INPLASY PROTOCOL

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None declared.

Revealing the prognostic and clinicopathological significance of systemic immune-inflammation index in prostate cancer patients: a systematic review and meta-analysis

Qi, WQ[1]; Zhou, YH[2]; Zhong, ML[3]; Lv, GD[4]; Li, RY[5]; Shi, BK[6]; Zhu YF[7].

Review question / Objective: **Explored the prognostic and clinicopathological value of the systemic immune-inflammation index in patients with prostate cancer.**
Condition being studied: **Our study focused on patients diagnosed with prostate cancer. According to the cutoff value of systemic immune-inflammation index (SII), patients were divided into the higher SII group or the lower SII group.**
Eligibility criteria: **The inclusion criteria were as follows: (I) patients were diagnosed with prostate cancer; (II) hazard ratios (HRs) and corresponding 95% confidence intervals (CIs 95%) for preoperative SII and survival outcomes, including (overall survival) OS, (progression-free survival) PFS and biochemical recurrence-free survival (BFS) were reported; (III) the relationship between SII and clinicopathological characteristics of prostate cancer were reported; (IV) the cut-off of SII was decribed.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 August 2022 and was last updated on 03 August 2022 (registration number INPLASY202280014).

INTRODUCTION

Review question / Objective: **Explored the prognostic and clinicopathological value of the systemic immune-inflammation index in patients with prostate cancer.**

Condition being studied: **Our study focused on patients diagnosed with prostate cancer. According to the cutoff value of systemic immune-inflammation index (SII), patients were divided into the higher SII group or the lower SII group.**

METHODS

Participant or population: Prostate cancer patients.

Intervention: Patients with higher SII.

Comparator: Patients with lower SII.

Study designs to be included: Randomized controlled studies, cohort studies, or observational studies

Eligibility criteria: The inclusion criteria were as follows: (I) patients were diagnosed with prostate cancer; (II) hazard ratios (HRs) and corresponding 95% confidence intervals (CIs 95%) for preoperative SII and survival outcomes, including (overall survival) OS, (progression-free survival) PFS and biochemical recurrence-free survival (BFS) were reported; (III) the relationship between SII and clinicopathological characteristics of prostate cancer were reported; (IV) the cut-off of SII was decribed.

Information sources: PubMed, EMBASE, and the Cochrane Library.

Main outcome(s): Overall survival (OS), progression-free survival (PFS), or biochemical recurrence-free survival (BFS).

Additional outcome(s): Adverse clinicopathology.

Quality assessment / Risk of bias analysis: The quality of all included studies was estimated using the Newcastle-Ottawa scale (maximum score 9). In the current study, we considered a study with a score of 7 or higher as a high-quality study.

Strategy of data synthesis: We caculated the HRs with 95% CI to evalute the association between SII and survival outcomes. The heterogeneity level was quantified using Cochrane Q tests and I2 statistics. In the case of a 25% I2, 50%, and 75% I2, the variance was low, moderate, and considerable, respectively. Random effects models were employed to estimate pooled effect sizes in order to reduce possible bias. In addition, a sensitivity analysis, in which individual studies could be omitted sequentially to detect their impact on the overall estimates, was conducted. For the relationship between SII and clinicopathological factors, the pooled odds ratios (ORs) and CIs were performed. The statistical significance of a study was defined as a 2-sided P value less than 0.05. All data processing and statistical analyses were conducted using Stata v.15.0 (Stata Corp, College Station, TX, USA).

Subgroup analysis: Ethnicity, treatment method, cut-off value, or sample size.

Sensitivity analysis: The sensitivity analysis was conducted by omitting the individual studies sequentially to detect their impact on the overall estimates.

Language restriction: Only in English.

Country(ies) involved: China.

Keywords: systemic immune-inflammation index, prostate cnacer, prognostic, clinicopathology.

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