NUTRITIONAL AND INFLAMMATORY PROGNOSTIC FACTORS IN PATIENTS WITH NON-SMALL CELL LUNG CANCER TREATED WITH IMMUNE CHECKPOINT INHIBITORS: A SYSTEMATIC REVIEW

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4CPS-274

BACKGROUND AND IMPORTANCE

The **prognostic nutritional index (PNI)** and the **geriatric nutritional risk index (GNRI)** have been used to assess the nutritional and inflammatory status of cancer patients. These biomarkers have been shown to be associated with the prognosis of patients receiving cancer treatment. However, the association of these biomarkers with the prognosis of patients receiving immune checkpoint inhibitors (ICIs) is not fully understood.

AIM AND OBJECTIVES

To evaluate whether **pretreatment prognostic factors of nutritional and inflammatory status** can predict the prognosis of **lung cancer (LC) patients treated with ICIs.**

MATERIAL AND METHODS

- ✔ **Systematic review** conducted following the PRISMA and Cochrane guidelines.
- ✔ MEDLINE search (English and Spanish) up to **March 2023**.
- ✔ **Cohort and randomized studies including LC patients treated with ICIs.**
- ✔ Outcomes of interest: the **association of pretreatment PNI and GNRI with progression-free survival (PFS) and overall survival (OS).**
- ✔ Results were summarized narratively.

RESULTS

118 studies were identified → 15 studies were included (13 retrospective and 2 prospective

13 studies evaluated the **prognostic value of PNI** (11 for PFS and 12 for OS). Pre-treatment PNI was significantly associated with PFS (n=6/10) and OS (n=8/10) in univariate analysis. In multivariate analysis, PNI was significantly associated with PFS (n=6/8) and OS (n=6/9).

Univariate analysis of PNI	Multivariate analysis of PNI
6/10 PFS and 8/10 OS	6/8 PFS and 6/9 OS

2 studies evaluated the **prognostic value of GNRI** for both PFS and OS, observing a statistically significant association between pre-treatment GNRI and PFS (n=2/2) and OS (n=2/2) in univariate analysis and with PFS (n=1/2) and OS (n=2/2) in multivariate analysis.

Univariate analysis of GNRI	Multivariate analysis of GNRI
2/2 PFS and 2/2 OS	1/2 PFS and 2/2 OS

CONCLUSIONS AND RELEVANCE

Some studies showed that PNI could be a prognostic marker for patients with LC treated with ICIs. In the case of GNRI only few studies are available, and more evidence is needed to determine its potential as prognostic factor. However, future studies are needed to provide greater knowledge and evidence on the evaluation of these biomarkers and their validation in clinical practice.

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