

P1.295: Immune-Related Adverse Events and Survival in Advanced Lung Cancer Patients Treated with Immune Checkpoint Inhibitors

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INTRODUCTION

- Immunotherapy (IT) was introduced as a treatment for advanced lung cancer tumors in Sweden in 2015¹
- Some evidence suggests that patients who experience immune-related adverse events (irAEs) may have distinct survival outcomes^{2,3}
- AIM: to evaluate the relationship between IT-induced irAEs and treatment outcome**

COHORT INFORMATION

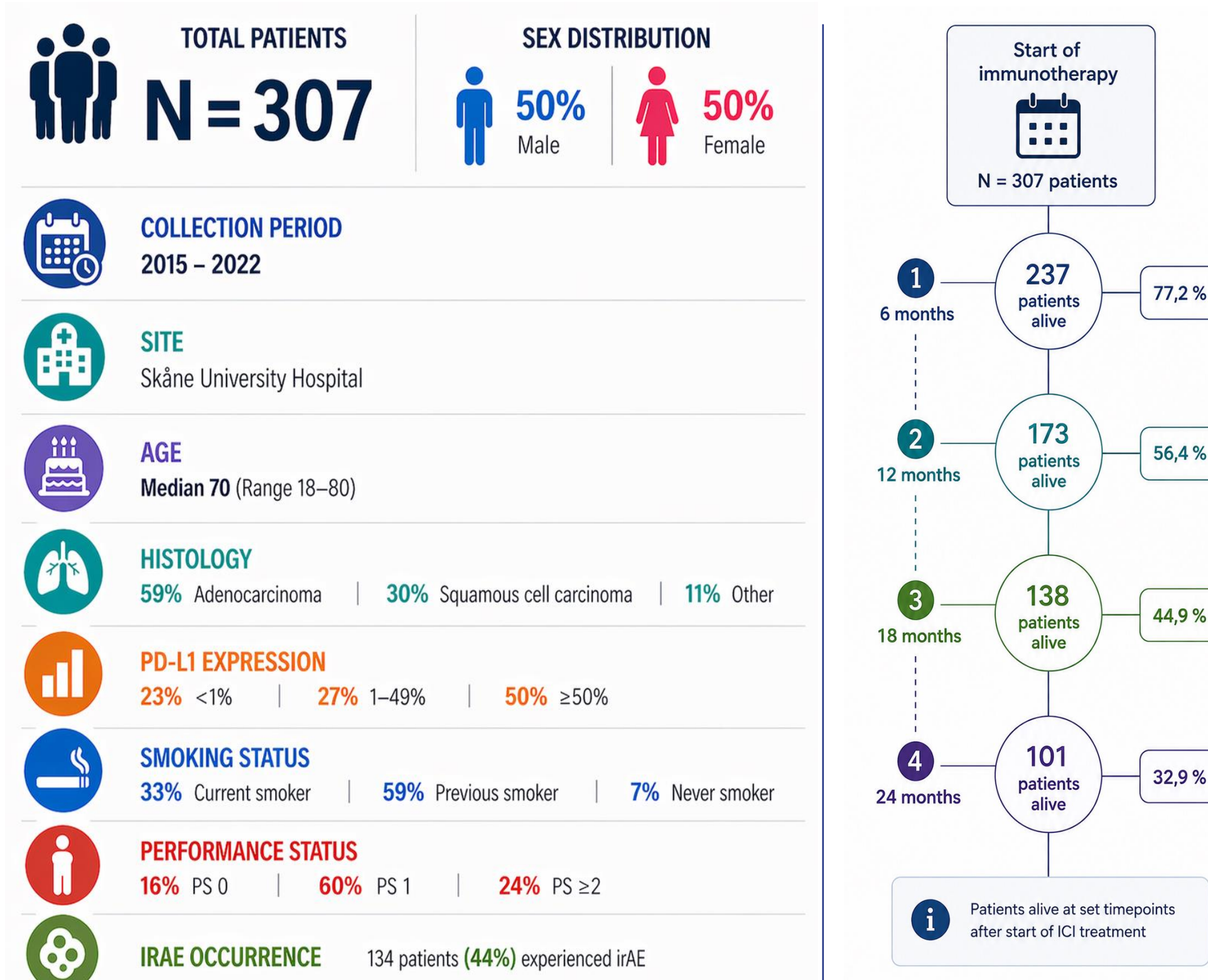


Figure 1: Cohort overview (left panel). Number of patients alive at set time points after start of IT treatment (right panel).

