INPLASY PROTOCOL

To cite: Zhang et al. Neutrophil-to-lymphocyte ratio as a prognostic factor in patients with castration-resistant prostate cancer treated with docetaxel-based chemotherapy：A meta-analysis. Inplasy protocol 202330018. doi: 10.37766/inplasy2023.3.0018

Received: 06 March 2023

Published: 06 March 2023

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Support: **the Young/Middle-aged Talent Cultivation Project fund ed by Fujian Provincial Health and Family Planning Commission and Xiamen Health and Family planning Commission 2021GGB028.**

Review Stage at time of this submission: **Data extraction.**

Conflicts of interest:
None declared.

Neutrophil-to-lymphocyte ratio as a prognostic factor in patients with castration-resistant prostate cancer treated with docetaxel-based chemotherapy：A meta-analysis

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Review question / Objective: **The aim of this meta-analysis of retrospective study is to evaluate the efficacy of neutrophil-to-lymphocyte ratio as a prognostic factor in patients with castration-resistant prostate cancer treated with docetaxel-based chemotherapy.**
Condition being studied: **The prognostic value of neutrophil-to-lymphocyte ratio(NLR) in multiple malignancies had been in vestigated in previous studies; however, its prognostic value in patients of castration-resistant prostate cancer treated with docetaxel-based chemotherapy remains controversial.This study was performed to assess the prognostic value of NLR in patients of castration-resistant prostate cancer treated with docetaxel-based chemotherapy.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 March 2023 and was last updated on 06 March 2023 (registration number INPLASY202330018).

INTRODUCTION

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METHODS

Participant or population: Patients of castration-resistant prostate cancer treated with docetaxel-based chemotherapy(as diagnosed by acl inician, or using any recognizeddiagnostic criteria) will be included.

Intervention: High level neutrophil-to-lymphocyte ratio.

Comparator: Low level neutrophil-to-lymphocyte ratio.

Study designs to be included: Retrospective study; prospective study; RCTs.

Eligibility criteria: None.

Information sources: We will search articles in three electronic database including PubMed, EMBASE and Cochrane Library.All the publications until 20 February 2023 will be searched without any restriction of countries or article type.Reference list of all selected articles will independently screened to identify additional studies left out in the initial search.

Main outcome(s): Os, pfs. Measures of effect: HRs.

Quality assessment / Risk of bias analysis: Five reviewers will independently assesses the quality of the selected studies according to the Newcastle-Ottawa Scale. Items will be evaluated in three categories:Low risk of bias, unclear bias and high risk of bias. The following characteristics will be evaluated:Random sequence generation (selection Bias) Allocation concealment (selection bias) Blinding of participants and personnel (performance bias) Incomplete outcome data (attrition bias) Selective reporting (reporting bias)
Other biases Results from these questions will be graphed and assessed using Review Manager 5.4.1.

Strategy of data synthesis: Hazard Ratio(HR) for both fixed and random effects models(weighting by inverse of variance) will be used. Between-study heterogeneity will be assessed using the τ^2, X^2(CochranQ) and I^2 statistics. According to the Cochrane handbook, the I^2 will be considered non-important (< 30%) ,moderate (30%-60%) and substantial (>60%). Results will be assessed using forest plots and presented as HRs for the main outcome and secondary outcomes. A subgroup analysis will be performed to ascertain the results of the meta-analysis and identify the resource of heterogeneity.A sensitivity analysis will be performed to ascertain the results of the meta-analysis by excluding each of the individual studies.Publication bias will be assessed by a funnel plot for meta-analysis.Statistical analysis will be conducted using Review Manager 5.4.1.

Subgroup analysis: We will consider subgroups such as year of publication, country where the study was conducted, total number of people included in the study and therapies, and NLR value.

Sensitivity analysis: A sensitivity analysis will be performed by Stata to ascertain the results of the meta-analysis, excluding each of the individual studies.

Country(ies) involved: China.

Keywords: castration-resistant prostate cancer, neutrophil-to-lymphocyte ratio, docetaxel, prognostic.

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