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An Editorial Note on Non-small Cell Lung Cancer Treatment

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Editorial

Lung cancer is the most common cancer and the leading cause of cancer-related deaths worldwide, killing over 1.4 million people each year. Experienced pathologists must evaluate microscopic histopathology slides to establish the diagnosis and define the types and subtypes of lung cancers, including the two major types of non-small cell lung cancer: adenocarcinoma and squamous cell carcinoma. Because certain antineoplastic agents are contraindicated for squamous cell carcinoma patients due to decreased efficacy or increased toxicity, distinguishing squamous cell carcinoma from adenocarcinoma is important for chemotherapeutic selection.

Non-small cell lung cancer is classified into several types:

- Cancer cells differ depending on the type of non-small cell lung cancer. Each type of cancer cell grows and spreads in a unique way.
- Non-small cell lung cancer types are named after the types of cells found in the cancer and how the cells appear under a microscope.

1. **Squamous cell carcinoma:** A type of cancer that develops in the thin, flat cells that line the inside of the lungs. This is also referred to as epidermoid carcinoma.
2. **Large cell carcinoma:** Cancer that can start in a variety of large cells.
3. **Adenocarcinoma:** Cancer that starts in the cells that line the alveoli and produce mucus.
4. Adenosquamous carcinoma, sarcomatoid carcinoma, salivary gland carcinoma, carcinoid tumour, and unclassified carcinoma are the less common types of non-small cell lung cancer.

Treatment

Different types of doctors frequently collaborate in cancer care to develop a patient's overall treatment plan, which combines various types of treatments. This is referred to as a multidisciplinary team. Other health care professionals on cancer care teams include physician assistants, nurse practitioners, oncology nurses, social workers, pharmacists, counsellors, dietitians, and others.

NSCLC can be treated in five ways:

- Surgery
- Radiation therapy
- Chemotherapy
- Targeted therapy
- Immunotherapy

The type and stage of cancer, potential side effects, and the patient's preferences and overall health all influence treatment options and recommendations.

Surgery: The surgery's goal is to completely remove the lung tumour as well as any nearby lymph nodes in the chest. The tumour must be removed with a healthy lung tissue border or margin surrounding it. A "negative margin" means that no cancer was found in the healthy tissue surrounding the tumour when the pathologist examined the lung or a piece of lung removed by the surgeon. A surgical oncologist is a doctor who specialises in the surgical treatment of cancer. A thoracic surgeon is a specialist who specialises in lung cancer surgery.

Radiation therapy: The use of high-energy x-rays or other particles to destroy cancer cells is known as radiation therapy. A radiation oncologist is a doctor who specialises in administering radiation therapy to cancer patients. External-beam radiation therapy, which delivers radiation from a machine outside the body, is the most common type of radiation treatment. A radiation therapy regimen, or schedule, typically consists of a predetermined number of treatments administered over a predetermined time period. This can range from a few days to several weeks of treatment.

Chemotherapy: Chemotherapy is the use of drugs to destroy cancer cells, typically by preventing the cancer cells from growing, dividing, and proliferating. It has been shown to increase both the length and quality of life for people with all stages of lung cancer.

A chemotherapy regimen, or schedule, typically consists of a predetermined number of cycles administered over a predetermined time period. The drugs recommended for chemotherapy depend on the type of lung cancer you have, such as adenocarcinoma or squamous cell carcinoma.

Targeted therapy: Targeted therapy is a type of cancer treatment that targets specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment inhibits cancer cell growth and spread while limiting damage to healthy cells.

Immunotherapy: Immunotherapy, also known as biologic therapy, is intended to boost the body's natural defences against cancer. It employs materials created by the body or in a laboratory to enhance, target, or restore immune system function.

If the treatment fails, cancer recovery is not always possible. If the cancer cannot be cured or controlled, it is referred to as advanced or terminal.

This is a stressful diagnosis, and many people find it difficult to discuss advanced cancer. However, it is critical to communicate openly and honestly with health care team in order to express the feelings, preferences, and concerns. The health care team has specialised skills, experience, and knowledge to assist patients and their families. It is critical to ensure that a person is physically comfortable, pain-free, and emotionally supported.

People with advanced cancer who are expected to live for less than six months may wish to consider hospice care. Hospice care is intended to provide people nearing the end of their lives with the highest possible quality of life. You and your family are encouraged to discuss hospice care options with the health care team, which may include hospice care at home, a special hospice centre, or other health care locations. Staying at home with nursing care and special equipment can be a viable option for many families.

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