

Conference abstract

The Incidence of Immune-Related Adverse Events (irAEs) Based on PD-L1 Expression Levels in Patients with Stage II-IV Non-Small Cell Lung Cancer (NSCLC) on Immunotherapy

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INTRODUCTION

Immunotherapy in the treatment of non-small cell lung cancer (NSCLC) was first approved by the Food and Drug Administration (FDA) in 2015. Despite the success of immunotherapy, its use has unique challenges and side effects. Little is known about the incidence of immune-related adverse events (irAEs) in patients with high PD-L1 expression compared to low PD-L1 expression.

METHODS

1) To investigate if there is an association between the level of PD-L1 expression, and the incidence of irAEs; 2) to examine this association based on burden of disease, sex and Eastern Cooperative Oncology Group (ECOG) status.

This was a historical cohort study done by retrospective chart review of patients from the Henry Ford St. John Hospital Van Elslander Cancer Center, and legacy hospitals with stage II- IV NSCLC who received immunotherapy with or without chemotherapy (10/01/2015-12/31/2022). Patients were stratified into three groups, PD-L1 expression < 1%, PD-L1 expression 1- 50%, and PD-L1 expression > 50%. The cumulative incidence of irAEs (all grades) was as-

sessed. Univariable analyses included analysis of variance followed by multiple pairwise comparisons using the Bonferroni correction of the p-value, Pearson's correlation, and chi-squared analysis.

RESULTS

The study group of 215 patients had a mean age of 65.69.2 years, 51.2% female and 75.3% white. PD-L1 expression and the incidence of endocrine toxicity based on burden of disease (< 3 organs) were associated in patients receiving immunotherapy (p=0.04). Immune-related gastrointestinal and endocrine toxicities increased as PD-L1 expression increased (p=0.86) and (p=0.38).

CONCLUSIONS

There was a significant association between PD-L1 expression and the incidence of endocrine toxicity based on disease burden (< 3 organs). These findings will help providers better risk stratify patients at a greater risk of developing irAEs.



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