



EP11.15 Tislelizumab Versus Docetaxel in Previously Treated Advanced NSCLC: A Real-World Comparative Study

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IASLC 2026 World
Conference on Lung Cancer

SEPTEMBER 12 - 15, 2026
SEOUL, REPUBLIC OF KOREA

INTRODUCTION

- Real-world comparative evidence for tislelizumab versus docetaxel in previously treated advanced NSCLC remains limited.
- Treatment selection may be influenced by baseline characteristics, treatment line, and regimen composition.
- This study compared tumor response, time to treatment failure, progression-free survival, and overall survival between tislelizumab-based and docetaxel-based treatment.

Objective: To compare real-world effectiveness outcomes between tislelizumab-based and docetaxel-based treatment in previously treated advanced NSCLC.

METHODS

Study design

Design: Retrospective, single-center cohort study conducted at Taipei Veterans General Hospital.

Index-treatment period: January 2025–February 2026.

Study population:

Patients with advanced NSCLC who initiated tislelizumab-based or docetaxel-based therapy in the second-line or later setting during the study period

Included and analyzed, n=47

Tislelizumab-based, n=24

Docetaxel-based, n=23

Endpoints and analyses:

Primary endpoint: TTF

Secondary endpoints: ORR, DCR, PFS, and OS

Analyses: χ^2 /Fisher's exact tests for categorical outcomes

KM/log-rank and Cox regression for time-to-event outcomes

Primary TTF/PFS Cox: treatment group + ECOG PS + treatment line

OS Cox unadjusted (10 deaths)

Exploratory MV Cox: stable and estimable UV covariates with Wald

$p < 0.10$ entered together.

SPSS v29; two-sided $p < 0.05$ considered statistically significant.

Treatment HRS: docetaxel-based vs tislelizumab-based (reference).

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- In this retrospective real-world cohort of 47 individuals with previously treated advanced NSCLC, no statistically significant differences in TTF, PFS, or OS were observed between the tislelizumab- and docetaxel-based treatment groups.
- Numerically higher response rates with tislelizumab did not reach statistical significance.
- Baseline imbalances, treatment heterogeneity, the small sample size, and limited outcome events—particularly only 10 deaths—substantially limit the precision and causal interpretation of these estimates.
- These findings are hypothesis-generating and do not establish treatment equivalence or causal benefit.

Future Direction for Research

- Validate the comparative outcomes in larger, multicenter cohorts with longer follow-up and more outcome events.
- Apply prespecified covariate adjustment and propensity-score-based methods to reduce confounding from baseline imbalance and treatment heterogeneity.
- Determine whether liver metastasis, extrathoracic metastasis, and prior immunotherapy are reproducible prognostic factors in larger cohorts.

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Acknowledgements

We thank Dr. Yung-Hung Luo for his supervision and guidance. We also acknowledge the Department of Chest Medicine, Taipei Veterans General Hospital, and National Yang Ming Chiao Tung University for their institutional support. This study received no external funding.

Artificial Intelligence (AI) Use Disclosure

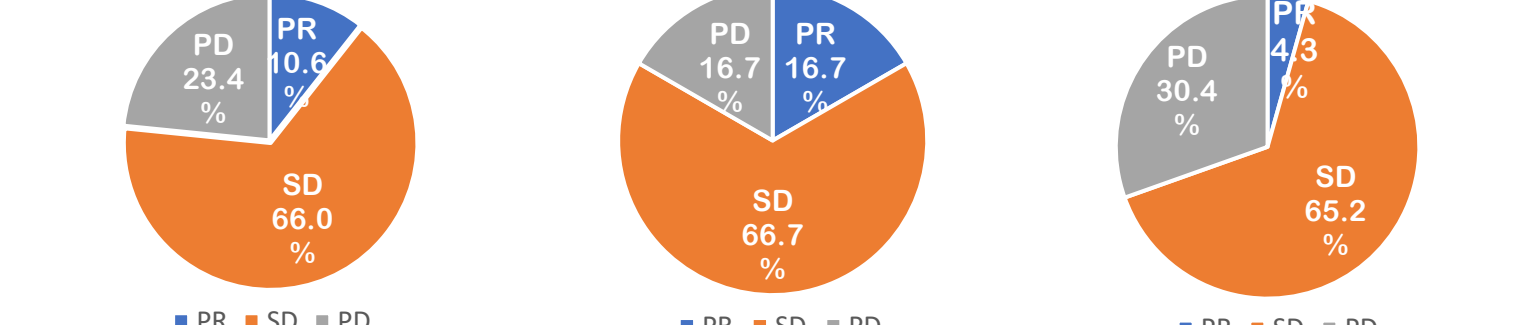
OpenAI ChatGPT was used to support language editing, poster organization, and review of statistical output. All statistical analyses were performed in SPSS, and all data, interpretations, and final content were independently verified and approved by the authors.

