Response to salvage chemotherapy following exposure to immune checkpoint inhibitors in patients with non-small cell lung cancer.

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Abstract Disclosures

Abstract: Background: Immune checkpoint inhibitors are active for patients with stage IV NSCLC who have progressed following platinum-based chemotherapy. We evaluated responses to chemotherapy in patients who had progressed on a checkpoint inhibitor. Methods: Eligible patients were adults with NSCLC who received salvage chemotherapy following PD-1/PD-L1 inhibitors (cases) versus no PD-1/PD-L1 inhibitors (controls). CT-imaging was done within 4 weeks of initiation of salvage chemotherapy and every 6 weeks thereafter. Revised RECIST guidelines were used to define response. Clinical and imaging data were abstracted from review of electronic medical records. Multivariate logistic regression analysis was used to calculate probability of response. Results: Three-hundred and fifty patients’ charts were reviewed and 82 patients met eligibility criteria. Among evaluable patients, 46 were males. Sixty-seven patients were cases versus 15 controls. Fifty-six patients received nivolumab, 7 pembrolizumab and 4 atezolizumab. Sixty-three (77%) had adenocarcinoma, 18 (22%) squamous cell carcinoma and 1 (1%) large cell carcinoma. The mean number of chemotherapy regimens prior to salvage chemotherapy was 2.37 (95% C.I. 2.10-2.64) in cases versus 1.93 (95% C.I.: 1.32-2.54) in controls. Salvage drugs included docetaxel (62%), pemetrexed (20%), gemcitabine (12%), paclitaxel (6%). Eighteen (27%) cases had partial response to chemotherapy versus 1(7%) controls. Fifteen (22%) cases had progressive disease versus 6 (40%) controls. Thirty-four (51%) cases had stable disease versus 8 (53%) controls. The odd ratio for achieving a partial response was 0.30 (95% CI: 0.18 to 0.50, P = 0.000). In multiple logistic regression model, age, gender, number of prior chemotherapy regimens, tumor histology, smoking status, different salvage chemotherapy regimens were not associated with the likelihood of achieving a partial response. Conclusions: The odds of achieving a partial response to salvage chemotherapy were more than 3 times higher inpatients with prior exposure to PD-1/PD-L1 inhibitors. Ongoing investigations include the duration of response as well as evaluation of toxicity.