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Prognostic role of prognostic nutritional index in patients with bladder cancer: A systematic review and meta-analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 04 August 2024 and was last updated on 04 August 2024.

INTRODUCTION

Review question / Objective This study systematically investigates the prognostic value of baseline PNI in patients with bladder cancer through a meta-analytic approach.

Condition being studied An increasing number of studies have explored the prognostic significance of the prognostic nutritional index (PNI) in bladder cancer patients, but the results are inconsistent.

METHODS

Search strategy "prognostic nutritional index" or "PNI" and "bladder cancer" and "human".

Participant or population All of patients diagnosed with bladder cancer.

Intervention Low PNI.

Comparator High PNI.

Study designs to be included Prospective or retrospective design.

Eligibility criteria Studies were included if they met the following inclusion criteria: (1) Patients: all of patients diagnosed with bladder cancer; (2) Exposure: low PNI; (3) Control: high PNI; (4) Outcomes: overall survival (OS) and recurrence-free survival (RFS); and (5) Study design: prospective or retrospective design.

Information sources PubMed, Embase, and Cochrane Library.

Main outcome(s) Overall survival (OS) and recurrence-free survival (RFS).

Quality assessment / Risk of bias analysis Methodological quality assessment was conducted using the Newcastle-Ottawa Scale (NOS), which comprises components related to selection (4 items), comparability (1 item), and outcome (3 items).

Strategy of data synthesis We analyzed the relationship between PNI and bladder cancer prognosis based on the reported effect estimates and their 95% CI in each study. For OS and RFS, we assessed the effect estimates using hazard ratios (HR) and 95%CI. All of pooled analyses were calculated using the random-effects model, which considering the underlying varies across included studies.

Subgroup analysis Subgroup analyses were also performed according to country, sample size, mean age, male proportion, treatments, cutoff value, cutoff value determination, follow-up, or study quality, and the differences between subgroups were compared using the interaction t test, which assuming the data met normal distribution.

Sensitivity analysis Sensitivity analyses were performed to assess the stability of pooled conclusion by sequential removing single study.

Language restriction No restriction.

Country(ies) involved China.

Keywords prognostic nutritional index; bladder cancer; overall survival; recurrence-free survival; systematic review; meta-analysis.

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