

PRETREATMENT LUNG IMMUNE PROGNOSTIC INDEX (LIPI) AS PROGNOSTIC TOOL IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) AND PD-L1 EXPRESSION $\geq 50\%$

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Background

Upfront treatment with anti-PD(L)1 monoclonal antibodies is a potential standard first line treatment option in patients with advanced non-small cell lung cancer (NSCLC) and high PD-L1 expression $\geq 50\%$, but response is heterogeneous.

LIPI (Lung Immune Prognostic Index) has been proposed as a prognostic tool for anti-PD(L)1 therapies.

We aim to examine the association between LIPI and survival in a group of patients with advanced NSCLC and PD-L1 expression $\geq 50\%$, treated with first-line pembrolizumab

Objective

To investigate the role of pretreatment LIPI as biomarker in PD-L1 $\geq 50\%$ advanced non-small-cell lung cancer patients receiving pembrolizumab.

Methods

- ❑ We retrospectively identified patients with **advanced NSCLC and PDL1 expression $\geq 50\%$, treated with first-line pembrolizumab** in a unique center.
- ❑ LIPI was used to stratify patients in 3 prognostics subgroups (good, intermediate and poor) according to pre-treatment dNLR (derived neutrophil to lymphocyte ratio) and plasmatic LDH.
- ❑ The prognostic impact of LIPI on PFS and OS were evaluated using Kaplan–Meier methodology. Statistical analyses were performed with SPSS Statistics software (IBM v.26).
- ✓ **Primary endpoint** was **overall survival (OS) based on LIPI** score in this population.
- ✓ **Secondary endpoint** was **progression free survival (PFS)**.

Results

From 01/2018 to 11/2022, 61 patients were enrolled. Median age was 70 years old. 75.4% were male. 73.8% of cases were adenocarcinomas, 16.4% squamous and 9.8% poorly differentiated. 89% were smokers. ECOG PS 0–1 was reported in 85.2% of patients. Liver and brain metastases were reported in 8.2% and 16.4%, respectively.

- **Median PFS** for poor, intermediate and good LIPI was 4.6 months (95% CI 2.55-6.78), 28.9 months (95% CI 9.87-47.99) and 21.3 months (95% CI 13.50-29.10); $p=0.020$.
- **Median OS** for poor and intermediate LIPI was 5.7 months (95%CI 2.60-8.86) and 24 months (95%CI not reached [NR]). Median OS for good LIPI was NR; $p=0.011$.
- Taking **dNLR** as independent factor, a longer OS was observed in patients with $dNLR \leq 3$ (NR) than those with $dNLR > 3$ (6,77 months); $p=0.034$.

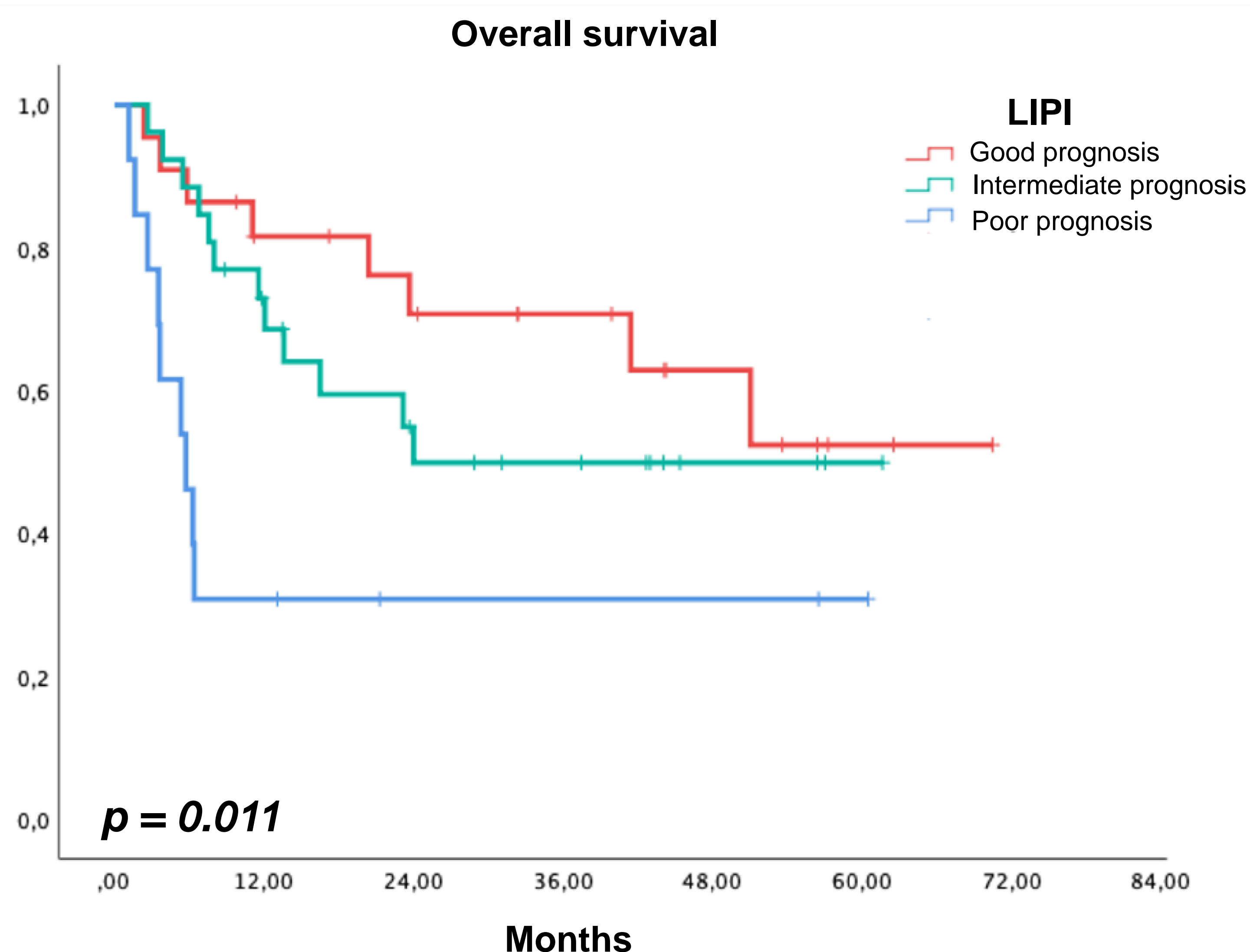


Figure 1. Overall survival stratified by LIPI

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