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Tumor mutational burden not significantly associated with efficacy of pembrolizumab

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Tumor mutational burden was not significantly associated with efficacy of pembrolizumab plus chemotherapy or placebo plus chemotherapy as first-line therapy for metastatic nonsquamous non-small cell lung cancer, according to research reported today by Dr. M. Garassino from the Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy. Dr. Garassino presented this new data today at the IASLC 2019 World Conference on Lung Cancer hosted by the International Association for the Study of Lung Cancer.

Tumor mutational burden is a measurement of mutations carried by tumor cells and is a predictive biomarker being studied to evaluate its association with response to immunotherapy. TMB, in concert with PD-L1 expression, has been demonstrated to be a useful biomarker across some cancer types.

To test this notion, Dr. Garassino and her colleagues randomized 616 patients 2:1 to pembrolizumab plus chemotherapy or placebo plus chemotherapy. TMB was determined by whole-exome sequencing of tumor and matched normal DNA. The clinical utility of TMB on outcomes was assessed using prespecified TMB cut points of 175 and 150 Mut/.

Of the 616 patients enrolled, 293 (48.3%) had evaluable TMB data: 207 for pembrolizumab plus chemotherapy, 86 for placebo plus chemotherapy. Baseline characteristics and outcomes were generally similar in the TMB-evaluable and total populations. TMB as a

continuous variable was not significantly associated with overall survival, progression-free survival or objective response rate for pembrolizumab plus chemotherapy or placebo plus chemotherapy. Pembrolizumab plus chemotherapy improved overall survival, progression-free survival and objective response rate.

"Tumor mutational burden was not significantly associated with efficacy of pembrolizumab plus chemotherapy or placebo plus chemotherapy as first-line therapy for metastatic nonsquamous NSCLC," said Dr. Garassino. "Pembrolizumab plus chemotherapy had a similar OS benefit in the TMB-high and low subgroups."

Provided by International Association for the Study of Lung Cancer

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