RESULTS

Characteristic	Overall cohort (n=47)	Tislelizumab-based (n=24)	Docetaxel-based (n=23)	p value
Age ≥ 70 years	19 (40.4%)	11 (45.8%)	8 (34.8%)	0.556
Sex, female	13 (27.7%)	5 (20.8%)	8 (34.8%)	0.341
History of cigarette smoking				<0.001
PNSH	17 (36.2%)	3 (12.5%)	14 (60.9%)	
PESH	30 (63.8%)	21 (87.5%)	9 (39.1%)	
ECOG performance status ≥ 1	26 (55.3%)	15 (62.5%)	11 (47.8%)	0.385
Histology				0.072
Adenocarcinoma	37 (78.7%)	16 (66.7%)	21 (91.3%)	
Squamous cell carcinoma/other	10 (21.3%)	8 (33.3%)	2 (8.7%)	
Stage I/II	21 (44.7%)	8 (33.3%)	13 (56.5%)	0.147
Index treatment line				0.048
Second line	8 (17.0%)	7 (29.2%)	1 (4.3%)	
Third line or later	39 (83.0%)	17 (70.8%)	22 (95.7%)	
Prior immunotherapy	22 (46.8%)	13 (54.2%)	9 (39.1%)	0.385
Prior chemotherapy	46 (97.9%)	23 (95.8%)	23 (100.0%)	1.000
Prior targeted therapy	23 (48.9%)	10 (41.7%)	13 (56.5%)	0.387
CNS metastasis	18 (38.3%)	11 (45.8%)	7 (30.4%)	0.371
Bone metastasis	14 (29.8%)	5 (20.8%)	9 (39.1%)	0.212
Liver metastasis	7 (14.9%)	3 (12.5%)	4 (17.4%)	0.701
Extrathoracic metastasis	28 (59.6%)	16 (66.7%)	12 (52.2%)	0.380
Any additional anticancer combination	23 (48.9%)	16 (66.7%)	7 (30.4%)	0.020
PD-L1 TPS among evaluable participants	n=36	n=21	n=15	0.326
<1%	15 (41.7%)	7 (33.3%)	8 (53.3%)	
1–49%	12 (33.3%)	7 (33.3%)	5 (33.3%)	
$\geq 50\%$	9 (25.0%)	7 (33.3%)	2 (13.3%)	
EGFR status among evaluable participants	n=42	n=19	n=23	0.093
Wild type	29 (69.0%)	16 (84.2%)	13 (56.5%)	
Mutated	13 (31.0%)	3 (15.8%)	10 (43.5%)	
Documented adverse event during index treatment	1 (2.1%)	1 (4.2%)	0 (0.0%)	1.000

Table 1. Baseline characteristics by index treatment group. Data are presented as n (%). Smoking history, second-line treatment, and additional anticancer combination differed between groups. **Abbreviations:** CNS, central nervous system; ECOG PS, Eastern Cooperative Oncology Group performance status; EGFR, epidermal growth factor receptor; PD-L1, programmed death-ligand 1; PESH, person with ever smoking history; PNSH, person with no smoking history; TPS, tumor proportion score.

(A) Overall cohort (n=47) (B) Tislelizumab-based (n=24) (C) Docetaxel-based (n=23)



ORR: 10.6% | DCR 76.6% ORR: 16.7% | DCR: 83.3% ORR: 4.3% | DCR: 69.6%

Fig. 1. Tumor response outcomes by index treatment group. (A) Overall cohort: ORR 10.6% and DCR 76.6%. (B) Tislelizumab-based group: ORR 16.7% and DCR 83.3%. (C) Docetaxel-based group: ORR 4.3% and DCR 69.6%. Between-group p values were 0.348 for ORR and 0.318 for DCR. **Abbreviations:** DCR, disease control rate; ORR, objective response rate; PD, progressive disease; PR, partial response; SD, stable disease.

