

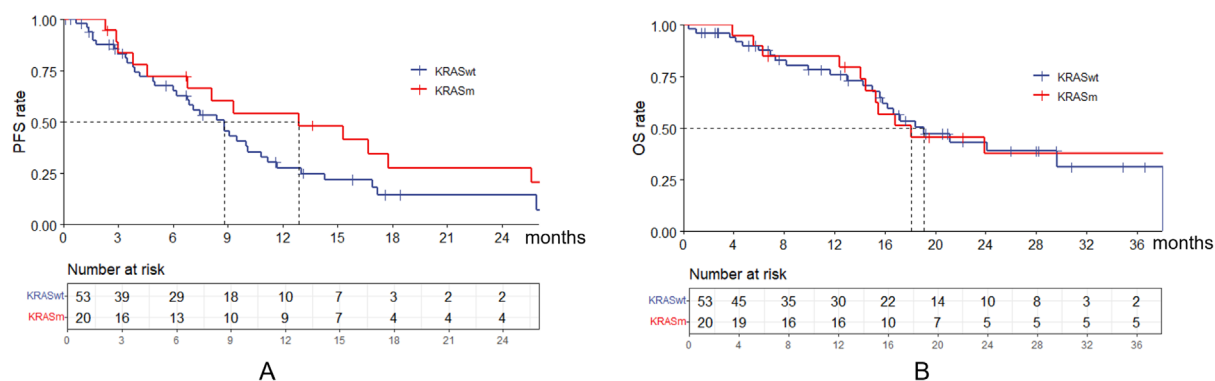


Figure S1 Effects of the KRASm on efficacy and survival in the Pembro group. (A) Kaplan-Meier estimate of PFS; (B) Kaplan-Meier estimate of OS. CI, confidence interval; HR, hazard ratio; *KRAS*, Kirsten rat sarcoma viral antigen; KRASm, *KRAS* mutation; KRASwt, *KRAS* wild type; OS, overall survival; pembro, pembrolizumab; PFS, progression-free survival.

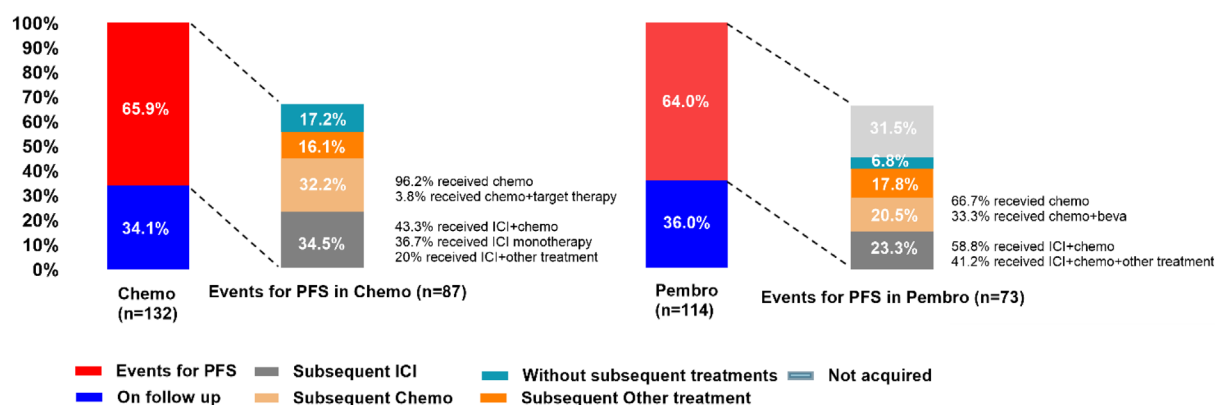


Figure S2 Second-line treatment options in the Chemo and Pembro groups. Chemo, chemotherapy; ICI, immune checkpoint inhibitor; n, number; pembro, pembrolizumab; PFS, progression-free survival.

