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Lung Cancer: The Deadliest Cancer



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Lung cancer is the second most common cancer worldwide but is the number one cause of cancer death sin both men and women. In 2018, lung cancer was responsible for the death of around 1.76 million people worldwide. In this article, we will explain the risk factors of lung cancer along with signs and symptoms to look out for, and treatment options.

Risk Factors: Are you at a higher risk of developing lung cancer?

- 1) Smoking: Cigarette smoking is the most important risk factor and causes around 90% of all lung cancers, leaving around 10% of lung cancers to occur in never-smokers. A person who has smoked 1 pack of cigarettes daily for around 40 years is 20 times more likely to have lung cancer than a person who has never smoked. For those who quit smoking, the risk will fall gradually with time. Hubble bubble or Hooka smoking poses the same risk as cigarette smoking or maybe even higher depending on the frequency of its use. Not to forget second-hand smoking which is serious risk factor that most people take for granted, so being around people who smoke will put you at a higher risk for lung cancer even if you don't smoke.
- 2) Asbestos Exposure: Asbestos is usually found in workplaces such as mines, mills, and shipyards, and

exposure to large amounts can increase your risk of developing a specific type of lung cancer called mesothelioma. Therefore, it is important to wear protective equipment and follow safety procedures when working in places with Asbestos exposure.

- 3) Radiation therapy: Patients who have a previous history of radiation therapy to treat cancers in the chest area in the past are at a higher risk for lung cancer.
- 4) Environmental toxins: Environmental factors associated with an increased risk for developing lung cancer include radon, ionizing radiation, and polycyclic aromatic hydrocarbons, Radioactive ores (such as uranium), inhaled beryllium, cadmium, silica, vinyl chloride, nickel compounds, chromium compounds, coal products, mustard gas, and chloromethyl methyl ethers (or diesel exhaust)
- 5) Genetic factors: There is a clear familial risk for lung cancers, however, the genetic basis of lung cancer is still under study.
- 6) Pollution: Air pollution and the outdoor air we breathe—like that coming from vehicle exhaust, coal-fired power plants and other industrial sources—can cause lung cancer.

Screening: How to detect lung cancer early before it spreads?

Early diagnosis of lung cancer can be lifesaving. Unfortunately, the majority of patients have advanced or even metastatic disease at diagnosis. This is due to the fact that signs and symptoms would not be present at an early stage. Thus screening high risk people who are asymptomatic is very important. Current guidelines recommend screening with an annual low dose CT scan of the chest if you fit in the below criteria:

- Age 55 to 80 years
- ≥30 pack-year history of smoking (pack-year = number of packs per day multiplied by number of years of smoking)
- current smoker or having quit within the past 15 years

Signs and Symptoms of Lung Cancer

- Cough: Either a new lingering cough or change in the already present cough



- Hemoptysis: the coughing up of blood
- Frequent chest infections (bronchitis, pneumonia)
- Chest pain: dull, aching, and persistent pain, or pain upon breathing
- Shortness of breath
- Hoarseness: abnormal voice changes
- Appetite loss and weight loss
- Bone pain: can occur in case of bone metastasis

Diagnosis

Diagnosing lung cancer is a process that requires a few different tests. The first one is imaging with a CT scan of lungs and a PET CT scan of the entire body. Once a tumor has been identified, the next step would be to obtain tissue sample. This can be done either by bronchoscopy (which involves inserting a special thin, lighted scope with a camera on the end) or under the guidance of a CT scan. The specimen is then sent for pathology, where the cells are looked at under a microscopy, to identify whether this is lung cancer or not and determine the type of lung cancer along with the presence of certain markers or mutations when needed. Once a diagnosis is confirmed along with the stage of disease, a multidisciplinary team, including an oncologist, thoracic surgeon, and several other doctors, will decide on the treatment.

Treatment

There are 2 main types of lung cancer, small cell and non-small cell carcinoma. It is important to differentiate between the two types as they are different regarding both treatment options and outcomes. Treatment will also depend on the location and stage of the disease. The traditional treatment techniques include surgery, where a

lobe of the lung can be removed, and sometimes the entire lung, radiation therapy, and/or chemotherapy. Cure is possible for early stage disease with these treatment options however, becomes more difficult to achieve with more advanced stages.

Nevertheless, there has been some game-changing advances in the last few years especially for metastatic disease. These include immunotherapy, which works by activating the patient's own immune system to fight the cancer cells, and targeted therapy, which blocks the growth of cancer by interfering with a specific molecule or gene mutation. These new options allowed patients with metastatic disease to live longer and with a better quality of life.

Takeaway

Lung cancer is a serious and deadly disease. Early detection is the key to a cure, but the best medicine is always prevention. So, the most important way to reduce your risk is to stop smoking if you're a smoker, and if you've never smoked don't start.

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