

Chemoimmunotherapy in Elderly Patients with Extensive-Stage Small Cell Lung Cancer: A Retrospective Study

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INTRODUCTION

Extensive-stage SCLC is now commonly treated with PD-L1 inhibitor-based chemoimmunotherapy, following survival benefits in IMpower133 and CASPIAN. However, patients aged ≥ 75 years were underrepresented in pivotal trials, despite comprising a substantial proportion of real-world Japanese populations. Although evidence supports benefit in older patients overall, the efficacy and safety of chemoimmunotherapy specifically in those aged ≥ 75 years remain uncertain. This retrospective study compares chemoimmunotherapy with chemotherapy alone in elderly patients and evaluates outcomes versus younger patients.

METHODS

- This retrospective multicenter cohort study included patients with ES-SCLC treated at Niigata Lung Cancer Treatment Group institutions between August 2019 and April 2024.
- Patients receiving systemic therapy were analyzed; those with limited-stage disease, ineligible histology, or interventional-trial participation were excluded. Elderly patients were defined as aged ≥ 75 years.
- The primary endpoint was real-world OS comparing chemoimmunotherapy with chemotherapy alone in elderly patients. Secondary endpoints included rwPFS, safety, treatment failure, maintenance therapy, irAEs, and concomitant medications. Survival was analyzed using Kaplan–Meier and Cox regression methods.

RESULTS

Table.1 Patient characteristics

Characteristics		≥ 75 y.o. (n = 132)	< 75 y.o. (n = 211)	p-value
Age	Median, range	79 (75-92)	69 (46-74)	
Sex	Male	114 (86%)	183 (87%)	1.0000
	Female	18 (14%)	28 (13%)	
Smoking history	Current or former	127 (96%)	208 (99%)	0.2686
	Never	5 (4%)	3 (1%)	
Histology	Pure SCLC	125 (95%)	198 (94%)	0.4574
	Combined SCLC	7 (5%)	14 (7%)	
Comorbidities	ILD	32 (24%)	27 (13%)	0.008
ECOG-PS	0	11 (8%)	24 (11%)	0.4812
	1	74 (56%)	120 (57%)	
	2	29 (22%)	37 (18%)	
	3	17 (13%)	29 (14%)	
	4	1 (1%)	1 (1%)	
Metastases	Brain	22 (17%)	54 (26%)	0.0614
	Liver	47 (36%)	85 (40%)	
Treatment regimens	Atezo + CBDCA + ETP	43 (33%)	77 (37%)	<0.0001
	Durva + Platinum + ETP	22 (17%)	76 (36%)	
	Platinum + ETP	67 (51%)	57 (27%)	
	CDDP + CPT-11	0 (0%)	1 (1%)	

Table.3 Incidence of Grade ≥ 3 non-irAEs ($>10\%$)

Adverse events	≥ 75 years (n = 65)	< 75 years (n = 153)	p value
Neutropenia	40 (62%)	94 (61%)	1.0000
Leukopenia	5 (8%)	24 (16%)	0.1306
Thrombocytopenia	8 (12%)	9 (6%)	0.1641
Febrile neutropenia	5 (8%)	18 (12%)	0.4735

Table.2 Univariate and multivariate analyses of OS

Variables	Univariate			Multivariate		
	HR	95%CI	p value	HR	95%CI	p value
Age (≥ 75 / < 75)	1.064	0.7459-1.5178	0.7322	1.1368	0.7910-1.6335	0.4883
Sex (M/F)	1.2142	0.7424-1.9860	0.4393	1.4289	0.8234-2.4797	0.2044
Smoking history (Smoker/Never)	1.1048	0.4087-2.9862	0.8443	0.8583	0.2827-2.6059	0.7874
Histology (Pure/ Combined)	1.9439	0.6195-6.0996	0.2546	2.5917	0.8189-8.2022	0.1052
PS (0-1/2-4)	0.6311	0.4467-0.8916	0.009	0.5787	0.4064-0.8240	0.0024
Liver metastasis (+/-)	1.9283	1.3960-2.6636	<0.001	2.1318	1.5040-3.0215	<0.001
Brain metastasis (+/-)	0.8819	0.6149-1.2645	0.4942	1.1149	0.7595-1.6364	0.5787