Table S1 The univariate Cox proportional hazard regression model for PFS

Variables	β	S.E.	Z	P	HR (95% CI)
Sex					
Female					1.00 (Reference)
Male	-0.32	0.30	-1.08	0.28	0.72 (0.40–1.30)
Age (years)					
<65					1.00 (Reference)
≥65	0.48	0.24	1.97	0.049	1.62 (1.01–2.61)
Smoking history					
No					1.00 (Reference)
Yes	0.16	0.26	0.59	0.55	1.17 (0.70–1.96)
ECOG-PS score					
>1					1.00 (Reference)
0–1	-0.44	0.47	-0.95	0.34	0.64 (0.26–1.60)
Distant metastasis number					
<3					1.00 (Reference)
≥3	0.33	0.24	1.36	0.17	1.40 (0.86–2.25)
Liver metastasis					
No					1.00 (Reference)
Yes	0.23	0.38	0.62	0.54	1.26 (0.60–2.64)
Brain metastasis					
No					1.00 (Reference)
Yes	0.03	0.33	0.08	0.93	1.03 (0.54–1.97)
Bone metastasis					
No					1.00 (Reference)
Yes	0.11	0.26	0.44	0.66	1.12 (0.67–1.87)
Adrenal metastasis					
No					1.00 (Reference)
Yes	-0.65	0.51	-1.27	0.20	0.52 (0.19–1.43)
Pathology					
Non-SCC					1.00 (Reference)
SCC	-0.48	0.26	-1.86	0.06	0.62 (0.37–1.03)
Stage					
III					1.00 (Reference)
IV	0.82	0.43	1.92	0.055	2.27 (0.98–5.24)
IrAEs					
No					1.00 (Reference)
Yes	-0.66	0.24	-2.71	0.007	0.52 (0.32–0.83)
PLR					
<190.1					1.00 (Reference)
≥190.1	0.03	0.26	0.13	0.90	1.03 (0.62–1.72)
PNI					
<45					1.00 (Reference)
≥45	0.04	0.28	0.14	0.89	1.04 (0.60–1.81)
NLR					
<3.95					1.00 (Reference)
≥3.95	0.37	0.26	1.46	0.15	1.45 (0.88–2.40)

CI, confidence interval; ECOG-PS, Eastern Cooperative Oncology Group-Performance Status; HR, hazard ratio; irAEs, immune-related adverse events; NLR, neutrophil-to-lymphocyte ratio; PFS, progression-free survival; PNI, prognostic nutritional index; PLR, platelet-to-lymphocyte ratio; SCC, squamous cell lung cancer; S.E., standard error.

Table S2 The univariate Cox proportional hazard regression model for OS

Variables	β	S.E.	Z	P	HR (95% CI)
Sex					
Female					1.00 (Reference)
Male	0.18	0.39	0.46	0.65	1.19 (0.56–2.54)
Age (years)					
<65					1.00 (Reference)
≥65	0.58	0.29	2.00	0.046	1.78 (1.01–3.14)
Smoking history					
No					1.00 (Reference)
Yes	0.98	0.41	2.41	0.02	2.67 (1.20–5.93)
ECOG-PS score					
>1					1.00 (Reference)
0–1	−1.61	0.42	−3.86	<0.001	0.20 (0.09–0.45)
Distant metastasis number					
<3					1.00 (Reference)
≥3	0.40	0.29	1.41	0.16	1.50 (0.86–2.62)
Liver metastasis					
No					1.00 (Reference)
Yes	0.08	0.47	0.17	0.87	1.08 (0.43–2.72)
Brain metastasis					
No					1.00 (Reference)
Yes	0.22	0.35	0.63	0.53	1.25 (0.63–2.49)
Bone metastasis					
No					1.00 (Reference)
Yes	0.45	0.30	1.50	0.13	1.57 (0.87–2.84)
Adrenal metastasis					
No					1.00 (Reference)
Yes	0.68	0.44	1.55	0.12	1.97 (0.84–4.63)
Pathology					
Non-SCC					1.00 (Reference)
SCC	−0.56	0.31	−1.82	0.07	0.57 (0.31–1.04)
Stage					
III					1.00 (Reference)
IV	0.62	0.47	1.32	0.19	1.86 (0.74–4.68)
IrAEs					
No					1.00 (Reference)
Yes	−0.84	0.30	−2.78	0.005	0.43 (0.24–0.78)
PLR					
<190.1					1.00 (Reference)
≥190.1	0.49	0.30	1.63	0.10	1.64 (0.91–2.96)
PNI					
<45					1.00 (Reference)
≥45	−0.64	0.32	−2.02	0.043	0.53 (0.28–0.98)
NLR					
<3.95					1.00 (Reference)
≥3.95	0.97	0.32	3.09	0.002	2.65 (1.43–4.91)

