell lung cancer (SCLC) and non-small-cell lung cancer (NSCLC). 85%
of all lung cancers are non-small-cell lung cancer. These two cancers are named for the type of cells that are seen below a microscope.

There are various treatment options available to treat lung cancer.

Surgery

Surgery to remove lung cancer is ideal because it attempts to remove the tumor along with surrounding lung tissues. This is considered the best option when cancer is localized to the lungs and hasn't spread to surrounding or faraway organs.

There are two approaches to surgery:

- A thoracotomy involves placing an incision along the curve of the ribs. This involves cutting into the chest wall so that the surgeon has access to the lungs.
- Minimally invasive surgery involves one to four tiny incisions so that the inside of the chest can be accessed. A camera is used to visualize the chest, and this is called a video-assisted thoracoscopic surgery (VATS).

Regardless of how the lung is approached, surgery will involve one of the following:

- A lobectomy involves the removal or resection of the affected lobe of the lung. This is the most commonly performed surgery.
- A segmentectomy involves removing a segment of the lobe, saving tissue that is not affected by the cancer.
- A wedge resection involves the removal of a wedge-shaped section of tissue surrounding the tumor.
- A pneumonectomy is the removal of the entire lung. This type of surgery is done when the cancer cannot be removed with a lobectomy.

Radiation

Radiation involves the use of high-energy x-rays to kill cancer cells. There are two different types of radiation, external and internal; external is used most often to kill lung cancer cells.

Radiation may be used prior to surgery in order to shrink cancer cells. It may also be used after surgery if there are still cancer cells left over. Occasionally radiation is the primary treatment, especially when the person who has

lung cancer is not strong enough to withstand other treatment options.

Patients who have SCLC may also be recommended to have radiation to their brain; this may reduce the likelihood of their cancer metastasizing (spreading) to the brain, and it is called prophylactic cranial irradiation.

Types of radiation include:

- External beam radiation
- Intensity modulated radiation therapy (IMRT)
- Brachytherapy (internal radiation)
- Stereotactic body radiation therapy (SBRT)/stereotactic ablative radiotherapy (SABR)
- Stereotactic radiosurgery (SRS)

Chemotherapy

Chemotherapy involves the use of cancer-killing medications; these medications can be administered through a vein or as an oral medication. Chemotherapy can be the primary treatment or used concurrently with surgery, radiation and/or immunotherapy.

Chemotherapy to treat lung cancer is most often given through an intravenous line into a vein. It is given in cycles — multiple treatments — followed by a recovery period.

Unfortunately, chemotherapy also can kill normal cells in addition to cancer cells. As such, chemotherapy has a long list of side effects and a very detailed treatment plan must be outlined when used.

Targeted Therapy

Targeted therapies work similarly to chemotherapy — they kill cancer cells. However, they target the cancer cells without killing normal cells, meaning that there are fewer side effects.

Though a desirable treatment option, not every person with lung cancer is a candidate for targeted therapies. In order to be a candidate for these medications, a test called molecular testing or biomarker testing must ordered. This assists healthcare providers with "visualizing" mutations that may be causing the cancer. Targeted therapies have been created to "match" these mutations. Some of these include:

- Epidermal growth factor receptor (EGFR) inhibitors
- Anaplastic lymphoma kinase (ALK) inhibitors
- Anti-angiogenesis therapy
- Monoclonal antibodies

Immunotherapy

Immunotherapy involves utilizing the immune system to kill its own cancer cells. Some cancers “trick” the immune system by producing a protein called PD-L1; this protein binds to PD-L1 receptors on immune cells called T cells and turns them off, which prevents the immune system from killing the cancer cells.

A quite complicated treatment, these medications work by either targeting the PD-L1 protein or the PD-L1 receptor. This helps to inhibit the contact between the protein and the receptor, thus allowing the body to attack the cancer cell as the T cell is able to "turn on".

Immunotherapy is administered through an IV every few weeks for several months.

Advanced Lung Cancer Treatment

Unfortunately, lung cancer is often advanced by the time it is diagnosed. This is because lung cancer can be ambiguous in its early stages. Learn more about the stages of lung cancer

The goal for advanced lung cancer, if a cure is not feasible, is to slow the spread and manage symptoms.

A combination of different therapies is often used to treat advanced lung cancer, such as radiation, chemotherapy, targeted therapy and immunotherapy.