INPLASY PROTOCOL

Corresponding author:
Xuechun Liu

seolsoon@163.com

Author Affiliation:
Department of Gastroenterology, The Affiliated Hospital of Qingdao University, Qingdao, Shandong, China.

Support: No support.

Review Stage at time of this submission: Preliminary searches.

Conflicts of interest: None declared.

Prognostic value of the preoperative systemic immune-inflammation index in patients with cholangiocarcinoma: a meta-analysis

Li, X[1]; Sun, X[2]; Zhao, J[3]; Zhang, L[4]; Jing, X[5].

Review question / Objective: This meta-analysis is aimed to investigate the prognostic value of the preoperative systemic immune-inflammation index in patients with cholangiocarcinoma.

Condition being studied: Surgical resection remains the mainstay of curative therapy for CCA. The systemic immune-inflammation index (SII) is a significant prognostic factor in some cancer types. However, the prognostic value of SII in patients with cholangiocarcinoma (CCA) is still not clear. This meta-analysis is aimed to investigate the prognostic value of the preoperative systemic immune-inflammation index in patients with cholangiocarcinoma.

INTRODUCTION

Review question / Objective: This meta-analysis is aimed to investigate the prognostic value of the preoperative systemic immune-inflammation index in patients with cholangiocarcinoma.

Condition being studied: Surgical resection remains the mainstay of curative therapy for CCA. The systemic immune-inflammation index (SII) is a significant prognostic factor in some cancer types. However, the prognostic value of SII in patients with cholangiocarcinoma (CCA) is

still not clear. This meta-analysis is aimed to investigate the prognostic value of the preoperative systemic immune-inflammation index in patients with cholangiocarcinoma.

METHODS

Participant or population: The adult of cholangiocarcinoma who undergone surgery or invasive operation.

Intervention: Patients had undergone surgery or invasive operation and the data of preoperative SII was determined. The patients were divided into high and low SII groups according to a cutoff value and followed up for a period.

Comparator: The high and low SII groups according to a cutoff value.

Study designs to be included: Cohort study and prospective study.

Eligibility criteria: 1)Studies investigating the relationship between SII and prognosis of cholangiocarcinoma; 2) Patients with CCA confirmed by pathological examination; 3) Patients had undergone surgery or invasive operation; 4) The data of preoperative SII was determined; 5) The patients were divided into high and low SII groups according to a cutoff value and followed up for a period.

Information sources: We systematically researched relevant studies in the PubMed, Scopus, EMBASE, Web of Science, PROSPERO, the Cochrane Library databases up to March 22, 2022. Hazard ratios (HRs) and 95% confidence intervals (CIs) were used to estimate the association between SII and survival outcomes, including overall survival (OS) and recurrence-free survival (RFS). Six studies with 1515 patients were included in the meta-analysis. The following information was extracted from these studies: First author, publication year, country, study duration, sample size, follow up time, cut-off values for SII, survival outcomes included overall survival (OS), recurrence-free survival (RFS), and cancer-specific survival (CSS). Considering the confounding factors of each study, HRs were extracted from multivariate analysis.

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

Quality assessment / Risk of bias analysis: The Newcastle - Ottawa Scale (NOS) was used to assess the quality of the included studies. The NOS includes three parts: patient selection, comparability of research groups, and assessment of outcomes. The total NOS score ranged from 0 to 9, and studies with scores≥7 were considered high quality.

Strategy of data synthesis: Random-effects models would be applied if significant heterogeneity was identified by P >50%, otherwise fixed-effects models were utilized. Begg's funnel plot, Egger's funnel plot and sensitivity analysis were used to assess publication bias. Sensitivity analyses were performed to evaluate the overall results after omission of specific studies. Statistical significance was set at $p < 0.05$.

Subgroup analysis: We performed a subgroup analysis based on country, sample size, age, cut-off values for SII, treatment method, exclude chemotherapy or not.

Sensitivity analysis: To examine the stability of the pooled results of the meta-analysis, a sensitivity analysis was performed to determine the effect of individual studies on the overall conclusion.

Country(ies) involved: China.

Keywords: Cholangiocarcinoma, Systemic immune-inflammation index, Meta-analysis, Prognosis, Overall survival.

Contributions of each author:
Author 1 - Xuechun Liu.
Author 2 - Yueping Jiang.
Author 3 - Xueguo Sun.
Author 4 - Jianjian Zhao.
Author 5 - Lingyun Zhang.
Author 6 - Xue Jing.