PROGNOSTIC VALUE OF HAEMATOLOGICAL INFLAMMATORY MARKERS IN PATIENTS WITH METASTATIC NON-SMALL CELL LUNG CANCER TREATED WITH PEMBROLIZUMAB

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BACKGROUND AND IMPORTANCE

Pro-inflammatory status has been associated with worse outcomes in patients treated with immunotherapy.

OBJECTIVES

To evaluate the prognosis role of hematological inflammatory markers in patients with metastatic non-small cell lung cancer (mNSCLC) treated with pembrolizumab.

MATERIAL AND METHODS

- This is an ambispective study that included mNSCLC patients PD-L1 expression level ≥50% treated with first-line pembrolizumab between January 2017-June 2019.
- Data collected: age, gender, PD-L1 expression level, baseline Eastern Cooperative Oncology Group (ECOG) performance status (PS), baseline absolute neutrophil count (ANC), lymphocytes, leukocytes, monocytes and platelets. Neutrophil-to-lymphocyte ratio (NLR; ANC / lymphocyte count), lymphocyte-to-monocyte ratio (LMR; lymphocyte count / monocyte count) and platelet-to-lymphocyte ratio (PLR; platelet count / lymphocyte count) were calculated.
- NLR≥5, LMR<1.7, and PLR>144,000 were considered as cut-off values.
- We analyzed the response rate, progression-free survival (PFS) and overall survival (OS).
- Statistical analysis: the Kaplan–Meier method was used to estimate PFS and OS and multivariate Cox proportional hazard modeling.

RESULTS

N= 42

71.4% men
Mean age: 67 years (±8.2)
PD-L1 expression level ≥90%: 31
ECOG PS ≤1: 71.4%
Non-smokers: 11.9%

Median PFS: 5.4 months (CI 95%: 0.1-11.1)
Median OS: 10.3 months (CI 95%: 8.9-11.7)

Independent predictors of PFS

Partial response
Stable disease
Disease progression
Death before response evaluation

21% 31% 19% 29%

Independent predictors of OS

Baseline NLR and ECOG were correlated with PFS and OS in patients with mNSCLC treated with first-line pembrolizumab. PLR>144 was also an independent predictor of PFS, but not of OS. NLR might be a cost-effective prognostic biomarker for first-line pembrolizumab treatment in mNSCLC patients.

CONCLUSIONS AND RELEVANCE