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#45P Pembrolizumab versus Best Supportive Care Survival Outcomes in ECOG Performance Status 2 NSCLC Patients

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LUNG CANCER RESEARCH

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Background

- Immune checkpoint inhibitors (ICI) have good safety profile in NSCLC patients with poor performance status (PS).
- Understanding in this group is limited. [PePS2, CheckMate 153 and 171 clinical trials].
- Here, the authors evaluate survival outcomes with ICI treatment versus best supportive care (BSC) in ECOG PS 2 NSCLC patients (PS2).

Eligibility:

- **PS2 who were diagnosed or received first-line pembrolizumab ±chemotherapy (Pembro) in Alberta Canada between 2017-2021 were retrospectively analyzed.**
- **Overall survival (OS) from diagnosis to death was evaluated and compared between Pembro and BSC group (i.e. received no systemic treatment) using Kaplan-Meier and multivariate analyses.**
- **EGFR, ROS1 and ALK positive patients were excluded.**

Baseline Characteristics:

- n=54 (PS2 patients).
- Advanced stg NSCLC—
 - **50 non-squamous**
 - **40 PD-L1 positive** and 33 KRAS mutant NSCLC].
 - The **median (range) age was 69 (47-87) years** and **91% were smokers** (former or current).
 - **67% had at least 1 co-morbidity based on the Charlson's Comorbidity Index list.**
- 36 (67%) received Pembro (monotherapy=21).
- Figure A. Poor performance status or declining health of patients was the most common reason for no treatment, Figure B.
- Pembro versus BSC group only differ by distant metastatic sites involvement, Pembro patients had less distant sites involvement [28 vs 61% M1c (AJCC TNM 8th), p=0.01], Table 1.

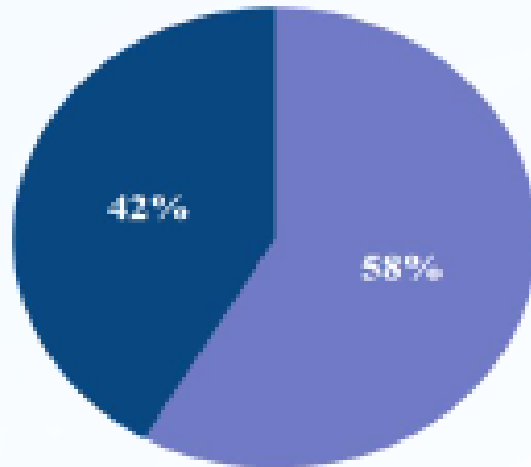
Results

- With **median follow-up of 26 months, the median OS (mOS) was 21 vs 2 months with Pembro and BSC (p<0.01)** and was consistently better in Pembro patients among KRAS mutant patients
- In multivariate analysis, **Pembro relative to BSC was associated with reduced risk of death [HR= 0.06, 95% CI: 0.02-0.18, p<0.01]** after controlling for distant metastatic sites, age, co-morbidity, PD-L1 and KRAS status.
- **mOS from starting Pembro to death in real-world PS2 was 11.8 months, within the range reported in PePS2 clinical trial study (~7.9 with 1L to 14.6 months in PD-L1 high sub-group).**

ECOG Performance Status 2 NSCLC Patients N = 54

A. Systemic Treatment Regimen

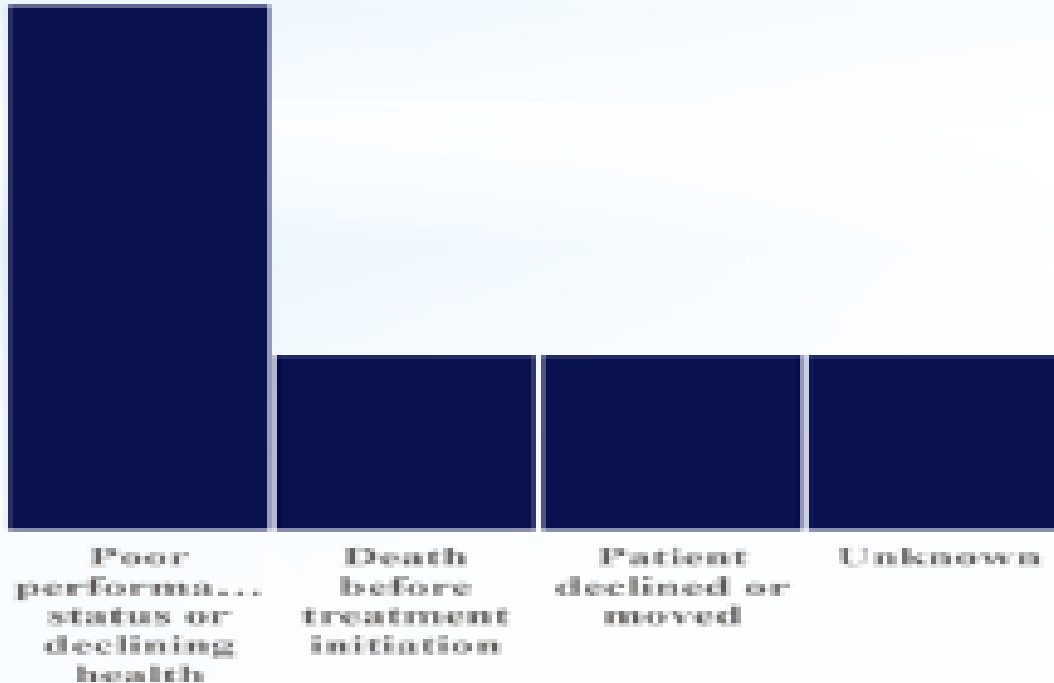
Median Time to Starting Pembrolizumab ±Chemotherapy
~56 days



■ Pembrolizumab + Chemotherapy ■ Pembrolizumab

BSC GROUP:

B. Reasons For No Systemic Treatment



C.

Table 1: ECOG 2 NSCLC Patients Receiving First-Line Pembrolizumab ± Chemotherapy (Pembro) Versus Best Supportive Care (BSC)

Survival Outcomes in months	Pembro, n=36	BSC, n=18	P value**
Median Overall Survival (mOS)	21	2	<0.01
mOS in KRAS mutant	27	2	<0.01
mOS in PD-L1 ≥50%	22	2	<0.01
mOS in PD-L1 1-49%	9	2	<0.01
mOS in PD-L1 <1%	9	3	0.04
Clinical characteristics, n (%)			
Median Body mass index (range), kg/m ²	26 (15-38)	23 (16-42)	
Age >70 years	13 (36)	11 (61)	0.09
Male Sex	21 (58)	10 (56)	1.0
Had at least 1 co-morbidity	22 (61)	14 (78)	0.36
>1 comorbidity	5 (23)	6 (43)	0.27
Brain metastasis at any time during disease course	12 (33)	5 (28)	0.76
Squamous histology	1 (3)	3 (17)	0.1
PD-L1 positive (>1%)	28 (78)	12 (67)	0.08
PD-L1 ≥50%	21 (58)	5 (28)	0.08
KRAS mutant	20 (56)	13 (72)	0.13

** LogRank for Kaplan Meier Survival and Fisher Exact For Descriptive Statistics

Conclusions

- **Pembro compared to BSC offers survival advantage for PS2 NSCLC patients, even though reports show lower OS in PS2 when compared to good PS (ECOG 0-1) patients treated with ICI.**

Thank You

