

EP11.10. Beyond PD-L1: Clinical and Genomic Factors Associated With Poor Outcomes in Metastatic NSCLC Treated With First-Line Immunotherapy

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INTRODUCTION

- ICIs have improved outcomes in metastatic non-small cell lung cancer (mNSCLC).
- However, the benefit in some patients remains limited, even among those with high PD-L1 expression.
- Study focus:** To analyze clinicobiological characteristics and outcomes according to PD-L1 expression.

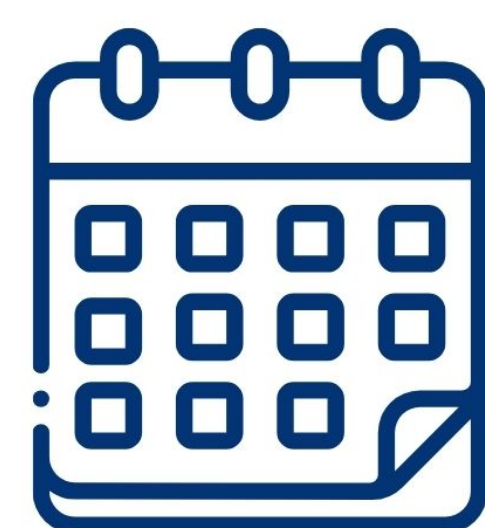
METHODS

Design:

- Retrospective observational data from patients with metastatic NSCLC.



147 patients with
mNSCLC without
targetable mutations



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PD-L1 ≥50%

PD-L1 <50%

- First-line treatment with ICI or CT-ICI
- Evaluation of objective response rate (ORR), progression-free survival (PFS) and overall survival (OS).
- Analysis of demographic, clinical, and molecular characteristics.

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Our outcomes were inferior to those reported in clinical trials, likely reflecting real-world heterogeneity. Notably, no benefit was observed in PD-L1 ≥50% patients, possibly due to a worse clinical profile and unfavorable molecular context.

Future Direction for Research

- PD-L1 alone is insufficient as a predictive biomarker, highlighting the need for integrated clinical and molecular models to optimize patient selection. Further studies incorporating tumor mutational burden and immune microenvironment biomarkers are warranted in prospective controlled settings.

REFERENCES & ACKNOWLEDGEMENTS

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AI Contribution Disclaimer: ChatGPT (OpenAI) was used solely as a language-support tool to assist with English translation. The authors reviewed and approved the final content and take full responsibility for its accuracy

