# Review Article- Life Style Disease Lungs Cancer

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***Abstract***- *Lung cancer is one of the most leading causes of cancer death in the world. Lung cancer, also known as lung carcinoma, is a malignant lung tumor characterized by uncontrolled cell growth in tissues of the lung. If left untreated, this growth can spread beyond the lung by process of metastasis into nearby tissue or other parts not the body. Most cancers that start in the lung, known as primary lung cancers, are carcinomas that derive from epithelial cells. The main primary types are smallcell lung carcinoma (SCLC) and non-small-cell lung carcinoma (NSCLC). The vast majority (85%) of cases of lung cancer are due to long-term exposure to tobacco smoke. About 10–15% of cases occur in people who have never smoked. These cases are often caused by a combination of genetic factors and exposure to radon gas, asbestos, or other forms of air pollution, including second-hand smoke. This review gives a detailed idea on the epidemiology, causes, types, signs & symptoms, and treatment of lung cancer.*

***Keywords***- Lung cancer, lung carcinoma

## I. INTRODUCTION

Cancer is defined as an abnormal growth of cells which tend to proliferate in an uncontrolled way and, in some cases, to metastasize (spread). Cancer is not one disease. It is a group of more than 100 different and distinctive diseases. Cancer can involve any tissue of the body and have many different forms in each body area. Most cancers are named for the type of cell or organ in which they start. If a cancer spreads (metastasizes), the new tumor bears the same name as the original (primary) tumor.

Lung cancer is a disease of uncontrolled cell growth in tissues of the lung. This growth may lead to metastasis, invasion of adjacent tissue and infiltration beyond the lungs. The vast majority of primary lung cancers are carcinomas of the lung, derived from epithelial cells. Lung cancer, the most common cause of cancer-related death in men and the second most common in women,1, 2 is responsible for 1.3 million deaths worldwide annually.3 The most common symptoms are shortness of breath, coughing (including coughing up blood), and weight loss. Lung cancer has also surpassed breast cancer in causing the most cancer-related deaths in women in the United States.

## II. TYPES OF LUNG CANCER

| **Histological type** | **Frequency (%)** |
|---|---|
| Non-small cell lung carcinoma | 80.4 |
| Small cell lung carcinoma | 16.8 |
| Carcinoid13 | 0.8 |
| Sarcoma14 | 0.1 |
| Unspecified lung cancer | 1.9 |

The vast majority of lung cancers are carcinomas malignancies that arise from epithelial cells. There are two main types of lung carcinoma, categorized by the size and appearance of the malignant cells seen by a histopathologist under a microscope: *non-small cell* (80.4%) and *small-cell* (16.8%) lung carcinoma. This classification, based on histological criteria, has important implications for clinical management and prognosis of the disease.

## III. SIGNS AND SYMPTOMS OF LUNG CANCER

1. dyspnea (shortness of breath)
2. hemoptysis (coughing up blood)
3. chronic coughing or change in regular coughing pattern
4. wheezing
5. chest pain or pain in the abdomen
6. cachexia (weight loss), fatigue and loss of appetite
7. dysphonia (hoarse voice)
8. clubbing of the fingernails (uncommon)
9. dysphagia (difficulty in swallowing).

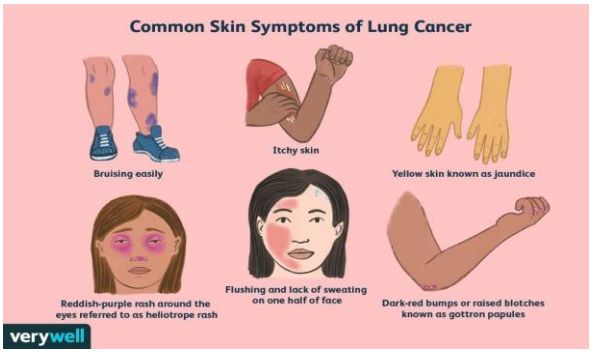


**Fig.1 common skin symptoms of lung cancer**

**History**

"Lung cancer continues to be the leading cause of death in both men and women in the US, with over 158,900 deaths in 1999. Worldwide, lung cancer kills over 1 million people a year. Extensive prospective epidemiologic data clearly establish cigarette smoking as the major cause of lung cancer. It is estimated that about 90% of male lung cancer deaths and 75–80% of lung cancer deaths in the US are caused by smoking each year" (Hecht, 1999). Clearly, lung cancer is an important and widespread disease that constitutes a major public health problem. This was not always so. Some 150 years ago, it was an extremely rare disease. In 1878, malignant lung tumors represented only 1% of all cancers seen at autopsy in the Institute of Pathology of the University of Dresden in Germany. By 1918, the percentage had risen to almost 10% and by 1927 to more than 14%. In the 1930 edition of the authoritative *Springer Handbook of Special Pathology* it was duly noted that malignant lung tumors had begun to increase at the turn of the century and perhaps even more so after World War I and that, possibly, they still were on the increase. It was also noted that while most lung tumors occurred in men, there seemed to be a steady increase in women. Duration of the disease, from being recognized until death, was usually from half a year to 2 years and in practically all cases there had been a long history of chronic bronchitis.

World War I helped to popularize the smoking of cigarettes. Soldiers in the trenches smoked to relieve stress, and so did many civilians, including an increasing number of women at home. General John J. ("Black Jack") Pershing reportedly stated: "You ask me what it is we need to win this war. I answer tobacco as much as bullets." In the following decades, smoking continued to be "enjoyed" by hundreds of thousands until, after the first report of the Surgeon General in 1964, public awareness woke up and smoking became recognized as the hazard it is. The trend in lung cancer incidence slowly decreased and, at least in men, appeared to flatten out.