Covariate	Univariable analysis HR (95% CI)	p value	Multivariable analysis aHR (95% CI)	p value
Sex (female vs male)	0.839 (0.181–3.887)	0.823	—	—
Age (≥ 70 vs <70 years)	2.634 (0.769–9.027)	0.123	—	—
ECOG PS (≥ 1 vs 0)	1.736 (0.460–6.554)	0.416	—	—
Stage (I/II vs I/IIA)	2.096 (0.635–6.917)	0.225	—	—
Histology (non-adenocarcinoma vs adenocarcinoma)	1.375 (0.401–4.718)	0.613	—	—
Smoking history (PESH vs PNSH)	NE†	—	—	—
Lung metastasis (yes vs no)	0.643 (0.181–2.233)	0.495	—	—
CNS metastasis (yes vs no)	3.053 (0.880–10.595)	0.079	3.252 (0.773–13.677)	0.108
Bone metastasis (yes vs no)	0.703 (0.150–3.289)	0.654	—	—
Liver metastasis (yes vs no)	2.737 (0.569–13.159)	0.209	—	—
Pleural metastasis (yes vs no)	0.674 (0.175–2.591)	0.566	—	—
Adrenal metastasis (yes vs no)	NE†	—	—	—
Extrathoracic metastasis (yes vs no)	2.890 (0.623–13.399)	0.175	—	—
≥ 2 distant metastatic sites (yes vs no)	0.946 (0.273–3.282)	0.931	—	—
Driver mutation (yes vs no)	0.700 (0.089–5.504)	0.735	—	—
EGFR mutation (mutated vs wild type)†	3.319 (0.099–18.373)	0.170	—	—
PD-L1 TPS†	—	0.162§	—	—
<1% (reference)	Reference	—	Reference	—
1–49%	0.406 (0.095–1.734)	—	—	—
$\geq 50\%$	0.150 (0.017–1.304)	—	—	—
Prior immunotherapy (yes vs no)	0.426 (0.122–1.488)	0.181	—	—
Prior chemotherapy (yes vs no)	NE†	—	—	—
Prior targeted therapy (yes vs no)	2.176 (0.656–7.222)	0.204	—	—
Any additional anticancer combination (yes vs no)	1.688 (0.444–6.421)	0.442	—	—
Chemotherapy-containing combination (yes vs no)	1.219 (0.369–4.028)	0.746	—	—
Antiangiogenic-containing regimen (yes vs no)	0.666 (0.084–5.265)	0.700	—	—
CT + IO regimen (yes vs no)	1.496 (0.450–4.969)	0.511	—	—
Treatment line	—	0.060§	—	0.145§
2–3L (reference)	Reference	—	Reference	—
4L	8.476 (1.366–52.594)	—	6.184 (0.984–38.878)	—
$\geq 5L$	2.395 (0.482–11.913)	—	3.411 (0.641–18.149)	—
Documented adverse event during index treatment (yes vs no)	NE†	—	—	—

Table 2. Cox regression analyses of time to treatment failure (TTF) in the tislelizumab-based cohort. The model included CNS metastasis and treatment line, with 11 events; overall likelihood-ratio $p = 0.050$. Neither covariate was independently significant. **Abbreviations:** aHR, adjusted hazard ratio; CI, confidence interval; HR, hazard ratio; NE, not estimable.

