Real-world multicentre cohort of first-line pembrolizumab alone or in combination with platinum-based chemotherapy in advanced Non-Small Cell Lung Cancer PD-L1 $\geq 50\%$

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Introduction

Pembrolizumab alone (IO-mono) or in combination with platinum-based chemotherapy (CT-IO) are first-line standard of care for advanced NSCLC patients with PD-L1 $\geq 50\%$. Here, we report the results of a French retrospective multicentre study evaluating patients and disease characteristics associated with physician’s choices of IO-mono or CT-IO.

We compared the real-world effectiveness of these therapeutic strategies.

Patients and Methods

Patients with advanced NSCLC PD-L1 $\geq 50\%$ from eight hospitals who had received at least one cycle of IO-mono or CT-IO were included. Overall survival (OS) and real-world progression-free survival (rPFS) were estimated using Kaplan-Meier methodology. Cox proportional hazards regression model was used to estimate hazard ratios (HRs) and 95% CIs, and a Cox model with inverse propensity treatment weighting was carried out.

Results

![Figure 2. Kaplan-Meier plot for Overall Survival, by treatment group and (A) Gender (B) PS (at baseline) (C) Brain metastases (D) PD-L1 status.](image)

![Figure 1. A) Kaplan-Meier plot for OS and B) PFS by treatment group.](image)

Conclusion

Younger patients, those with symptomatic disease and brain metastases were more likely to be proposed CT-IO. With a median follow-up of 11.5 months (95% CI, 10.4 – 13.3), median OS was not reached but no difference was observed between groups (p=0.51).

After adjustment, no statistically significant difference was found for OS between groups, neither in the multivariate adjusted model [HR 1.07 (95% CI 0.61 – 1.86), p=0.8] nor in propensity adjusted analysis [HR 0.99 (95% CI 0.60-1.65), p=0.99]. Male gender (HR 2.01, p = 0.01) and Performance Status $\geq 2$ (HR 3.28, p < 0.001) were found to be negative independent predictive factors for OS.

![Figure 1. A) Kaplan-Meier plot for OS and B) PFS by treatment group.](image)

#1113P

**Patients**

<table>
<thead>
<tr>
<th>Patients (characteristics, n (%))</th>
<th>ID (n=142)</th>
<th>CT-IO (n=102)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>82 (58.2)</td>
<td>57 (55.8)</td>
<td>0.760</td>
</tr>
<tr>
<td>Female</td>
<td>59 (41.8)</td>
<td>45 (44.2)</td>
<td></td>
</tr>
<tr>
<td>Age group, years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\leq 65$</td>
<td>89 (63.1)</td>
<td>59 (57.7)</td>
<td>0.206</td>
</tr>
<tr>
<td>$&gt; 65$</td>
<td>52 (36.9)</td>
<td>43 (42.3)</td>
<td></td>
</tr>
<tr>
<td>ECOG performance stage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–1</td>
<td>106 (75.2)</td>
<td>69 (67.9)</td>
<td>0.021</td>
</tr>
<tr>
<td>2</td>
<td>34 (24.8)</td>
<td>27 (26.1)</td>
<td></td>
</tr>
<tr>
<td>Smoking status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>12 (8.5)</td>
<td>9 (8.8)</td>
<td>0.954</td>
</tr>
<tr>
<td>Current or past</td>
<td>124 (91.2)</td>
<td>94 (91.2)</td>
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</tr>
<tr>
<td>Missing</td>
<td>5 (3.5)</td>
<td>3 (3.0)</td>
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</tr>
<tr>
<td>Symptomatic disease at diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>102 (72.0)</td>
<td>68 (66.3)</td>
<td>0.062</td>
</tr>
<tr>
<td>Yes</td>
<td>40 (28.0)</td>
<td>34 (33.7)</td>
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<tr>
<td>Cardiacs at diagnosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\leq 10$ mg/day</td>
<td>19 (13.6)</td>
<td>12 (11.8)</td>
<td>0.103</td>
</tr>
<tr>
<td>$&gt; 10$ mg/day</td>
<td>22 (15.6)</td>
<td>18 (17.6)</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>117 (84.4)</td>
<td>76 (75.3)</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>3 (2.1)</td>
<td>2 (1.9)</td>
<td></td>
</tr>
</tbody>
</table>

**Baseline tumor characteristics, n (%):**

![Table](image)

**Patients (characteristics, n (%)):**

- **Gender:** Male (82, 58.2%), Female (59, 41.8%).
- **Age group:** $\leq 65$ (89, 63.1%), $> 65$ (52, 36.9%).
- **ECOG performance stage:** 0–1 (106, 75.2%), 2 (34, 24.8%).
- **Smoking status:** Never (12, 8.5%), Current or past (124, 91.2%).
- **Symptomatic disease at diagnosis:** No (102, 72.0%), Yes (40, 28.0%).
- **Cardiacs at diagnosis:** $\leq 10$ mg/day (19, 13.6%), $> 10$ mg/day (22, 15.6%), None (117, 84.4%).

**Baseline tumor characteristics:**

- **Histology:** Squamous (155, 51.4%), Non-Squamous (128, 40.6%).
- **Tumor status:** PD-L1 $\geq 100$ (99, 33.2%), PD-L1 $<$ 100 (121, 39.5%).
- **Number of metastatic sites:** 2 (169, 52.5%), 3 or + (150, 47.5%).
- **Brain metastases:** Yes (52, 16.3%), No (187, 61.4%).
- **Adverse events:** Yes (68, 22.4%), No (199, 63.7%).
- **Fluor de la Haye:** Yes (52, 16.3%), No (187, 61.4%).

**Overall survival**

- **Multivariate analyses:** Adjusted HR (95% CI)
  - Age, ≤ 65 $\times$ $\geq 65$: 1.00 (0.65–1.52)
  - Gender: Male $\times$ Female: 1.00 (0.39–2.04)
  - ECOG PS: 1 $\times$ 2: 1.00 (0.65–1.51)

**Histology**

- Squamous: 1.00 (0.74–1.37), Non-Squamous: 1.00 (0.74–1.37)

**Brain Metastases**

- No: 1.00 (0.65–1.51), Yes: 1.00 (0.65–1.51)

**Adverse events**

- Yes: 1.00 (0.65–1.51), No: 1.00 (0.65–1.51)

**Fluor de la Haye**

- Yes: 1.00 (0.65–1.51), No: 1.00 (0.65–1.51)

**Baseline tumor characteristics:**

- **Histology:** Squamous (155, 51.4%), Non-Squamous (128, 40.6%).
- **Tumor status:** PD-L1 $\geq 100$ (99, 33.2%), PD-L1 $<$ 100 (121, 39.5%).
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**References**

1. Kaye et al., 2016; 2. Planchar et al., Ann Oncol 2018

**Figure 1. A) Kaplan-Meier plot for OS and B) PFS by treatment group.**

**Figure 2. Kaplan-Meier plot for Overall Survival, by treatment group and (A) Gender (B) PS (at baseline) (C) Brain metastases (D) PD-L1 status.**

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First author conflicts of interest: nothing to declare