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New KEYNOTE 021 data shows no association with tumor mutational burden

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Researchers had previously reported data from the KEYNOTE 021 trial that showed antitumor activity for pembrolizumab plus platinum-based chemotherapy in untreated advanced nonsquamous non-small cell lung cancer patients. Today at the IASLC 2019 World Conference on Lung Cancer hosted by the International Association for the Study of Lung Cancer, the same research group presented new data from two new groups of patients from this trial.

The researchers, led by Corey Langer from Abramson Cancer Center of the University of Pennsylvania in Philadelphia, created two new groups: patients in cohort C received pembrolizumab plus carboplatin and pemetrexed. Patients in cohort G were randomized 1:1 to pembrolizumab plus carboplatin and pemetrexed or carboplatin and pemetrexed alone. Tumor mutational burden was determined by whole-exome sequencing of tumor and matched normal DNA.

Langer and the KEYNOTE 021 researchers were able to evaluate TMB data for 70 patients: 12/24 (50.0%) in cohort C, 32/60 (53.3%) in the cohort G pembrolizumab plus chemotherapy arm, and 26/63 (41.3%) in the cohort G chemotherapy only arm.

TMB as a continuous variable was not significantly associated with objective response rate, progression free survival or overall survival for pembrolizumab plus chemotherapy or chemotherapy alone. There was no significant correlation between TMB and Tissue Polypeptide-specific Antigen in patients treated with pembrolizumab plus chemotherapy.

"In this exploratory analysis, TMB was not significantly associated with efficacy of pembrolizumab plus carboplatin and pemetrexed or carboplatin and pemetrexed alone as first-line therapy for metastatic nonsquamous NSCLC," Langer reported. "TMB was also not significantly correlated with PD-L1 expression. Among pembrolizumab plus chemotherapy-treated patients, ORR was high in both the TMB low and high subgroups."

Provided by International Association for the Study of Lung Cancer