5 Small-Cell Lung Cancer Treatments

by KRYSTINA OSTERMEYER

Small-Cell Lung Cancer Treatment

Lung cancer is most commonly diagnosed as small-cell lung cancer (SCLC) or non-small-cell lung cancer (NSCLC). Lung cancer, in general, is the second most common cancer in women, second only to breast cancer.

NSCLC accounts for around 85% to 90% of all lung cancers, while SCLC accounts for the remainder.

Though the treatments for NSCLC and SCLC are similar, there are some differences due to the greater severity of SCLC.

Chemotherapy

Chemotherapy can improve the survival in patients with extensive-stage disease (ED) and limited-stage disease (LD), but it is rarely curative. This is because patients with SCLC are likely to develop metastatic lung cancer (cancer that has spread extensively).

Though chemotherapy is not typically curative for SCLC, it is used as the primary small-cell lung cancer treatment because SCLC is a quick spreading and rapidly progressive type of cancer. Chemotherapy may also be used in conjunction with other treatments.

Chemotherapy can be defined as the use of medications to destroy cancer cells; it is used on a schedule, given in cycles, followed by a break.

Examples of chemotherapy agents used to treat SCLC include etoposide, irinotecan (Camptosar), cisplatin and carboplatin.

Unfortunately, chemotherapy can also kill normal cells. This means that many negative side effects can be experienced during chemotherapy treatment.

Immunotherapy

Immunotherapy, also called biologic therapy, helps the body use its own immune system to fight cancer. In SCLC, biologic medications target different pathways in the body, such as PD-1 and PD-L1, to stop or slow the growth of cancer cells.

Examples of immunotherapy that are used to treat SCLC include:

- Atezolizumab (Tecentriq)
- Ipilimumab (Yervoy)
- Nivolumab (Opdivo)

- Pembrolizumab (Keytruda)

Radiation

Radiation uses high-energy x-rays to destroy cancer cells. For patients with SCLC, radiation is typically utilized in conjunction with chemotherapy — it seems to work best when given during the first month or second month of chemo.

The most common type of radiation that is used to treat SCLC is external-beam radiation therapy; in this type of radiation, high-energy x-rays are directed at the cancer using a machine that it operated outside of the body.

Prophylactic cranial irradiation (PCI) is a type of radiation therapy often recommended after chemotherapy; PCI is used to reduce the risk that cancer will spread to the brain. Research indicates that PCI lengthens the lives of some patients with SCLC.

Radiation therapy is typically given daily for a set period of time, often for a few days or up to several weeks.

Surgery

Surgery is rarely recommended as the main small-cell lung cancer treatment for patients. This is because the cancer has typically spread to other organs by the time SCLC has been diagnosed.

According to the American Cancer Society, when SCLC has been diagnosed and is still confined to the lungs (as a single tumor), surgery is indicated, followed by chemotherapy. Unfortunately, this only occurs in approximately 1 out of 20 patients.

If surgery is an option, there are still several tests that must be ordered to ensure the patient is strong enough to endure the procedure:

- Pulmonary function testing is done to ensure that there will be enough healthy lung tissue left after the procedure.
- Testing is done to ensure that the heart is strong enough to endure the surgery.
- Testing is done to ensure that the cancer has not spread to the lymph nodes surrounding the lungs and the heart, often using a procedure called a mediastinoscopy.

If a patient is strong enough, a thoracotomy is typically performed. A thoracotomy involves cutting into the chest between the ribs, in order to gain access to the lungs. Lymph nodes are removed for biopsy. The thoracotomy is just the "approach" for the procedure, meaning how the procedure is performed. The actual surgeries that may be performed are as follows:

- A pneumonectomy involves the removal of the entire lung; this is recommended if the tumor is close to the center of the chest.
- A lobectomy involves the removal of just the affected lobe of the lung; this is the preferred procedure.
- A segmentectomy/wedge resection involves removing only the portion of the lung that is affected. These procedures are performed if the patient may not be strong enough to breathe with an entire lobe removed.

Advanced Cancer Treatments

Advanced SCLC, also called extensive stage, is any that is classified as stage III and above. In these stages, the cancer is too large to be treated with radiation and has spread outside the lungs. You can learn more about the stages of lung cancer here.

Treatment for extensive stage SCLC begins with chemotherapy. The physician will also order medications based on symptomology.

If the tumors are making it difficult to breathe or are causing other problems, radiation will also be ordered along with the chemotherapy. Radiation is also ordered if the cancer has spread to other areas of the body. PCI will also be recommended to prevent metastasis to the brain.

Continuation of treatment for extensive stage SCLC will depend on whether the cancer is stable or if it is progressing, as well as the patient’s goals.