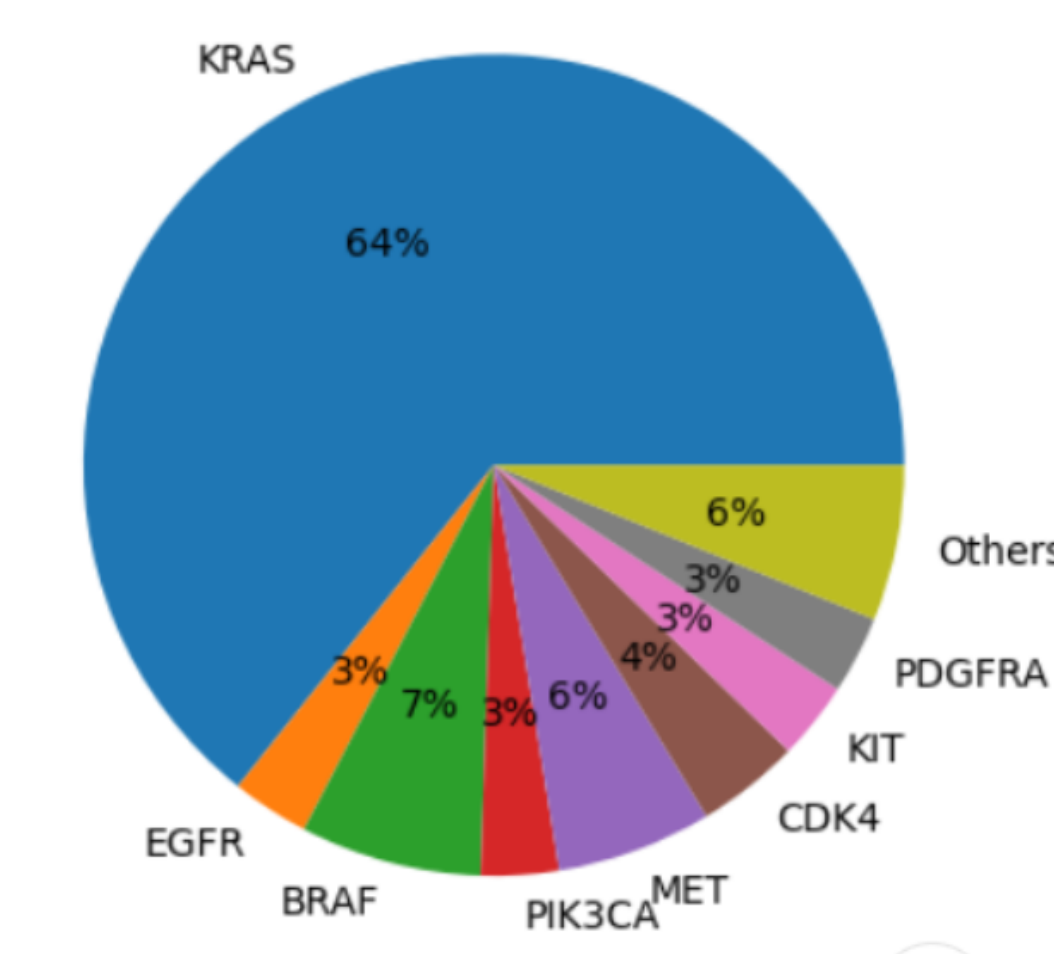
RESULTS

- In general population median **PFS was 7 months** and **OS was 12 months**. PFS was shorter in the PD-L1 ≥50% group (5.5 vs 8 months), while OS was 12 months in both groups.
- Stable disease and progressive disease were the most frequent best responses** (53%). Furthermore, **63%** of patients showed **primary-resistance** to treatment.
- The PD-L1 ≥50 group showed a higher proportion of stage IVB disease, higher tumor burden, higher NLR and a higher prevalence of KRAS mutations.

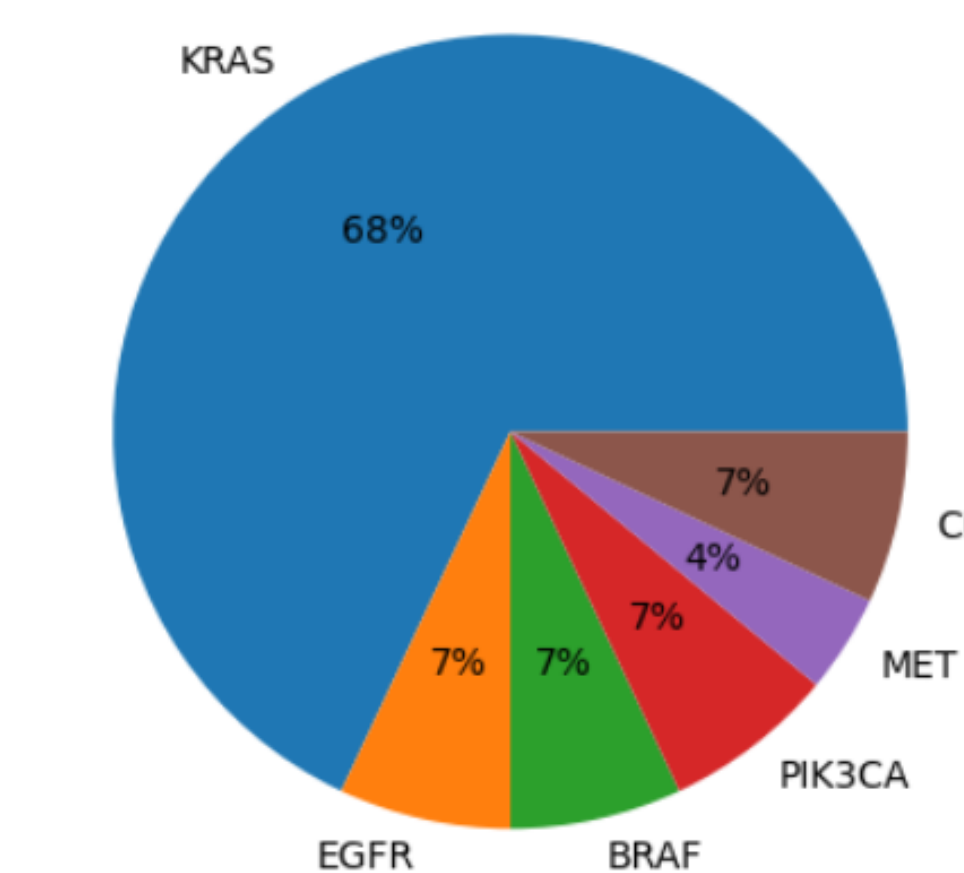
Table 1. Clinical-demographic characteristics of patients with NSCLC

