INPLASY

Prognostic and clinicopathological significance of systemic inflammation response index (SIRI) in patients with hepatocellular carcinoma: a 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 02 September 2023 and was last updated on 02 September 2023.

INTRODUCTION

Review question / Objective The prognostic value of systemic inflammation response index (SIRI) in patients with hepatocellular carcinoma (HCC) remained controversial according to previous studies. Therefore, this study aimed to systematically identify the relationship between SIRI and prognosis of HCC patients through meta-analysis.

Condition being studied The electronic databases of PubMed, Web of Science, Embase, and Cochrane Library were systematically and thoroughly searched from inception to August 10, 2023. Combined hazard ratios (HRs) and 95% confidence intervals (CIs) were calculated to estimate the prognostic value of SIRI for overall survival (OS) and progression-free survival (PFS) in HCC. The correlations between SIRI and clinicopathological features in HCC were investigated by pooling odds ratios (ORs) and 95%CIs.

METHODS

Search strategy The electronic databases of PubMed, Web of Science, Embase, and Cochrane Library were systematically and thoroughly searched from inception to August 10, 2023. We adopted the following search terms for comprehensive search: (systemic inflammation response index or system inflammation response index or SIRI or systemic inflammatory response index) and (hepatocellular carcinoma or hepatocellular cancer or HCC or liver cancer). Only publications in English language were considered.

Participant or population The diagnosis of HCC was pathologically or histologically confirmed.

Intervention Studies investigating the relationship between SIRI and prognosis of HCC patients and the hazard ratios (HRs) and 95% confidence intervals (CIs) were directly provided or can be calculated based on given data.

Comparator HCC patients with low SIRI.

Study designs to be included Cohort studies,including prospective and retrospective cohorts.

Eligibility criteria The inclusion criteria were as follows: (1) the diagnosis of HCC was pathologically or histologically confirmed; (2) studies investigating the relationship between SIRI and prognosis of HCC patients; (3) the hazard ratios (HRs) and 95% confidence intervals (CIs) were directly provided or can be calculated based on given data; (4) studies reporting the cutoff value of SIRI; (5) studies reporting survival outcomes, including OS, progression-free survival (PFS), disease-free survival (DFS), or cancer-specific survival (CSS); (6) studies published in English language.

Information sources The electronic databases of PubMed, Web of Science, Embase, and Cochrane Library were systematically and thoroughly searched from inception to August 10, 2023. Furthermore, the reference lists of the retrieved studies and reviews were manually searched to identify additional potential studies.

Main outcome(s) The primary survival endpoint was OS and the secondary survival endpoint was PFS.

Quality assessment / Risk of bias analysis The Newcastle-Ottawa Scale (NOS) was used by two researchers to evaluate the quality of the literature and to cross-check the results. The NOS evaluates the quality in three aspects: selection, comparability, and outcome measurement. The NOS score range from 0 to 9 and study scores ≥ 6 are considered as high-quality literatures. Funnel plots and Begg's test were used to examine potential publication bias.

Strategy of data synthesis Combined HRs and 95%CIs were calculated to estimate the prognostic value of SIRI for OS and PFS in HCC. The heterogeneity among the included studies was evaluated by Higgin's I2 statistics and the Cochran's Q test. When significant heterogeneity was observed, presenting as I2 greater than 50% or P value less than 0.1, the random-effects model was applied; otherwise, the fixed-effects model was used.

Subgroup analysis Subgroup analysis stratified by diverse factors was conducted to detect the source of heterogeneity and for further investigations.

Sensitivity analysis None.

Language restriction English.

Country(ies) involved China.

Keywords SIRI; meta-analysis; hepatocellular carcinoma; prognosis; evidence-based medicine.

Contributions of each author

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