REFERENCES & ACKNOWLEDGMENTS

- Swedish national treatment plans <https://cancercentrum.se/diagnosbehandling/vardprogramochstoddokument.719.html>
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- Maier E, et al. Analysis of the Association Between Adverse Events and Outcome in Patients Receiving a Programmed Death Protein 1 or Programmed Death Ligand 1 Antibody. J Clin Oncol. 2019. DOI: 10.1200/JCO.19.00318
- Snijders SM, et al. Illustrating the Impact of a Time-Varying Covariate With an Extended Kaplan-Meier Estimator. The American Statistician. 2005. <https://doi.org/10.1198/000313005X70371>

*AI use disclosure: ChatGPT (OpenAI) was used to assist in generating the schematics in Figure 1.

DISCUSSION AND CONCLUSION

- Main conclusion:** NO statistically significant survival benefit of experiencing an irAE upon IT treatment
- Clinical importance:** reality of the first 8 years of using immunotherapy on advanced lung cancer in Sweden; potential treatment predictive value
- Future perspectives:** trend towards better overall survival (OS) and worse progression free survival (PFS) for patients experiencing irAEs → investigations needed on a larger and perhaps more homogeneous patient cohort

METHODS

- Cohort characterization through descriptive statistics
- Kaplan-Meier and Cox regression analysis of the effect of clinicopathological and treatment-related characteristics on OS and PFS
- Extended Kaplan-Meier⁴ and Cox regression analysis of the effect of irAE on OS and PFS

RESULTS

- Kaplan-Meier analysis and subsequent Cox regression show association of different molecular and clinicopathological characteristics to OS and PFS
- Higher age, higher performance status, and later line of therapy were associated to worse OS, whereas combination therapy was associated to better OS
- Extended Kaplan-Meier analysis (to compensate for immortal time bias) shows no statistically significant difference in OS or PFS in patients who experience irAE as compared to patients who do not
- We also investigated whether only high irAE grade affected OS or PFS → no statistically significant effect
- We observed an unexpectedly high number (32.9% of all patients) of “long term” responders to IT (> 24 months)