	General population (n=147)	High expression of PD- L1 (≥50%) (n=60)	Low expression of PD- L1 (<50%) (n=87)
Sex (n,%)			
Male	113(77)	43 (72)	70 (80)
Female	34(23)	17 (28)	17 (20)
Age (mean, range)	65 (83-34)	64 (81-44)	66 (83-34)
Smoking status (n, %)			
Smoker	64 (44)	29(48)	35 (40)
Non-smoker	8 (5)	3 (5)	5 (6)
Former smoker	75 (51)	28 (47)	47 (54)
WHO PS (n, %)			
0	43 (29)	17 (28)	26 (30)
1	87 (59)	34 (57)	53 (61)
2	16 (11)	8 (13)	8 (9)
3	1 (1)	1 (2)	0
NSCLC disease stage at diagnosis (n, %)			
I	4 (3)	3 (5)	1 (1)
II	4 (3)	4 (7)	0
IIIA	6 (4)	1 (2)	5 (6)
IIIB	6 (4)	3 (5)	3 (3)
IIIC	3 (2)	1 (2)	2 (2)
IVA	57 (39)	13 (22)	44 (51)
IVB	67 (46)	35 (58)	32 (37)
Tumour histologic type (n, %)			
Adenocarcinoma	104 (71)	35 (58)	69 (79)
Squamous	39 (26)	21 (35)	18 (21)
Other	4 (3)	4 (7)	0
Brain metastasis (n, %)			
At diagnosis	24 (16)	10 (17)	14 (16)
During evolution of disease	31 (21)	14 (23)	17 (20)
Visceral metastasis (n, %)			
Lung	89 (33)	34 (28)	55 (36)
Nodes	50 (18)	30 (25)	20 (13)
Bone	48 (18)	17 (14)	31 (21)
Liver	22 (8)	9 (7)	13 (9)
Other	39 (14)	21 (17)	18 (12)
Tumor Burden (n, %)			
High	51 (35)	24 (40)	27 (31)
Low	96 (65)	36 (60)	60 (69)
Neutrophil/Lymphocyte Ratio (NLR) (n,%)			
Normal	75 (51)	26 (43)	49 (56)
Mild	10 (7)	7 (12)	3 (3)
Moderate	17(12)	6 (10)	11 (13)
Severe	8 (5)	3 (5)	5 (6)

NGS results in the general population



NGS results in the PD-L1≥50% group



NGS results in the PD-L1<50% group

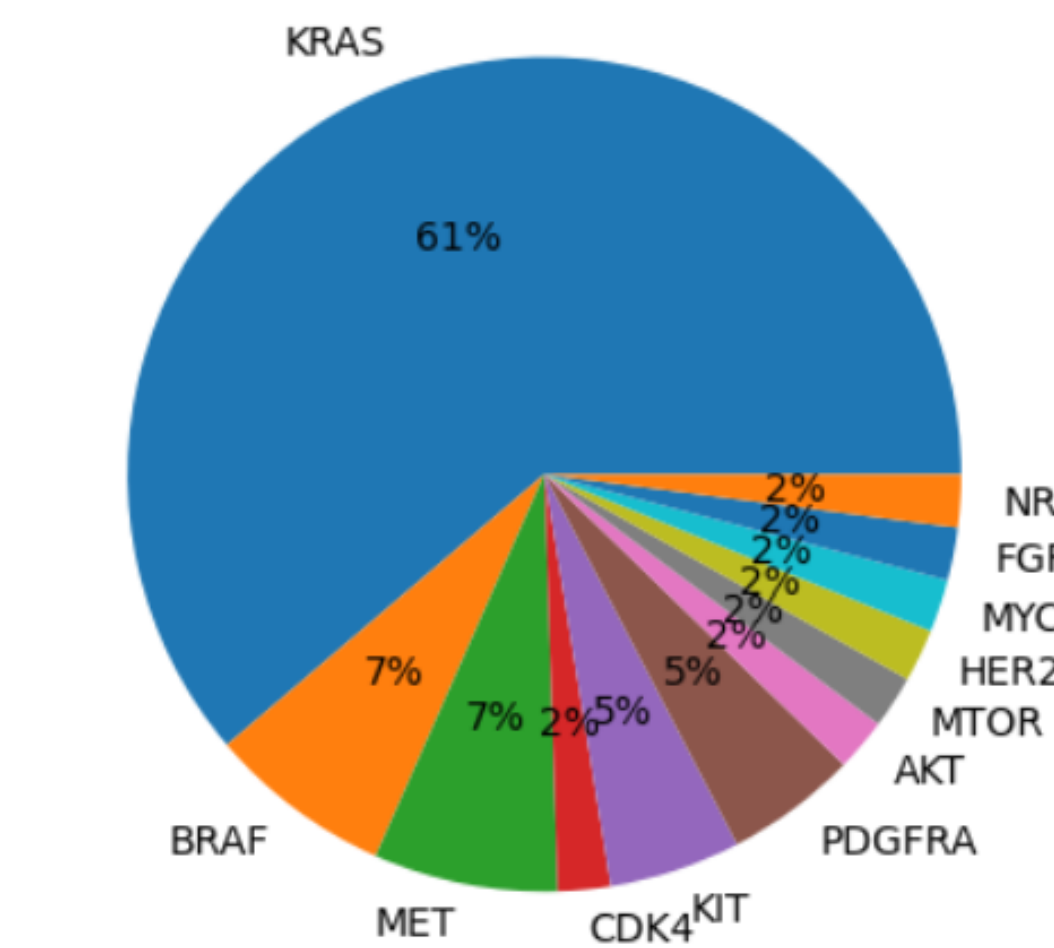


Figure 1. NGS study results in the overall population and stratified by PD-L1 status