



P1.255: Risk-Benefit Profile of PD-L1 Inhibitor Rechallenge After Checkpoint Inhibitor Pneumonitis in Lung Cancer: A Real-World Study

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INTRODUCTION

Among patients with lung cancer who previously experienced checkpoint inhibitor pneumonitis (CIP), the relative safety and efficacy of rechallenge with PD-1 versus PD-L1 inhibitors have not been well established. This study was conducted to compare the safety and efficacy of PD-1 and PD-L1 inhibitor rechallenge in this population.

METHODS

Design:
In this multicenter real-world study, 63 patients with lung cancer who underwent ICI rechallenge after CIP were included, of whom 40 received PD-1 inhibitors and 23 received PD-L1 inhibitors. Multivariable logistic regression was used to compare the risks of CIP relapse and immune-related adverse events (irAEs) between groups, adjusting for gender, age, smoking history, underlying lung disease, histology, stage, and prior thoracic radiotherapy. Progression-free survival (PFS) and overall survival (OS) were assessed using the Kaplan-Meier method and compared with the log-rank test.

DISCUSSION AND CONCLUSION

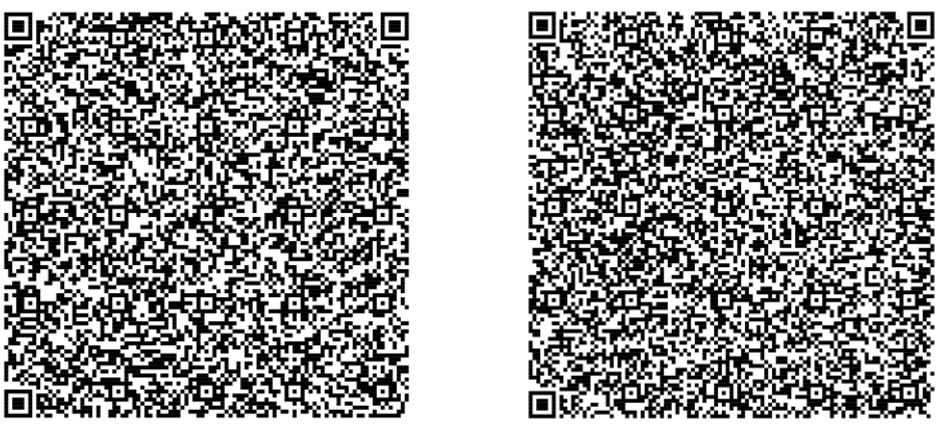
- Safety: PD-L1 rechallenge was associated with lower risks of CIP relapse and any irAE.
 - Efficacy: No significant differences in PFS or OS were observed between groups.
 - Interpretation: Given the limited sample size and baseline histologic imbalance, these exploratory findings require validation in larger prospective cohorts.
- Future direction: Prospective studies and biomarker-based patient selection may help optimize the balance between toxicity risk and antitumor benefit.

REFERENCES & ACKNOWLEDGEMENTS

SELECTED REFERENCES

- 1.Khunger M, et al. Chest. 2017;152(2):271–281.
- 2.Su Q, et al. Front Immunol. 2019;10:108.

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Artificial Intelligence (AI) Use Disclaimer

No artificial intelligence (AI) tools were used in the development or preparation of this poster.

RESULTS

Baseline characteristics were generally comparable between the two groups. Multivariable analysis showed that PD-L1 inhibitor rechallenge was associated with significantly lower risks of CIP relapse (OR=0.20, 95% CI: 0.05-0.73, P=0.021) and any irAEs (OR=0.13, 95% CI: 0.03-0.47, P=0.004) than PD-1 inhibitor rechallenge. Survival outcomes did not differ significantly between groups: median PFS was 12.22 months in the PD-1 group and 4.53 months in the PD-L1 group (P=0.582), while median OS was not reached and 61.04 months, respectively (P=0.700).

Variable	N	Baseline characteristics of patients			p-value ²
		Overall N=63	PD-1 N=40 ¹	PD-L1 N=23 ¹	
Age, years	63	63.0 (58.0, 68.0)	63.5 (58.5, 68.0)	61.0 (58.0, 69.0)	0.59
Gender	63				0.66
Male		57 (90%)	37 (93%)	20 (87%)	
Female		6 (9.5%)	3 (7.5%)	3 (13%)	
Smoking history	63				>0.99
No		11 (17%)	7 (18%)	4 (17%)	
Yes		52 (83%)	33 (83%)	19 (83%)	
Underlying lung disease	62				0.41
No		41 (66%)	28 (70%)	13 (59%)	
Yes		21 (34%)	12 (30%)	9 (41%)	
Histologic type	63				0.009
NSCLC		54 (86%)	38 (95%)	16 (70%)	
SCLC		9 (14%)	2 (5.0%)	7 (30%)	
Tumor stage	63				0.61
≤3		30 (48%)	18 (45%)	12 (52%)	
4		33 (52%)	22 (55%)	11 (48%)	
Line of immunotherapy	62				0.50
1		51 (82%)	33 (83%)	18 (82%)	
2		8 (13%)	6 (15%)	2 (9.1%)	
≥3		3 (4.8%)	1 (2.5%)	2 (9.1%)	
Treatment	63				0.87
Combination with anti-angiogenesis		14 (22%)	10 (25%)	4 (17%)	
Combination with chemotherapy		38 (60%)	23 (58%)	15 (65%)	
Others		11 (17%)	7 (18%)	4 (17%)	
Grade of initial CIP	63				0.42
Grade 2		40 (63%)	27 (68%)	13 (57%)	
Grade 3		23 (37%)	13 (33%)	10 (43%)	
Corticosteroid therapy	62				0.24
No		8 (13%)	7 (18%)	1 (4.5%)	
Yes		54 (87%)	33 (83%)	21 (95%)	
Time from CIP to rechallenge, days	63	50.0 (35.0, 132.0)	47.3 (38.5, 73.5)	64.0 (35.0, 181.0)	0.31