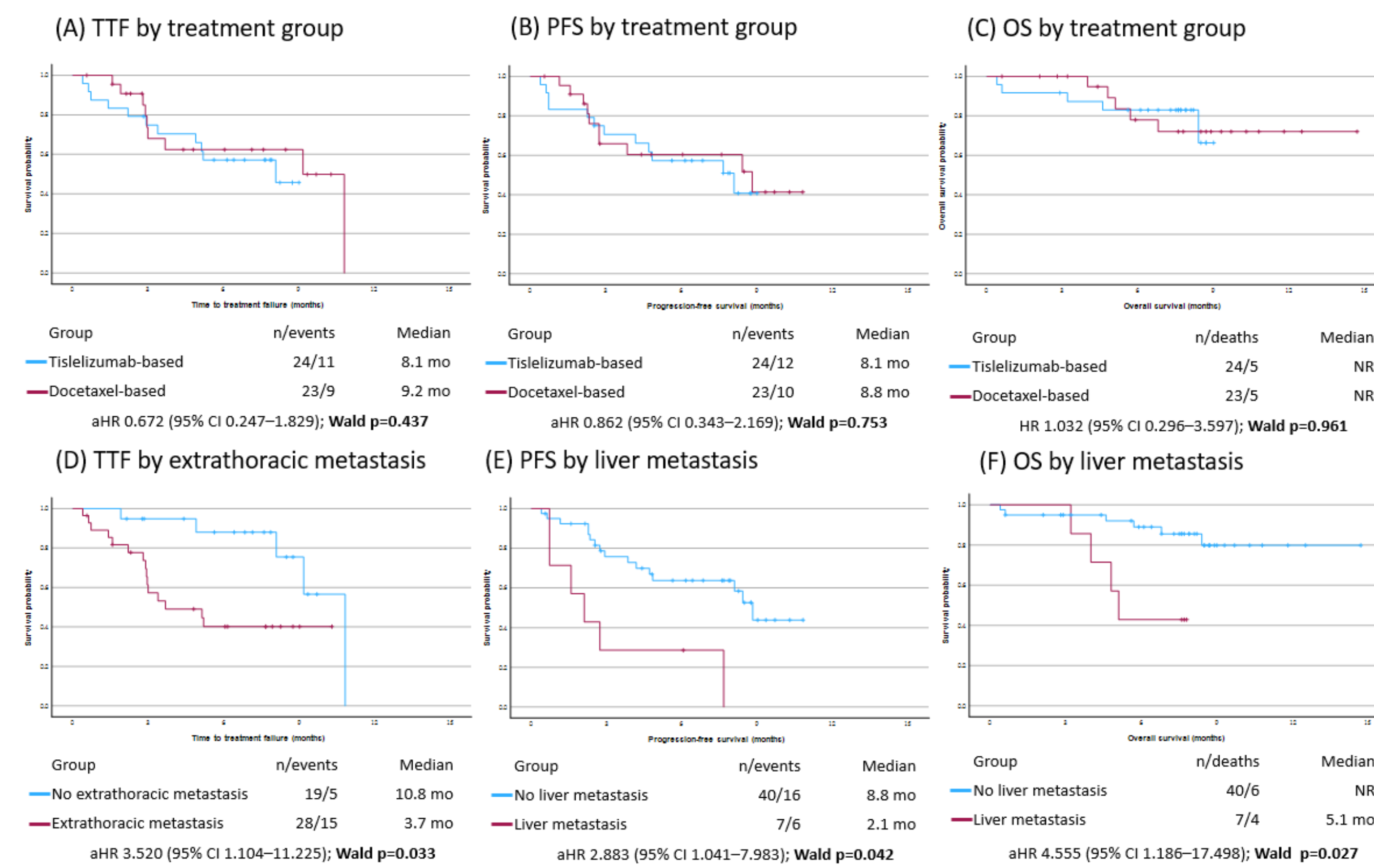


Fig. 2. Kaplan-Meier estimates in the overall cohort (n=47). (A) TTF by treatment group. (B) PFS by treatment group. (C) OS by treatment group. (D) TTF by extrathoracic metastasis. (E) PFS by liver metastasis. (F) OS by liver metastasis. No significant treatment-group differences were observed; Panels D–F show exploratory prognostic associations. **Abbreviation:** NR, not reached.

