HER2-Mutant Non-Small Cell Lung Cancer (NSCLC)

Lung cancer is the leading cause of cancer-related deaths worldwide, accounting for the highest mortality rates among both men and women.[1] There are two primary types of lung cancer: **non-small cell lung cancer (NSCLC)** and **small-cell lung cancer (SCLC)**.

Non-small cell lung cancer (NSCLC)—Fast Facts:

80%-85%

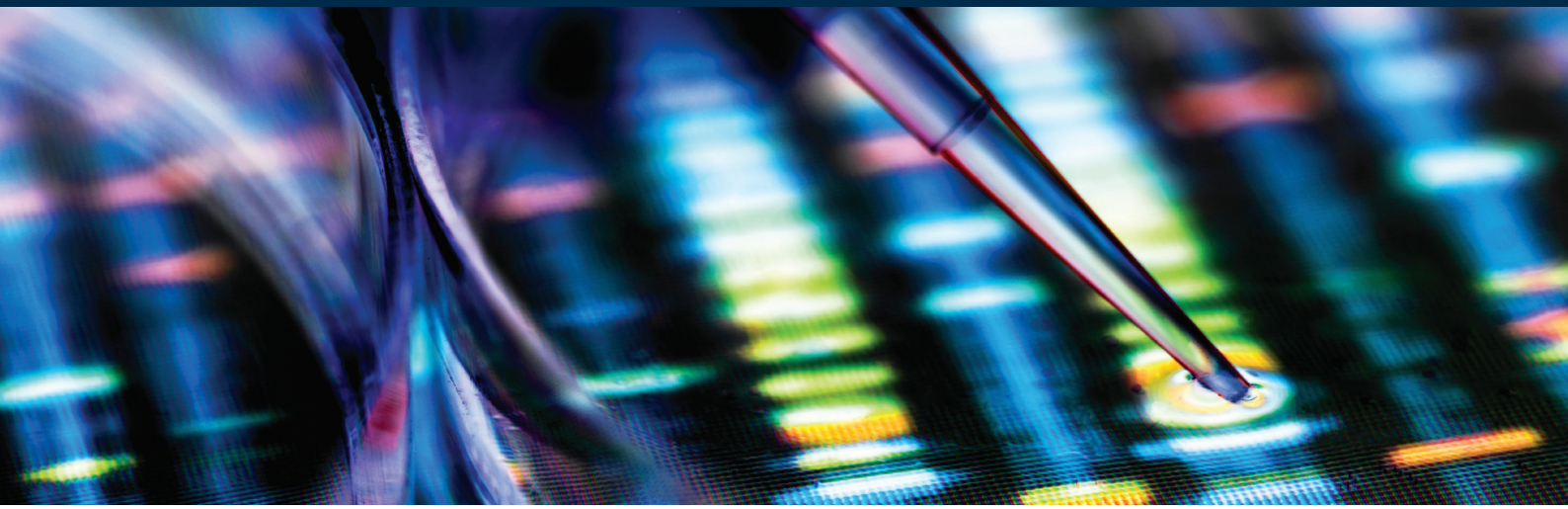
of all lung cancer cases globally are NSCLC, making it the most common type of lung cancer.[2-4]

80%

of people diagnosed with NSCLC have already progressed to advanced stages, making it more difficult to treat.[5]

<20%

of patients with NSCLC survive for 5 years following diagnosis.[6]



HER2-mutant NSCLC

HER2 is a protein present in human cells that, when mutated, can exhibit structural changes that lead to the activation of cancer-causing processes.[7]

Activating *HER2* mutations are found in 2% to 4% of advanced NSCLC cases globally.[7] It is estimated that approximately 40,000 to 84,000 people worldwide diagnosed with advanced NSCLC are harboring an activating *HER2* mutation.[8]

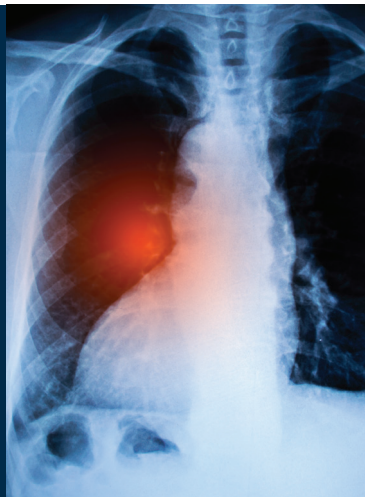
Patients with these mutations may experience a worse prognosis than those with other mutations.[9]

HER2 mutations appear to be more common in younger, female patients with no smoking history.[10-14]

Importance of systematic genomic tumor testing for HER2-mutant NSCLC

Early lung cancer is largely asymptomatic, and the internal locations of tumors means that patients are not always alerted by obvious physical changes.[15] Furthermore, nonsmokers and never-smokers are usually not screened routinely. These factors can delay diagnosis and lung cancer in nonsmokers is usually discovered by chance during unrelated medical exams.[16]

Patients with *HER2*-mutant NSCLC are, therefore, frequently diagnosed at advanced stages of the disease. More effective targeted treatment options are needed to improve outcomes for this underserved patient population.[17]



International clinical guidelines recommend biomarker testing for *HER2* mutations in all patients with advanced NSCLC[18,19]

Next-generation sequencing (NGS) is a DNA or RNA sequencing technology that can detect the broad spectrum of genomic *HER2* alterations that may occur, although other approaches (eg, targeted polymerase chain reaction) may also be used.[7]

Biomarker testing at the time of diagnosis is essential to establish the appropriate personalized treatment option, such as targeted therapies, for each patient.[20]

References

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