Transcript Details
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Oncogenic Drivers in Never-Smokers with NSCLC

Announcer:
Welcome to *Project Oncology* on ReachMD. On this episode, we'll hear from Dr. Apar Kishor Ganti, who will be discussing oncogenic drivers in non-smoking, non-small cell lung cancer patients. Dr. Ganti is the Doctor and Mrs. D. Leon UNMC Research Fund Chair in Internal Medicine at the University of Nebraska Medical Center. He is a Staff Physician at the VA Nebraska Western Iowa Health Care System, Professor of Medicine in the Division of Oncology-Hematology, and Professor of Biochemistry and Molecular Biology at the University of Nebraska Medical Center.

Let's hear from him now.

Dr. Ganti:
Non-small cell lung cancer in patients with little or no smoking history is very difficult to diagnose because when these patients come in with symptoms such as cough, chest pain, coughing up blood, and shortness of breath, we tend to think of other causes. Since the risk of lung cancer in these individuals is quite low, it is not something that a physician thinks of right off the bat when faced with such a patient. On the other hand, if someone has a longstanding smoking history, our threshold of suspicion is quite high, so we tend to test for a possible lung cancer diagnosis in those individuals much sooner. Hence, diagnosing lung cancer in patients who've never smoked can be a challenge. And oftentimes, patients may suffer through symptoms for a long time before their lung cancer is diagnosed.

If you look at the more common oncogenic drivers like *EGFR* or *ALK*, initially, when we first started seeing these driver mutations or driver translocations, we saw them mostly in non-smokers. So, before we knew about the existence of these mutations, we knew that patients who had never smoked responded better to erlotinib. And if you look at the earlier trials—before we knew about the existence of these mutations—they included patients who had never smoked as a surrogate marker for enrollment into these trials.

So, any patient who is diagnosed with lung cancer and has either never smoked or has smoked very remotely should always raise suspicion of an oncogenic driver being in play. I would recommend that every non-smoking patient who's diagnosed with lung cancer be tested for all of these oncogenic drivers before even considering any treatment because the chances of finding these molecular mutations are extremely high in this cohort of patients.

When we do identify an oncogenic driver early, that changes the whole treatment paradigm significantly. The vast majority of patients in whom we identify an oncogenic driver are eligible for targeted treatment as first-line therapy. So, for example, if you have an *EGFR* mutation, you would get an *EGFR* tyrosine kinase inhibitor as part of your initial treatment. If you have an *ALK* translocation, the *ALK* inhibitors are part of the initial treatment paradigm.

So, it changes the treatment significantly, and along those lines, it changes the patient experience because the side effects associated with these treatments are so different from the side effects that are associated with traditional chemotherapy or chemotherapy and immunotherapy. Patient tolerance of these targeted agents is much better. More recent studies have shown that overall patient outcomes and survival are improved when these individuals get their targeted treatment as soon as possible.

Announcer:
That was Dr. Apar Kishor Ganti talking about how we can improve recognition of oncogenic drivers in non-smoking patients with non-small cell lung cancer. To access this and other episodes in our series, visit *Project Oncology* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!