Evolving Standards for Molecular Testing in Advanced NSCLC

Presented by Sandip Patel, MD
Medical Oncologist, Associate Professor of Medicine
Moores Cancer Center, UC San Diego Health

TRANSCRIPT

Precision medicine has revolutionized oncology, and nowhere have we seen this more in non-squamous non-small cell lung cancer. For patients with metastatic non-squamous non-small cell lung cancer routine testing involves at least three genes. Currently NCCN recommendations look at seven different genes for which if there's a particular mutation, targeted therapies which are pills may often be a patient's first- or second-line treatment choice as opposed to chemotherapy. With the advent of newer therapies there are new targets that we can potentially have effective therapies for and based on this the number of genes will likely increase as the number of targeted therapies continues to increase based on drug development.

Because of this, the advent of methods that look at multiple genes at the same time such as next-generation sequencing has become increasingly important as we try to look at all these gene simultaneously for a patient who often has a smaller biopsy done to make their diagnosis. And so, one of the emerging biomarkers that we've seen in addition to targeted therapy has been tumor mutational burden. This is looking at the number of mutations in a given cancer cell and for patients that have a high tumor mutational burden, these patients may benefit from combination immunotherapeutic strategies combining drugs like Opdivo and Yervoy. To date patients who have driver mutations such as EGFR or ALK have their best benefit from targeted therapies. In fact, use of immunotherapy for these patients with driver mutations such as EGFR, ALK, ROS1 and so on often is not only not effective but can lead to worse side-effects down the line such as inflammation of the lung. And so, patients with a good targeted therapy option should continue to receive the best targeted therapies available as their earliest therapies.

I think as the field continues to evolve, we will have more and more targets and more and more targeted therapies and the idea that we'll need better testing to be done on smaller tissue specimens will lead to more and more next-generation sequencing being done as we think about preserving the most amount of tissue for all the testing that is required and as we get more and more targets for molecular testing.

https://www.youtube.com/watch?v=g6eK4oXdO3U&feature=youtu.be