



P2.100: Real-World Survival Outcomes of Adjusted First-Line Immunotherapy-Based Treatment Intensity for Advanced NSCLC

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IASLC 2026 World
Conference on Lung Cancer
SEPTEMBER 12 – 15, 2026
SEOUL, REPUBLIC OF KOREA

INTRODUCTION

Immune checkpoint inhibitor (ICI)-based regimens are the standard first-line treatment for EGFR/ALK wild-type advanced NSCLC. Yet clinicians adjust regimens for multiple factors in real-world practice, and the impact on patient survival remains unclear. This study explored survival outcomes of first-line ICI-based regimens in these patients, especially survival differences by chemo-intensity in the elderly and programmed death-ligand 1 (PD-L1) high-expression populations.

METHODS

Design:

A retrospective study enrolled EGFR/ALK wild-type stage IIIA-IVB NSCLC patients at Peking University Third Hospital from November 1, 2018, to February 14, 2026, who were ineligible for radical surgery or chest radiotherapy, received first-line ICIs and had complete clinical and follow-up data. Patients were grouped by chemo-intensity combined with ICIs: no-chemo, single-agent chemo, platinum-doublet chemo. Primary endpoints: progression-free survival (PFS) and overall survival (OS), secondary endpoint: post-progression survival (PPS). Cox proportional hazards model, Kaplan-Meier curves and log-rank tests were applied for analysis.

REFERENCES & ACKNOWLEDGEMENTS

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Acknowledgements:

The authors declared no conflict of interest.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Individualized adjustment of chemo-intensity combined with ICIs achieves survival outcomes similar to clinical trials in real-world practice.
- Cross-line ICI after first-line progression offers no PPS benefit.
- ICI plus single-agent chemo for elderly patients may bring survival benefits without efficacy compromise.
- The predictive value of PD-L1 expression may vary by pathological type, requiring larger-sample validation.

Future Direction for Research

- Future multi-center prospective cohorts are required to verify the optimal chemo-immunotherapy intensity for different elderly subgroups and PD-L1 high expression subgroup with long-term safety tracking, and a multi-index prognostic nomogram will be built and externally validated to realize individualized immunotherapy risk stratification.

Table 1 Baseline Clinical Characteristics and Treatment Information of Patients

	Clinical Characteristics	Case Number (N, %)	
Age	Median (range)	66	(26-83)
	< 65	70	40%
	65-74	82	47%
	≥ 75	24	14%
Gender	* ≥ 70	56	32%
	Male	146	83%
	Female	30	17%
ECOG Score	0	23	13%
	1	144	82%
	≥ 2	9	5%
Smoking Status	Never smoked	37	21%
	Former smoker	92	52%
	Current smoker	47	27%
Pathological Type	Adenocarcinoma	79	45%
	Squamous cell carcinoma	88	50%
	Others	9	5%
TNM Stage	Stage III	51	29%
	Stage IV	125	71%
PD-L1 Expression (TPS)	< 1%	16	9%
	1-49%	71	40%
	≥ 50%	57	32%
	Unknown	32	18%
First-Line Treatment Regimen	ICI ± anti-angiogenic agent	19	11%
	ICI + single-agent chemotherapy	15	9%
	ICI + platinum doublet chemotherapy	142	81%
After First-Line Progression	No second-line treatment	33	19%
	Second-line treatment without ICI	41	23%
	Cross-line ICI in second-line treatment	40	23%
	No PD/Unknown	62	35%
Duration of First-Line PFS]	<6 months (patients with PD)	49	28%
	≥ 6 months (regardless of PD)	110	63%
	Not reaching 6 months (without PD)	17	10%

RESULTS

176 patients were included, with a median follow-up of 16.9 months (range 0.77-89.10 months). Their baseline clinical characteristics and treatment information were shown in table 1. The overall median PFS was 9.6 months (95% confidence interval [CI] 6.3-12.9) and median OS 39.5 months (95%CI 26.6-52.4) (figure A and D). Stage III and IV patients had no significant PFS (P=0.911) or OS (P=0.374) differences. For patients ≥70 years, ICI plus single-agent chemo had significantly longer PFS (P=0.041) and numerically longer OS (P=0.118) than platinum-doublet chemo (figure B and E); a similar trend was seen in ≥75 years patients (P=0.079 for PFS, P=0.388 for OS). In PD-L1 high-expression patients, no statistical PFS (P=0.580) or OS (P=0.859) differences existed among the three groups, with the single-agent chemo group having the longest PFS and no-chemo group the shortest OS (more obvious in squamous cell carcinoma) (figure C and F). PPS showed no difference between patients with and without cross-line ICI in second-line treatment (18.7 months, 95%CI 4.6-32.7 vs 14.7 months, 95%CI 8.7-20.6, P=0.470) (figure G). Multivariate analysis identified Eastern Cooperative Oncology Group (ECOG) score 0 as the independent protective factor for PFS (P=0.014); stage III (P=0.002), PD-L1 high expression (P=0.016), first-line PFS >6 months (P<0.001) and second-line treatment (P=0.001) were independent protective factors for OS.

