Lung Cancer: to Test or Not to Test [1]

Education & Awareness [2]

Susan Mantel, LUNGevity Senior Vice President of Research and Education, provides insight on the importance of biomarker testing in lung cancer, how better diagnostic tools are changing treatment options and what people diagnosed with lung cancer need to know.

Each year, 1.8 million people are diagnosed with lung cancer worldwide. In the United States alone, someone receives a new diagnosis every 2-1/2 minutes. Still, there are many common
Did you know that today up to 65 percent of people with lung cancer are never or former smokers at the time of diagnosis? Another misconception is that lung cancer is a hopeless diagnosis. While at one time there were few options, in the last dozen years we have made tremendous strides in understanding this complex disease, and in developing specific treatments for the individual patient.

In addition to classifying the disease by how the cells look under a microscope, scientists are learning about the molecular changes that allow lung cancer to develop and grow. So far, approximately 60 percent of patients with adenocarcinoma, a common form of non-small cell lung cancer (NSCLC), have a form of disease linked to these changes or mutations. Researchers have identified 12 driver mutations in adenocarcinomas alone, and several others in squamous cell lung cancer. Several treatments have been approved for three of the known mutations: ALK, EGFR and ROS-1, and clinical trials are underway for others. To find out whether someone is a candidate for these treatments, a tumor sample needs to be tested for these molecular biomarkers.

Unfortunately, many people whose tumor should be tested don’t get this testing at any point in their treatment. Due to inconsistent and confusing language, many aren’t even sure whether their tumor has been tested for these markers. For example, “genetic testing” often leads people to think we are discussing whether the lung cancer has been or can be inherited. Furthermore, some people call it “molecular testing,” while others call it “mutation profiling,” “companion diagnostics,” “genomic testing”… the list continues.

Testing for every actionable mutation is not a standard practice, so initial biopsies often get too little tumor sample to be comprehensive. This can result in a need for additional biopsies, no testing or incomplete testing. Testing methods vary by health care setting, which may result in inconsistent results. Plus, each tumor may be tested for one biomarker at a time, or for an entire set of biomarkers all at once.

Last, but not least, the currently approved targeted therapies almost always stop being effective after some time. We know that in at least some tumors, when this happens, an additional molecular change has taken place. These resistant tumors should be tested again to see if they are a match for a treatment that blocks this new change. While we have seen that patients are willing to undergo additional biopsies, many doctors have also told us that they are reluctant to “put the patient through this.”

With so much change happening around understanding and treating lung cancer, a patient’s
best bet is to be as informed as possible and to be prepared to discuss a full set of options with their health care team. More information on lung cancer, biomarker testing, and treatment options can be found at www.LUNGevity.org [3] under “About Lung Cancer.”


Reviewed: April 2014.


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