Biomarkers for Immunotherapy: Is There Anything Better Than PD-L1?

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TRANSCRIPT

This is Vamsidhar Velcheti. I am a Medical Oncologist specializing in lung cancer at Cleveland Clinic and I am here to talk about biomarkers for immunotherapy.

As all of you know, the past several years we have had an explosion in treatment with immunotherapy and treatment with immunotherapy especially the PD-1/PD-L1 inhibitors that changed the landscape of treatment for lung cancer and several other cancers as well. But, the biggest challenge has been to identify patients that would benefit most from these immunotherapy treatments.

As of now, the only FDA approved biomarker for treatment selection has been a PD-L1 assay by Dako 22C3; that is the only FDA approved companion diagnostic. There have been several other PD-L1 biomarker assays that are also being used routinely in the clinic to stratify or identify patients who benefit most from a PD-1 or PD-L1 inhibitor. However, these biomarkers are mainly what I call enrichment biomarkers. What I mean by that is patients who do not have a PD-L1 expression also could potentially benefit from these drugs especially patients who have lung cancer who have somewhat limited treatment options. When we have a biomarker that is not as good for selecting patients who would respond from PD-1/PD-L1 inhibitor it is really important to consider that even patients who do not have a biomarker expression could potentially benefit from these treatments. We need to do better in trying to identify patients who benefit from these treatments.

There are several new strategies being looked at in terms of biomarkers for immunotherapy and one of the most promising biomarkers is tumor mutation burden. This is essentially looking at the amount of genomic or genetic mutation load of a particular tumor sample. Patients who have a higher genetic mutation burden tend to have tumors that have more inflammation.

When you have a higher load of genetic mutation in the tumor the immune system recognizes the tumors better and are able to respond to immunotherapy treatments. However, these strategies have not yet been FDA approved. There are a lot of clinic trials and data that has been presented in the recent meetings at ESMO and most recently the AACR annual meeting. These strategies appear to be complementing the PD-L1 expression as a biomarker however these need to be further validated in prospective clinical trials. There are a lot of clinical trials ongoing looking at circulating tumor DNA based tumor mutation burden. I am very certain that in the next year or so we will be seeing the results of these clinical trials and we will have better biomarkers for predicting and identifying patients who benefit from PD-1 therapy.

What is also very interesting is going forward there are a lot of clinical trials looking at combination immunotherapy approaches. So, how do we select patients for those combination approaches versus a single agent immunotherapy? These are challenges for the future. We will be most certainly hearing more data and information about biomarkers and how to incorporate these biomarkers to identify patients for combination immunotherapy versus single agent immunotherapy.

It is an exciting time in Oncology, especially for immunotherapy and for patients. There is a lot of options and opportunities to improve chance for success and long-term success.

http://cancergrace.org/lung/2018/05/24/lung-cancer-video-library-biomarkers-for-immunotherapy-is-there-anything-better-than-pdl1/