PERIPHERAL BLOOD BIOMARKERS DYNAMICS PREDICT CLINICAL RESPONSE TO PEMBROLIZUMAB PLUS CHEMOTHERAPY IN PATIENTS WITH NON-SQUAMOUS METASTATIC NON-SMALL-CELL LUNG CANCER

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Background and importance

Heterogeneity in response to immunotherapy in patients with advanced non-small-cell lung cancer (NSCLC) highlights the need to identify predictive biomarkers. Peripheral blood biomarkers have been associated with the prognosis in advanced NSCLC treated with immunotherapy.

Aim and objectives

To analyze the correlation between the response to pembrolizumab plus chemotherapy and peripheral blood biomarkers dynamics in patients with non-squamous metastatic NSCLC.

Materials and methods

Retrospective and observational study including all patients treated with **pembrolizumab plus pemetrexed plus platinum-based chemotherapy from January-2020 to December-2021**.
Variables collected: sex, age, baseline ECOG scale; ALC, ANC and AECat three timepoints: baseline, week 4 of treatment and first CT scan. Neutrophil-to-lymphocyte ratio (NLR) was calculated for each timepoint.

RESULTS

76.7% male
Median age 62 years
88.3% ECOG<2
76.7 responders to treat.

Median NLR at week 4:

3.3 Non responders vs 1.9 Responders

Median NLR at first CT scan:

3.5 Non responders vs 1.9 Responders

Responders: **significant decrease between baseline NRL and at time of first CT** (non-significant in non-responders) group.

- **ANC**: significant difference between responders and non-responders **at week 4**.
- **ALC**: significant difference between responders and non-responders **at first CT scan**.

Conclusion and relevance

Our results suggest that **NLR behaves as a predictive biomarker of response to immunotherapy**. ANC showed **significant differences among responders and non-responders** at week 4, and ALC at the first evaluation. AEC did not show correlation with response.

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