Table.4 Incidence of Grade ≥ 3 irAEs

Adverse events	≥ 75 years (n = 65)	< 75 years (n = 153)	p value
ILD	1 (2%)	6 (4%)	0.6770
Enteritis	0 (0%)	3 (2%)	0.5562
Type 1 diabetes	1 (2%)	1 (1%)	0.5084
Liver dysfunction	0 (0%)	1 (1%)	1.0000
Psoriasis	1 (2%)	0 (0%)	0.2982
Encephalitis	0 (0%)	1 (1%)	1.0000
Adrenal failure	0 (0%)	1 (1%)	1.0000
Thrombocytopenia	1 (2%)	0 (0%)	0.2982

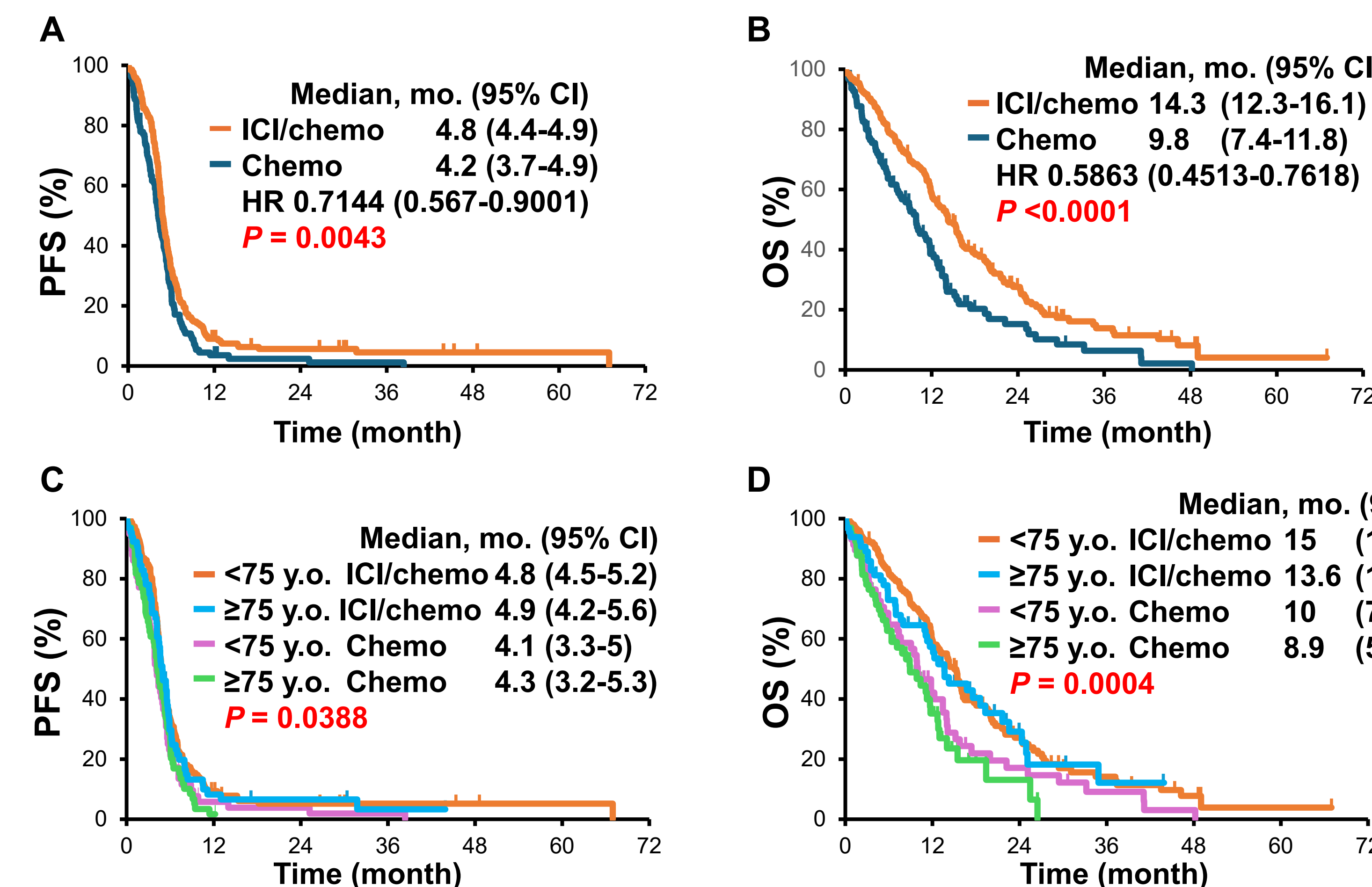


Figure.1 Outcomes in the overall population and in subpopulations stratified by age and treatment administered.

