

# Do inflammatory parameters and anti-inflammatory comedication affect PD-L1 expression?

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## Background:

Despite some shortcomings, PD-L1 expression on tumor cells serves as an important predictive factor for treatment selection in patients with non-small cell lung cancer (NSCLC). At the same time, it is known that laboratory inflammatory parameters, as well as anti-inflammatory therapy (non-steroidal anti-inflammatory drugs = NSAIDs, corticosteroids) can also affect the effectiveness of immunotherapy. There are certain molecular links between PD-L1 expression and these parameters, as some preclinical studies suggest. Therefore, the aim of our work was to determine whether inflammatory laboratory parameters and anti-inflammatory therapy can affect the expression of PD-L1 in real clinical practice.

**Methods:** We evaluated a total of 1148 patients from LUCAS registry with stage III and IV NSCLC from seven university pneumooncology centers in the Czech Republic. The effect of selected parameters associated with inflammation (hemoglobin, neutrophils, lymphocytes, NLR, CRP, albumin) and pre-inflammatory comedication (NSAIDs, corticoids) on PD-L1 expression was evaluated. Standard statistical methods were used (Spearman correlation coefficient, Mann-Whitney test, Kruskal-Wallis test, Pearson Chi-Square test). Statistically significant results (relationships) were results with  $p < 0.05$ .

**Results:** 29% of patients have PD-L1 expression 0%, 42% of patients have PD-L1 between 1% and 49% and 30% of patients have PD-L1 greater than 49%. Corticosteroids were used by 10,1% patients and NSAIDs by 26,9% patients. We did not observe any statistical significance between basic demographic parameters and PD-L1 expression. We did not record any relationship between laboratory parameters and PD-L1 expression, both in the case of continuous and categorical evaluation of these parameters (i.e. laboratory parameters in the set standard / outside it and PD-L1 in groups up to 0%, 1-49% and above 49%). Likewise, we did not observe any relationship between the use of NSAIDs or corticosteroids and the expression of PD-L1.

**Conclusion:** According to our results, selected inflammatory parameters and anti-inflammatory therapy have no effect on PD-L1 expression in NSCLC.

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