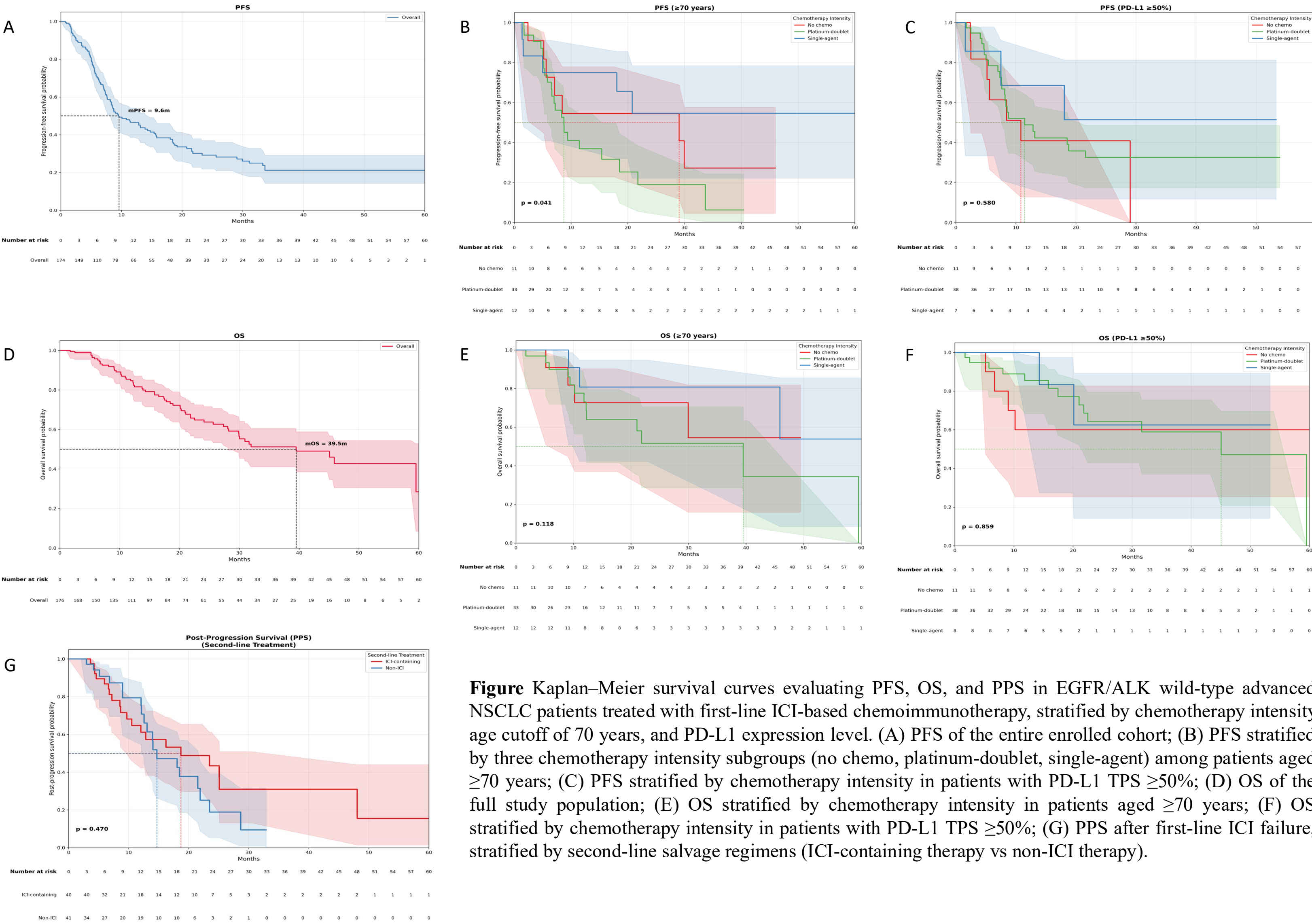


Figure Kaplan–Meier survival curves evaluating PFS, OS, and PPS in EGFR/ALK wild-type advanced NSCLC patients treated with first-line ICI-based chemoimmunotherapy, stratified by chemotherapy intensity, age cutoff of 70 years, and PD-L1 expression level. (A) PFS of the entire enrolled cohort; (B) PFS stratified by three chemotherapy intensity subgroups (no chemo, platinum-doublet, single-agent) among patients aged ≥70 years; (C) PFS stratified by chemotherapy intensity in patients with PD-L1 TPS ≥50%; (D) OS of the full study population; (E) OS stratified by chemotherapy intensity in patients aged ≥70 years; (F) OS stratified by chemotherapy intensity in patients with PD-L1 TPS ≥50%; (G) PPS after first-line ICI failure, stratified by second-line salvage regimens (ICI-containing therapy vs non-ICI therapy).

Abbreviations: ECOG, Eastern Cooperative Oncology Group; TNM, Tumor Node Metastasis; PD-L1, Programmed Death-Ligand 1; TPS, Tumor Proportion Score; ICI, Immune Checkpoint Inhibitor; PFS, Progression-Free Survival; PD, Progressive Disease; OS, overall survival; EGFR, epidermal growth factor receptor; ALK, anaplastic lymphoma kinase.