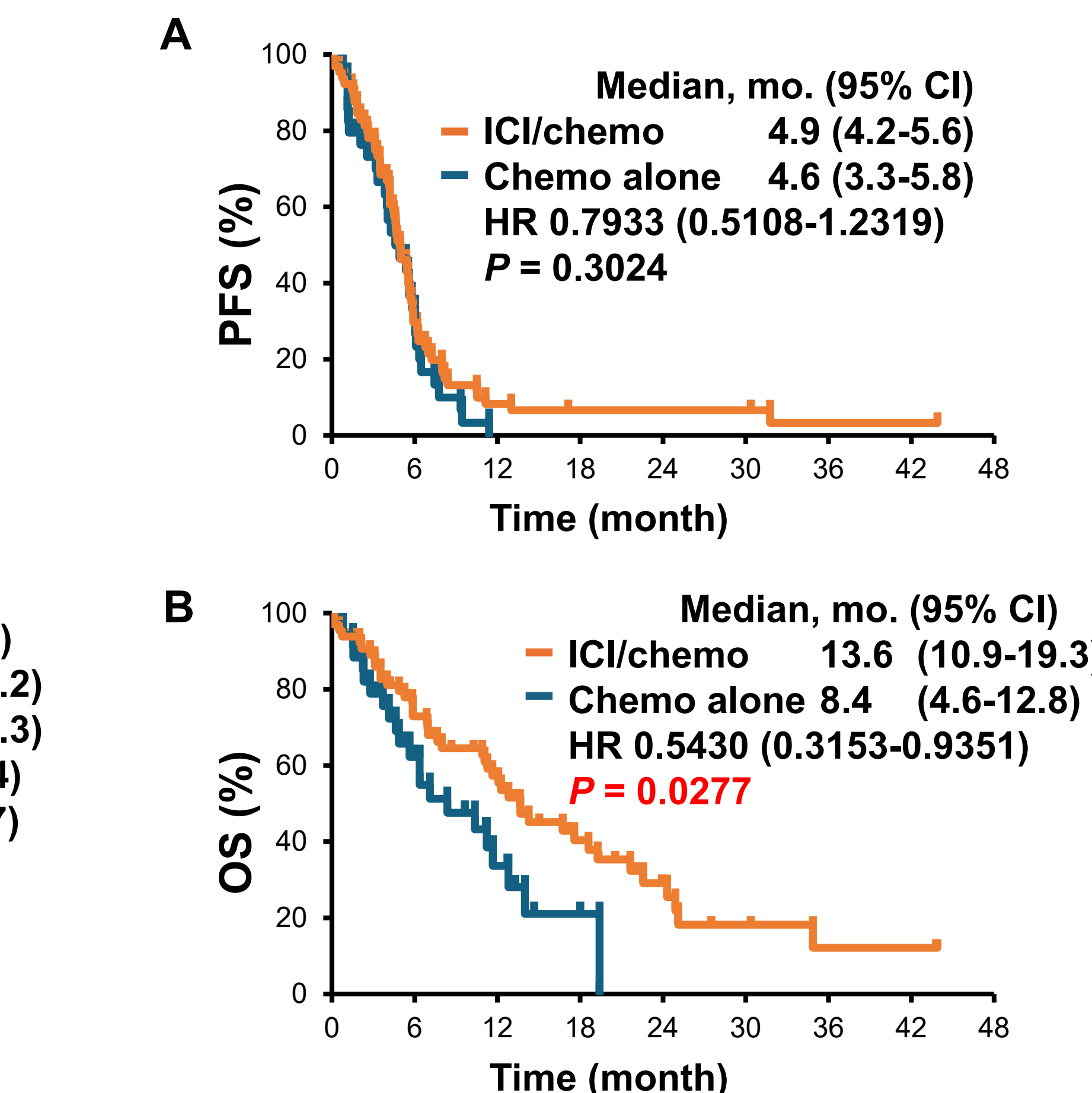


Figure.2 Outcomes in patients aged ≥ 75 treated with a PD-L1 inhibitor plus chemotherapy or chemotherapy alone after excluding those with ILD.

DISCUSSION & CONCLUSION

- In patients aged ≥ 75 years with ES-SCLC and concomitant ILD, platinum-based combination chemotherapy was selected significantly more frequently.
- Among patients aged ≥ 75 years with ES-SCLC, the addition of a PD-L1 inhibitor to platinum-based chemotherapy prolonged OS, with efficacy comparable to that observed in patients aged < 75 years.
- The incidence of grade ≥ 3 adverse events did not differ significantly between patients aged ≥ 75 years and those aged < 75 years.

REFERENCES & ACKNOWLEDGEMENTS

References

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- Additional references are available via the QR code below.



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