INPLASY

Prognostic value of pre-treatment Modified Glasgow Prognostic Score in prostate cancer patients: a systematic review and meta-analysis

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Dai, XW; Ding, HX; Mao, DK; Huang, JG.

Corresponding author:
Jiaguo Huang

13735526508@163.com

Author Affiliation:
Affiliated Xiaoshan Hospital, Hangzhou Normal University.

ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Data analysis.

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 17 February 2025 and was last updated on 17 February 2025.

INTRODUCTION

Review question / Objective The accuracy of the pre-treatment modified Glasgow Prognostic Score (mGPS) in predicting the prognosis of prostate cancer (PC) patients is still unclear. Therefore, this study adopted a systematic review and meta-analysis to explore the association between pre-treatment mGPS and the prognosis of PC patients.

Condition being studied In recent years, comprehensive prognostic scoring systems including modified Glasgow Prognostic Score (mGPS) and ratios including neutrophil to lymphocyte ratio (NLR) have been used to standardize and maximize the prognostic value. The calculation of mGPS with CRP and albumin values has been applied to predict the prognosis of multiple types of tumors, including pancreatic, biliary tract, gastric, colorectal, lung, and gynecologic cancers. Although studies have investigated the role of mGPS in evaluating long-term survival and disease progression in PC patients, there is no meta-analysis to verify the value of mGPS in predicting PC prognosis. Based on these prior findings, the present meta-analysis was designed to systematically explore the association between mGPS and the predictive value of survival outcome in PC patients.

METHODS

Participant or population Prostate cancer patients.

Intervention Not Applicable.

Comparator Not Applicable.

Study designs to be included Original research articles reporting on the association between mGPS and the survival outcomes of PC patients.

Eligibility criteria Studies were considered eligible for inclusion if they met the following criteria: (1) original research articles reporting on the

association between mGPS and the survival outcomes of PC patients; (2) The measurement of mGPS was determined using CRP and serum albumin levels and was defined as: a score of two for elevated CRP levels (>10mg/L) and hypoalbuminemia (10mg/L) and non-hypoalbuminemia (≥35 g/L) and a score of 0 for normal CRP and serum albumin levels (≤10mg/L); (3) access to hazard ratios (HR) or odds ratios (OR) with 95% confidence intervals (CI) or the capability to extract them from the data included in the articles. The exclusion criteria contain the following items: (1) letters, editorials, case reports, or reviews; (2) research lacking adequate details and extractable data on the treatment and main outcomes of PC patients; (3) animal studies; and (4) repeated studies or surveys examining the identical sample.

Information sources PubMed, Web of Science, the Cochrane Library, and Embase.

Main outcome(s) OS, PFS.

Quality assessment / Risk of bias analysis The Newcastle-Ottawa Scale (NOS).

Strategy of data synthesis Meta-analysis was performed by Stata 16.0 (StataCorp) software. The combined HR and 95% CI were computed as the overall effect size to assess the association between pre-treatment mGPS and OS, PFS.

Subgroup analysis When there was high heterogeneity, potential sources of heterogeneity were discovered via subgroup analyses. If subgroup category data was unavailable, it was excluded.

Sensitivity analysis A sensitivity analysis was applied to the meta-analysis to exclude the effect of data from individual studies on survival outcomes.

Language restriction None.

Country(ies) involved China.

Keywords Prostate cancer; Modified Glasgow Prognostic Score; Overall survival; Progression-free survival; Systematic review; Meta-analysis.

Contributions of each author

Author 1 - Xiaowei Dai.
Author 2 - Hongxiang Ding.
Author 3 - Dikai Mao.
Author 4 - Jiaguo Huang.
Email: 13735526508@163.com