803 IMMUNE-RELATED ADVERSE EVENTS CORRELATE WITH IMPROVED OUTCOMES IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER TREATED WITH COMBINATIONS OF IMMUNE-CHECKPOINT INHIBITORS AND CHEMOTHERAPY

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Background Immune checkpoint inhibitors (ICIs) have become the backbone of treatment for most driver-mutation negative, advanced non-small cell lung cancers. ICIs have been approved both as monotherapy and in combination with chemotherapy for front line management. While ICIs are generally regarded as well-tolerated, an unintended activation of the immune system can result in a variety of immune-related adverse events (irAEs), which can limit their use in severe cases. In patients with NSCLC treated with ICI monotherapy, the occurrence of an irAE and the development of multisystem irAEs have been associated with improved clinical outcomes, suggesting irAE occurrence could have prognostic implications.[1–4] However, in patients treated with combination immunotherapy plus chemotherapy, the correlation between irAEs and survival has not been completely elucidated.

Methods We conducted a retrospective chart review of 94 patients with advanced NSCLC treated with a combination of ICI plus chemotherapy between 2015 and 2021 to evaluate for a correlation between irAE occurrence and overall survival (OS). Patients were divided into two groups: those who experienced at least one irAE and those who did not experience an irAE. To account for immortal time bias, we conducted landmark analyses at 12 and 24 weeks. We additionally investigated the impact of multisystem irAEs on clinical outcomes and described the profile of irAEs observed at our institution.

Results Among the 94 evaluable patients identified in our population, 43.6% experienced at least one irAE. Of those patients who experienced an irAE, 26 (63.4%) experienced a single irAE, 9 (22.0%) experienced 2 irAEs, and 6 (14.6%) experienced 3 or more irAEs. The most commonly observed irAEs were dermatitis followed by pneumonitis and colitis. In our cohort, patients with at least one irAE had significantly longer median OS (16.8 mos vs 9.8 mos) compared to those who did not experience an irAE (HR 0.51, 95% CI 0.43–0.76, p=0.011) (figure 1). Landmark survival analyses at 12 and 24 weeks continued to support significant differences in median OS based on presence or absence of an irAE (HR 0.49, 95% CI 0.24–0.46, and HR 0.45, 95% CI 0.21–0.60 respectively). Among patients with at least one irAE, the subset of patients who experienced multiple irAEs had further improved median OS compared to those with a single irAE.

Conclusions In patients with advanced NSCLC treated with combination ICI plus chemotherapy, the occurrence of an irAE is associated with improved overall survival.

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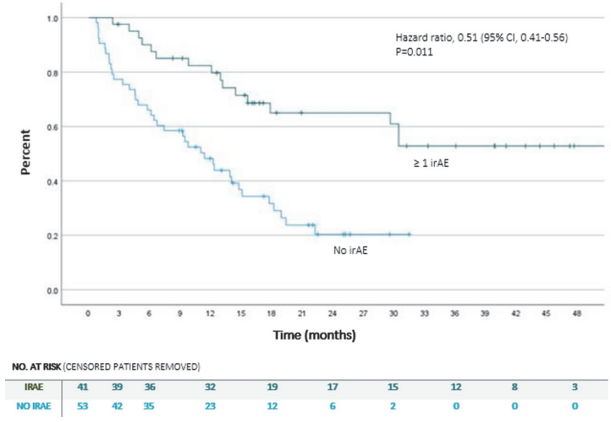
Ethics Approval This research study obtained ethics approval by the institutional review board at the University of Virginia, IRB# 19083.



Abstract 803 Figure 1 Overall Survival by presence or absence of an irAE in patients with advanced lung cancer treated with immune checkpoint inhibitors plus chemotherapy

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