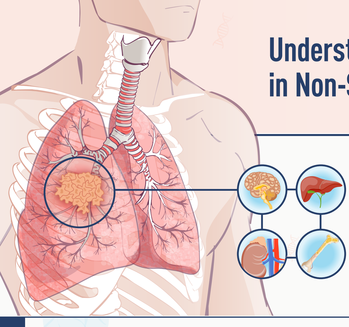
Understanding EGFR Mutations in Non-Small Cell Lung Cancer (NSCLC)



ABOUT METASTATIC LUNG CANCER

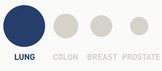
Lung cancer is a cancer that starts in a person's lungs. Metastatic cancer means cancer cells have spread to other parts of the body.

Lung cancer may spread to other parts of the body, including bones, adrenal glands, the brain, and the liver. People with lung cancer whose cancer cells have spread to these places have metastatic cancer.

LUNG CANCER STATS AT A GLANCE

Globally, lung cancer is the **leading cause of cancer deaths**, killing nearly 1.8 million people worldwide each year.[1]

In the U.S., lung cancer is the **2nd most common cancer** (not counting skin cancer) and the leading cause of cancer death among both men and women, accounting for **almost 25% of all cancer deaths**.[2]

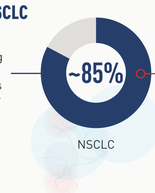


Every year, **more people die of lung cancer** than of **colorectal**, **breast**, and **prostate cancers combined**.[2]

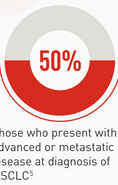
The American Cancer Society estimates that in 2020, there will be about **228,820 new cases** of lung cancer; about **135, 720 deaths** from lung cancer in the U.S.[2]

ABOUT METASTATIC NSCLC

NSCLC is the most common type of lung cancer accounting for about 85% of all lung cancers.[3] Metastatic NSCLC is a very difficult-to-treat cancer with a poor prognosis.[4]



NSCLC



Those who present with advanced or metastatic disease at diagnosis of NSCLC[5]

The five-year survival rate for metastatic NSCLC[4]

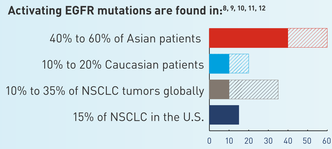
WHAT IS EGFR?[7]

Epidermal
Growth
Factor
Receptor

EGFR is a protein that helps cells grow and divide.

When the EGFR gene is mutated it can cause the protein to be overactive, causing cells to grow and divide more quickly.

Activating EGFR mutations are found in:[8, 9, 10, 11, 12]



Regardless of ethnicity, these mutations are more commonly present in:[13, 14]

Females

Non-smokers

Those who have adenocarcinoma histology

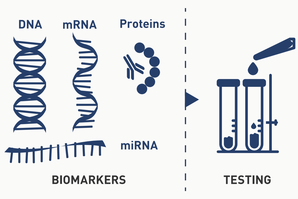
MOST COMMON ACTIVATING EGFR MUTATION SUBTYPES

19 & 21: The most common activating EGFR mutations are deletions within exon 19 and a substitution in exon 21. These mutations are present in 90% of EGFR-mutated NSCLC tumors.[15]

HOW ARE CERTAIN NSCLC MUTATIONS IDENTIFIED

The best way to know if a cancer has an alteration that can be treated is to **talk to a doctor about getting tested for all treatable biomarkers**.[16] A biomarker test is a type of genetic test that can tell the doctor a lot about the cancer's DNA.[17, 18] Certain biomarker tests require a doctor to biopsy the tumor, which means removing some tissue for testing.[19, 20] These tests help oncologists develop a treatment plan for their patients. Knowing what is driving the cancer can help the patient and his or her doctor choose the right treatment.[16]

*If a tumor has been biopsied previously, some tissue may already be available for testing.



AN IMPORTANT TREATMENT GOAL IS TO EXTEND THE TIME PATIENTS LIVE WITHOUT THEIR DISEASE GETTING WORSE.[21]

TREATMENT OPTIONS FOR EGFR-MUTATED METASTATIC NSCLC[7, 22]

Treatment options depend on where the cancer has spread, the number of tumors, and overall health.

Chemotherapy: Reserved for when most options have been used, limited by its toxicity.

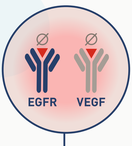
Radiation therapy: Uses high-energy rays or particles to kill cancer cells.

Surgery: Used to remove the cancer at an early stage and is the best chance for a cure. May be used for limited lesions in advanced or metastatic disease.

EGFR tyrosine kinase inhibitors (TKIs): Block the signal from EGFR that tells the cells to grow. EGFR is a protein on the surface of cells and helps cells grow and divide. When the EGFR gene is mutated, it can cause the protein to be overactive, causing cells to grow and divide more quickly.

Angiogenesis inhibitors: Block the formation of new blood vessels. Tumors need oxygen and nutrients, which are delivered through the blood, in order to grow. They get these nutrients through the development of new blood vessels, which is a process called angiogenesis.

DYK: Research has shown that blocking both the EGFR pathway and another pathway, known as VEGF, could lead to positive outcomes in patients with EGFR mutations.[10, 23, 24]



METASTATIC EGFR-MUTATED NSCLC IS A SERIOUS AND LIFE-THREATENING DISEASE.

There is no cure for this disease and all patients will eventually develop disease progression on current therapy, which is why different treatment options are necessary. Although metastatic cancer is a more severe stage, there are treatment options available to help.

TO LEARN MORE, VISIT:

EGFR resisters
www.egfrcancer.org

GO2 FOUNDATION FOR LUNG CANCER
www.go2foundation.org

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