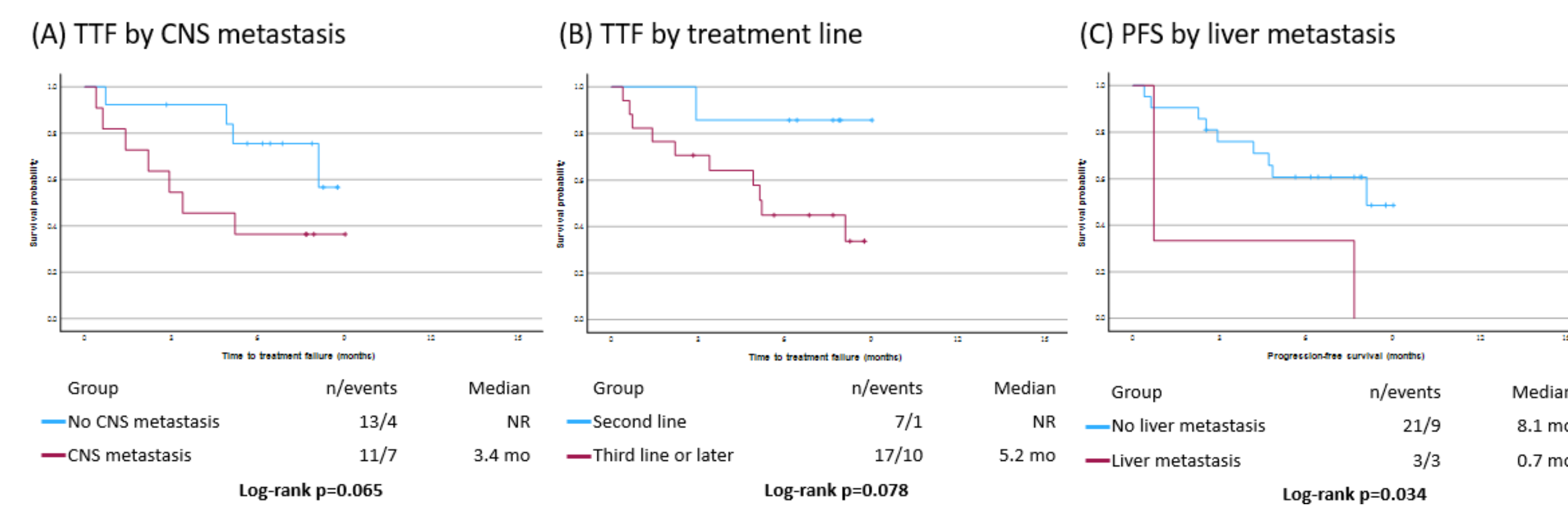


Fig. 3. Exploratory Kaplan-Meier estimates in the tislelizumab-based cohort (n=24). (A) TTF by CNS metastasis. (B) TTF by treatment line. (C) PFS by liver metastasis. Panel B uses second line versus third line or later for visualization; formal Cox analyses used the three-category treatment-line definition. Results should be interpreted cautiously because of limited events and sparse subgroups.

Covariate	Univariable analysis HR (95% CI)	p value	Multivariable analysis aHR (95% CI)	p value
Sex (female vs male)	NE†	—	—	—
Age (≥ 70 vs <70 years)	1.956 (0.326–11.722)	0.463	—	—
ECOG PS (≥ 1 vs 0)	2.266 (0.253–20.311)	0.465	—	—
Stage (I/II vs I/IIA)	8.939 (0.990–80.689)	0.051	5.313 (0.503–56.141)	0.165
Histology (non-adenocarcinoma vs adenocarcinoma)	1.535 (0.253–9.327)	0.642	—	—
Smoking history (PESH vs PNSH)	NE†	—	—	—
Lung metastasis (yes vs no)	0.457 (0.047–4.397)	0.498	—	—
CNS metastasis (yes vs no)	7.580 (0.614–70.628)	0.075	3.723 (0.352–39.436)	0.275
Bone metastasis (yes vs no)	0.695 (0.076–6.377)	0.748	—	—
Liver metastasis (yes vs no)	2.349 (0.243–22.679)	0.461	—	—
Pleural metastasis (yes vs no)	NE†	—	—	—
Adrenal metastasis (yes vs no)	NE†	—	—	—
Extrathoracic metastasis (yes vs no)	NE†	—	—	—
≥ 2 distant metastatic sites (yes vs no)	2.212 (0.359–13.611)	0.392	—	—
Driver mutation (yes vs no)	1.684 (0.185–15.352)	0.644	—	—
EGFR mutation (mutated vs wild type)†	4.955 (0.680–36.095)	0.114	—	—
PD-L1 TPS†	NE†	—	—	—
Prior immunotherapy (yes vs no)	NE†	—	—	—
Prior chemotherapy (yes vs no)	NE†	—	—	—
Prior targeted therapy (yes vs no)	2.143 (0.348–13.202)	0.411	—	—
Any additional anticancer combination (yes vs no)	1.480 (0.154–14.244)	0.734	—	—
Chemotherapy-containing combination (yes vs no)	2.937 (0.319–27.008)	0.341	—	—
Antiangiogenic-containing regimen (yes vs no)	NE†	—	—	—
CT + IO regimen (yes vs no)	3.475 (0.376–32.131)	0.272	—	—
Treatment line	—	0.695§	—	—
2–3L (reference)	Reference	—	Reference	—
4L	3.368 (0.207–54.913)	—	—	—
$\geq 5L$	1.745 (0.175–17.352)	—	—	—
Documented adverse event during index treatment (yes vs no)	NE†	—	—	—

Table 3. Cox regression analyses of progression-free survival (PFS) in the tislelizumab-based cohort. The model included liver metastasis and treatment line, with 12 events; overall likelihood-ratio $p = 0.084$. Neither covariate was independently significant.

Table 4. Exploratory Cox regression analyses of overall survival (OS) in the tislelizumab-based cohort. The model included Stage I/II and CNS metastasis, with five deaths. Although the overall likelihood-ratio p was 0.039, neither covariate was independently significant, and estimates were unstable.