**Diagnosis Confirmation**

Patients with suspected lung cancer should be referred to a pulmonologist within a multidisciplinary thoracic oncology team to help guide workup. Confirmation of the diagnosis should be made by one or more of the following methods, with further testing if suspicion is high and findings are negative: sputum cytology, thoracentesis of pleural fluid, bronchoscopy (often with endobronchial ultrasonography and/or electromagnetic navigation with or without fine-needle aspiration), or mediastinoscopy depending on local availability and expertise.

## IV. TREATMENT

**NON–SMALL CELL LUNG CANCER**

On staging, nonsquamous (usually adenocarcinoma) vs. squamous histology, and genetic and immunotherapy biomarker testing. Treatment options presented here provide an overview; however, specific regimens will vary based on the availability of treatment options and clinical experience of the multidisciplinary treatment team. Patients with advanced disease should be offered early palliative care.

Patients with stages I to II NSCLC are usually offered a combination of three treatments: surgery, which can include complete resection of the tumor (usually stages I and II), and mediastinal lymph node dissection or lymph node sampling; radiotherapy; and adjuvant platinum-based chemotherapy. Select patients who have stage III NSCLC but do not have disease progression after chemotherapy may benefit from immunotherapy.Video-assisted thoracic surgery has lower mortality and hospital length of stay compared with open thoracotomy. Nonsurgical candidates can be offered radiotherapy and platinum-based chemotherapy. For patients with stage IV disease, palliative care and immunotherapy with or without platinum-based chemotherapy are recommended. In patients with fewer than three brain metastases, stereotactic radiotherapy or surgery with stereotactic radiotherapy is recommended. With more than three brain metastases, whole brain radiation is recommended, although it may not improve neurocognitive symptoms or overall survival. Radiotherapy and bisphosphonates are recommended for bone metastases to reduce pain and risk of skeletal fractures.

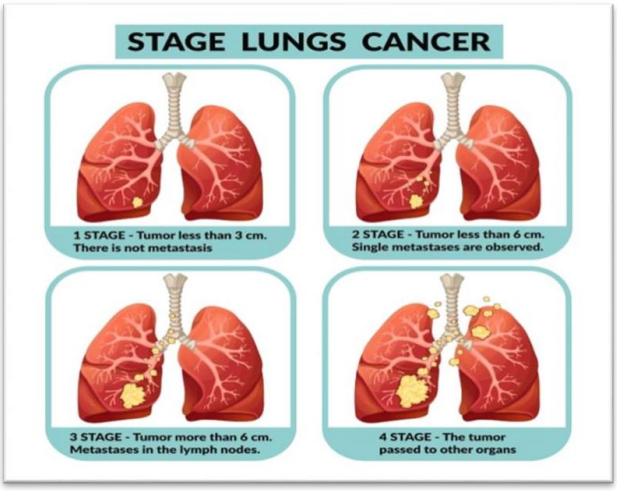


**Fig.2 Stage of lung cancer**

**SMALL CELL LUNG CANCER**

For patients with limited-stage SCLC, the standard of care is etoposide (Etopophos) plus cisplatin chemotherapy and concurrent thoracic radiotherapy, with surgical resection offered in select patients. Patients with significant comorbidities, including chronic kidney disease, may be offered an alternative carboplatin (Paraplatin)–based chemotherapy regimen with similar effectiveness. For patients with extensive-stage SCLC, four to six cycles of one of several combination chemotherapy/ immunotherapy regimens should be offered with maintenance immunotherapy. Consolidative thoracic radiation may be considered for select patients with residual intrathoracic disease who have responded to systemic chemotherapy. In patients with limited-stage SCLC, prophylactic cranial irradiation for brain metastases reduces mortality. Localized palliative radiation for nonpulmonary sites, including whole brain radiotherapy for brain metastases, should be offered. Patients with relapse after initial therapy have overall poor prognosis; however, several second-line systemic therapy options are available.

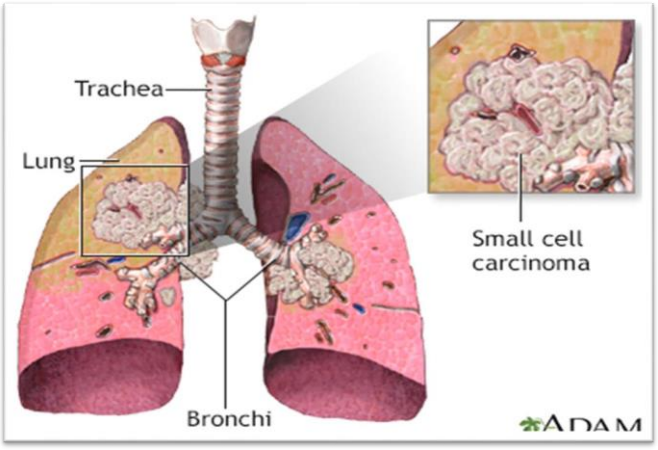


**Fig.3 Small cell lung cancer**

## V. CONCLUSION

Many technical, pharmacological and service developments have made in the staging and treatment of lung cancer over the past 10 years but questions still remain about how to best implement the2se and their cost effectiveness. Further research is needed to ascertain whether newer radiotherapy techniques, such as SABR, are equivalent to surgery for early stage lung cancers. Much discussion still surrounds the newer targeted agents' cost effectiveness and whether improving early supportive care might
be a good use of resources.

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