ASSOCIATION OF ANTIBIOTICS AND PROTON PUMP INHIBITORS ON CLINICAL ACTIVITY OF FIRST LINE PEMBROLIZUMAB FOR NON-SMALL CELL LUNG CANCER: 2 YEARS OF REAL WORLD DATA

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BACKGROUND

- Gut microbiome plays a dominant role in modulating therapeutic efficacy of immune checkpoint inhibitors (ICIs).
- The use of proton pump inhibitors (PPI) and antibiotics (ATB) can induce dysbacteriosis, which may attenuate the clinical outcomes of ICIs, as shown in previous publications.

OBJECTIVE

To investigate the predictive role of PPI and ATB on pembrolizumab treatment in patients with metastatic non-small cell lung cancer (NSCLC) real world setting in progression free survival (PFS) and overall survival (OS).

METHODS

- Retrospective study.
- Demographic data, PD-L1 expression, responses and survival rates, and other baseline variables were examined.
- Clinical outcomes were compared according to ATB or PPI co-administration.
- Statistical analysis: Kaplan-Meier curves were used for statistical analysis and Log-rank test was used as a hypothesis contrast test. Hazard Ratio (HR) and 95% CI were estimated using the Cox regression model. SPSS-Statistics® V.26.

RESULTS

- 49 patients, 75.5% men
- Mean age: 66.3 ± 8.2 years
- 34.7% used ATB
- 53.1% used PPI

UNIVARIATE ANALYSIS

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<tr>
<th></th>
<th>ATB</th>
<th>HR</th>
<th>95% CI</th>
<th>P</th>
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<tbody>
<tr>
<td>PFS (months)</td>
<td>0.46</td>
<td>0.20 - 1.06</td>
<td>0.068</td>
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<tr>
<td>OS (months)</td>
<td>0.56</td>
<td>0.26 - 1.22</td>
<td>0.144</td>
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Multivariate analysis in all patients considering ATB, PPI, age and PD-L1 expression revealed that ATB were significantly associated with shorter PFS and shorter OS.

CONCLUSION

- Data suggest that ATB use in patients with metastatic NSCLC may be associated with poor outcomes in PFS and may influence the efficacy of pembrolizumab. The impact of PPI showed better results in OS for the group that did not receive them.
- More studies with a larger sample of patients would be necessary to confirm these results, since our limited sample size could compromise the statistical power.