SCLC Patients with High Tumor Mutation Burden Show Promising Responses to Nivolumab Alone or with Ipimilumab.

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Bristol-Myers Squibb's Opdivo (nivolumab), with or without Yervoy (ipilimumab), showed promising overall

survival rates in previously treated patients with small cell lung cancer (SCLC) who had high tumor mutation burden (TMB, the number of gene mutations in their tumors).

The study may lead to the use of TMB to predict outcomes when treating cancer with immuno-oncology agents (immune-based cancer treatments). But a study investigator pointed out that further research is needed.

“These exploratory TMB data from CheckMate -032 are the first to show the potential of using mutation burden to predict response in some patients with the combination of two I-O agents,” Dr. Matthew D. Hellmann, MD, study investigator at Memorial Sloan Kettering Cancer Center, said in a press release.

“Further investigation is warranted to explore the application of this marker across lung cancers, and in the setting of both I-O combination and monotherapy,” he said.

The Phase 1/2 clinical trial (NCT01928394) tested the two drug regimens in patients with advanced or metastatic (spreading) tumors of many kinds.

The data on SCLC alone were presented at the International Association for the Study of Lung Cancer (IASLC) 18th World Conference on Lung Cancer (WCLC) in Yokohama, Japan, in a poster titled “Impact of Tumor Mutation Burden on the Efficacy of Nivolumab or

Nivolumab + Ipilimumab in Small Cell Lung Cancer: An Exploratory Analysis of CheckMate 032."

The study enrolled 401 previously treated patients with SCLC. Response rates were 11% with Opdivo alone, and 22% with the combination of Opdivo and Yervoy.

TMB could only be evaluated in 211 (53%) of the participants. Based on the TMB evaluation, this group was divided into subgroups of high, medium, and low TMB.

Response rates and the percentage of patients who had survived for one year were all higher in the groups treated with Opdivo and Yervoy than in those treated with Opdivo alone.

In the high TMB subgroup, 46% of patients responded to treatment with both drugs. The response rate was 16% and 22% in patients with medium and low levels of TMB, respectively.

Survival after one year was seen in 62% of patients with high TMB who received Opdivo plus Yervoy, and in 20% and 23% of patients with medium and low levels of TMB, respectively.

Similar findings were observed regarding progression-free survival. Patients with high TMB who received the combination had a one-year PFS of 30%. These rates were

8% and 6% in the medium and low TMB groups, respectively.

“Assessing the effect of TMB on treatment outcomes has been an important part of our ongoing translational medicine research,” said Dr. Nick Botwood, MD, development lead, thoracic cancers, Bristol-Myers Squibb.

“Based on these exploratory data from CheckMate -032 in previously treated small cell lung cancer, and the growing scientific evidence for this biomarker, we continue to investigate TMB to understand its relevance as a marker to potentially predict outcomes with immunotherapy,” he said. “We are committed to our ongoing thoracic cancer development program, focused on identifying patients most likely to benefit from immunotherapy.”