¹Data are presented as n (%) or median (IQR)

²Wilcoxon rank sum test; Fisher's exact test

A

Factors associated with CIP relapse

Variable	OR (95%CI)	P-value
Prior lung radiotherapy (Yes vs No)	4.552 (0.932-27.396)	0.074
Lung cancer stage (4 vs ≤3)	3.123 (0.823-13.777)	0.107
Age (per 1-year increase)	1.022 (0.945-1.107)	0.585
Smoking history (Yes vs No)	0.639 (0.067-4.848)	0.671
Underlying lung disease (Yes vs No)	0.423 (0.099-1.633)	0.222
Treatment (PD-L1 vs PD-1)	0.200 (0.045-0.730)	0.021
Lung cancer histology (SCLC vs NSCLC)	0.189 (0.008-1.795)	0.195
Gender (Female vs Male)	0.122 (0.003-1.940)	0.175

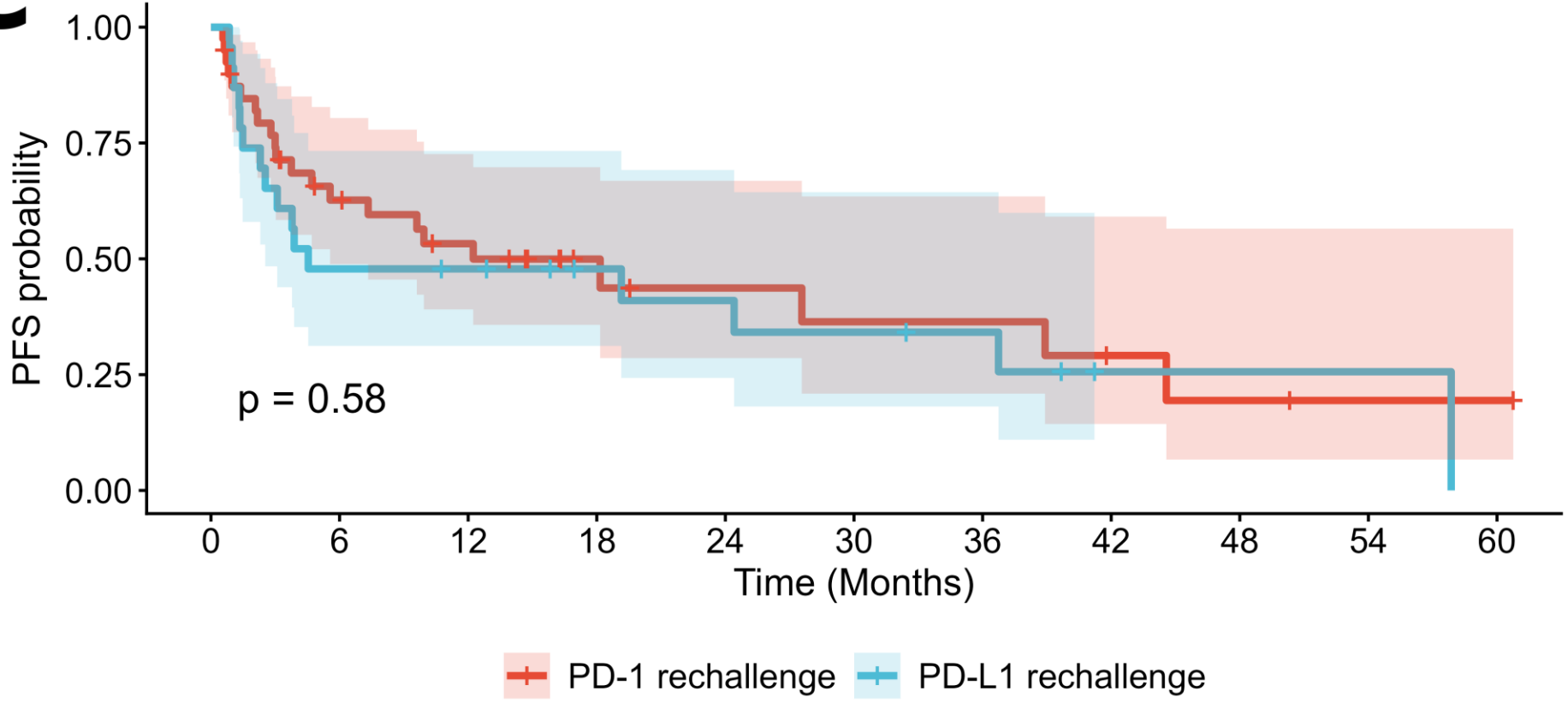
B

Factors associated with any irAE

Variable	OR (95%CI)	P-value
Prior lung radiotherapy (Yes vs No)	4.561 (0.894-29.803)	0.085
Lung cancer stage (4 vs ≤3)	2.658 (0.700-11.364)	0.163
Age (per 1-year increase)	1.027 (0.948-1.115)	0.508
Smoking history (Yes vs No)	0.336 (0.030-2.665)	0.324
Underlying lung disease (Yes vs No)	0.777 (0.192-3.069)	0.718
Treatment (PD-L1 vs PD-1)	0.126 (0.027-0.473)	0.004
Lung cancer histology (SCLC vs NSCLC)	0.099 (0.003-1.213)	0.123
Gender (Female vs Male)	0.605 (0.035-10.426)	0.720

C

Kaplan-Meier Curve for PFS



D

Kaplan-Meier Curve for OS

