INPLASY PROTOCOL

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None declared.

Immune checkpoint inhibitors, alone or in combination with chemotherapy, as first-line treatment for advanced non-small cell lung cancer in patients with PD-L1≥50%: a systematic review and network meta-analysis

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Review question / Objective: **Patientor population:Non-small cell lung cancer population with PD-1 expression above 50%; intervention: immune checkpoint inhibitors combined with chemotherapy; comparison: immune checkpoint inhibitors monotherapy; outcome: PFS.**
Condition being studied: **In non-small-cell lung cancer (NSCLC), the optimal treatment regimen for patients with PD-L1 Tumor Proportion Score (TPS) ≥50%(PD-L1≥50%) has not been systematically studied.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 April 2022 and was last updated on 02 April 2022 (registration number INPLASY202240011).

INTRODUCTION

Review question / Objective: **Patientor population:Non-small cell lung cancer population with PD-1 expression above 50%; intervention: immune checkpoint inhibitors combined with chemotherapy;**

comparison: immune checkpoint inhibitors monotherapy; outcome: PFS.

Condition being studied: In non-small-cell lung cancer (NSCLC), the optimal treatment regimen for patients with PD-L1 Tumor Proportion Score (TPS) ≥50%(PD-L1≥50%) has not been systematically studied.

METHODS

Participant or population: Non-small cell lung cancer population with PD-1 expression above 50%.

Intervention: ICIs combined with chemotherapy; ICIs monotherapy.

Comparator: Chemotherapy.

Study designs to be included: Eligible studies were searched in the PubMed, Embase, and ClinicalTrials.gov databases up to 31 December 2021 using the main terms "NSCLC", "pembrolizumab", "atezolizumab", "camrelizumab", "sintilimab", "tislelizumab", "cemiplimb", "pembrolizumab", "combination", "PD-L≥50%" and "ICIs" under the umbrella category of "clinical trial". The detailed search strategy was listed in supplementary table. We also included complete and updated outcomes from important international conferences (i.e., the World Conference on Lung Cancer, the American Society of Clinical Oncology, the European Society for M.

Eligibility criteria: Above all, only phase II/III randomized controlled trials were considered. Next, patients have histologically confirmed non-small cell lung cancer with PD-L1 expression above 50%. Finally, all included trials must compare any two or more different arms and report at least one of the following clinical outcomes in the subgroup of PD-L≥50%: progression-free survival (PFS) and overall survival (OS).

Information sources: PubMed, Embase, and ClinicalTrials.gov databases.

Main outcome(s): Progression-free survival; overall survival.

Quality assessment / Risk of bias analysis: We assessed the risk of bias of individual studies using the Cochrane Risk of Bias Tool.

Strategy of data synthesis: We synthesized all of the direct and indirect evidence to compare different treatments in terms of efficacy and safety, reported as hazard ratios for survival outcomes(OS, PFS) along with corresponding 95% confidence intervals. Network meta-analyses were performed in OpenBUGS (version 3.2.2) under the Bayesian framework using a Markov Chain Monte Carlo simulation technique and random effects model or fixed effects model was adopted according to the DIC criterion. The DIC is a Bayesian model evaluation criterion that measures model fit adjusted with the complexity of the model, smaller DIC values correspond to more preferable models.

Subgroup analysis: Subgroup analyses were performed according to the pathological type; In non-squamous carcinoma subgroup analysis, eight treatments were included; In squamous carcinoma subgroup analysis, seven treatments were included.

Sensitivity analysis: In this article, we did not perform a sensitivity analysis.

Country(ies) involved: China.

Keywords: PD-L1≥50%; immunotherapy; chemotherapy; NSCLC; network meta-analysis.

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