CI, confidence interval; ECOG-PS, Eastern Cooperative Oncology Group-Performance Status; HR, hazard ratio; irAEs, immune-related adverse events; NLR, neutrophil-to-lymphocyte ratio; OS, overall survival; PNI, prognostic nutritional index; PLR, platelet-to-lymphocyte ratio; SCC, squamous cell lung cancer; S.E., standard error.

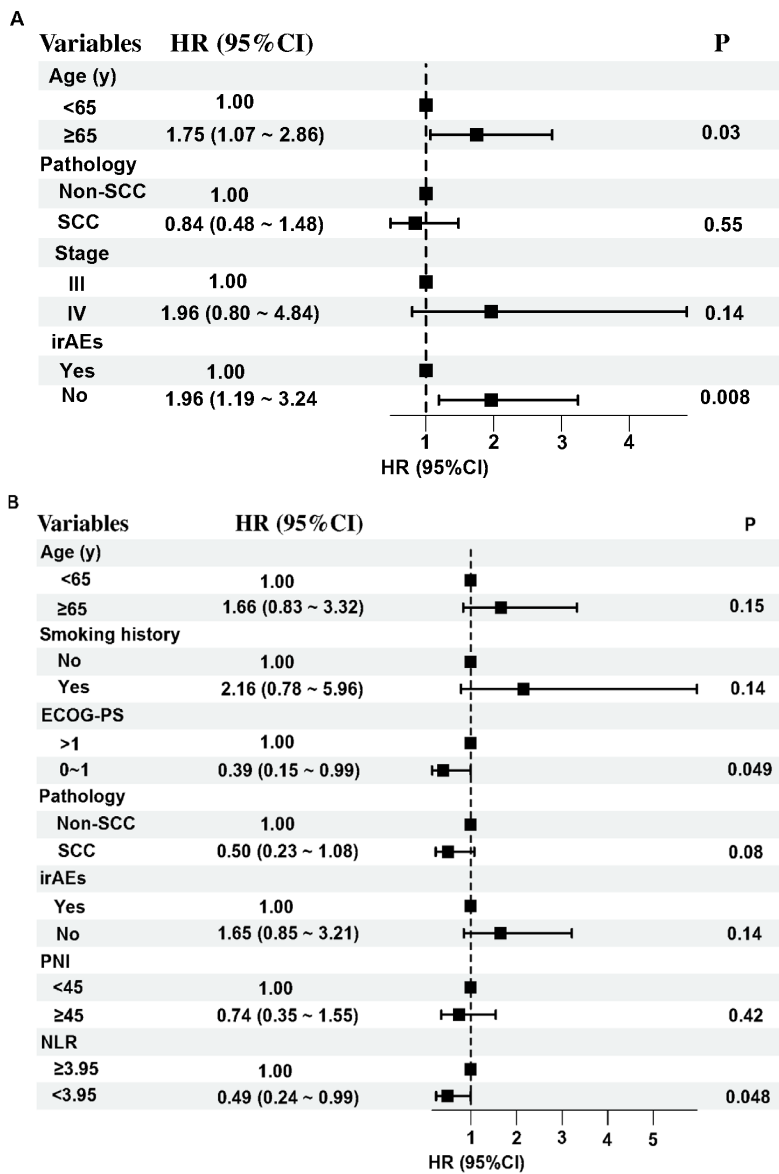


Figure S3 Forest plots of the multivariate Cox proportional hazard ratios for PFS (A) and OS (B) in the Pembro group (Model 2). CI, confidence interval; ECOG-PS Eastern Cooperative Oncology Group-Performance Status; HR, hazard ratio; irAEs, immune-related adverse events; NLR, neutrophil-to-lymphocyte ratio; OS, overall survival; pembro, pembrolizumab; PFS, progression-free survival; PNI, prognostic nutritional index; SCC, squamous cell lung cancer; y, years.