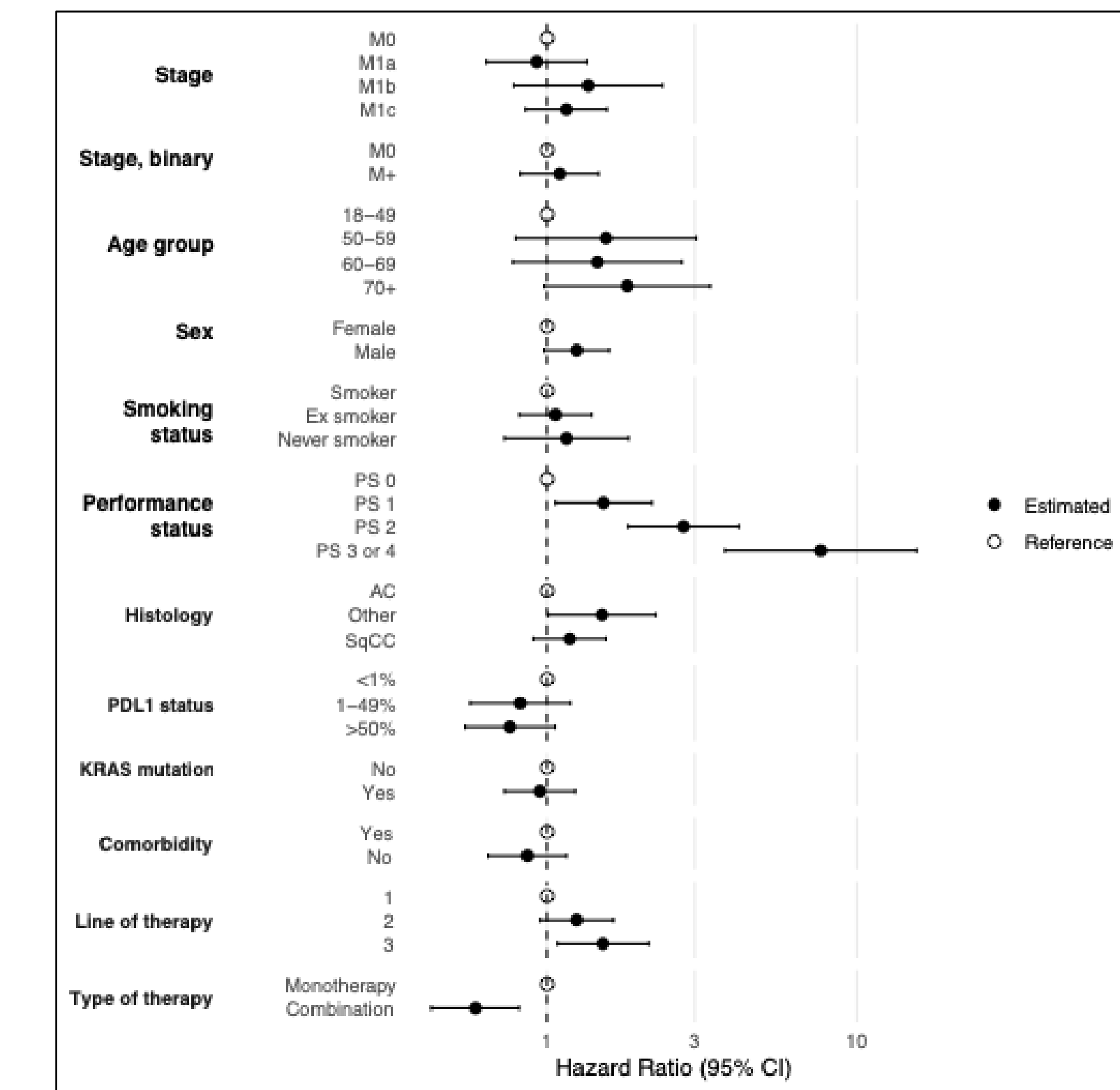


Figure 2: Forest plot showing hazard ratios (HRs) and 95% confidence intervals (CIs) for overall survival according to different clinicopathological characteristics. Open circles indicate reference categories and filled circles indicate HR estimates; horizontal bars represent 95% CIs.

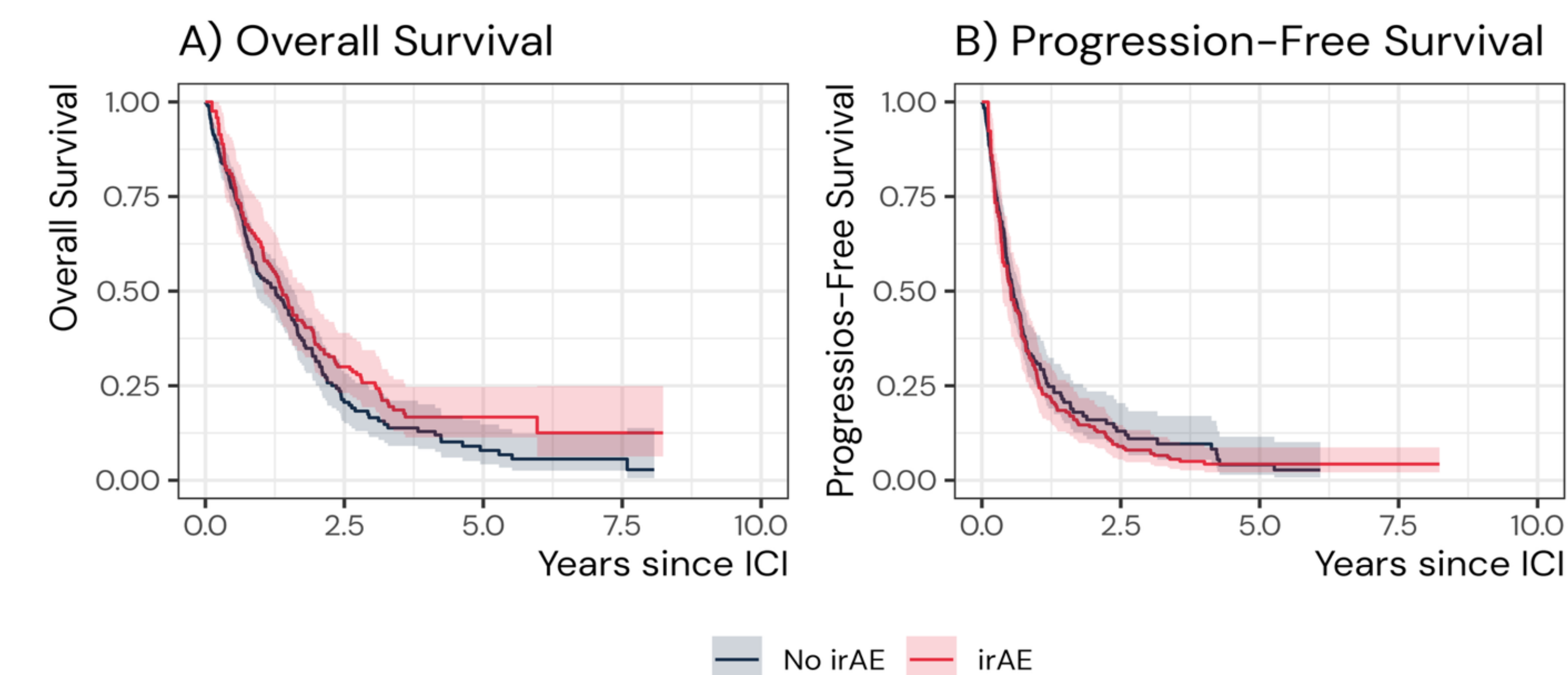


Figure 3: Extended Kaplan-Meier curve of overall survival (OS) and progression-free survival (PFS) across time since lung cancer treatment comparing lung cancer patients with and without immune-related adverse event (irAE), accounting for the time-varying nature of irAE status.