INPLASY PROTOCOL

To cite: Sun et al. Prognostic Significance of Pretreatment Systemic Immune-Inflammation Index in Gastric Cancer: A Meta-Analysis. Inplasy protocol 2020120110. doi: 10.37766/inplasy2020.12.0110

Received: 21 December 2020

Published: 22 December 2020

Corresponding author:
Peng Yang

yangpeng00812@163.com

Author Affiliation:
Department of Blood Transfusion of First Affiliated Hospital of Anhui Medical University

Support: **Natural Science Foundation.**

Review Stage at time of this submission: **Data analysis.**

Conflicts of interest:
None.

Prognostic Significance of Pretreatment Systemic Immune-Inflammation Index in Gastric Cancer: A Meta-Analysis

Sun, X[1]; Wen, H[2]; Zhan, B[3]; Yang, P[4].

Review question / Objective: **Considerable studies have proved that pretreatment Systemic Immune-inflammation Index (SII) is a prognostic biomarker in gastric cancer (GC), while the results are unclear. We conducted this meta-analysis to identify the prognostic significance of SII for GC patients.**

Condition being studied: **According to global cancer statistics, gastric cancer (GC) is predicted to be the fifth most commonly diagnosed cancer and the third dominant cause of cancer-related mortality in the world, with more than 1,000,000 new cases and 780,000 deaths annually. Despite the progress of the diagnosis, staging and treatment of the disease, 5-year overall survival (OS) does not significantly increase in the past two decades, remaining below 30%. Therefore, the identification of new prognostic biomarkers is considered important to predict treatment response or long-term survival for gastric cancer patients.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 December 2020 and was last updated on 22 December 2020 (registration number INPLASY2020120110).

INTRODUCTION

Review question / Objective: **Considerable studies have proved that pretreatment Systemic Immune-inflammation Index (SII) is a prognostic biomarker in gastric cancer (GC), while the results are unclear. We conducted this meta-analysis to identify the prognostic significance of SII for GC patients.**

Condition being studied: **According to global cancer statistics, gastric cancer (GC) is predicted to be the fifth most commonly diagnosed cancer and the third dominant cause of cancer-related mortality in the world, with more than 1,000,000 new**

cases and 780,000 deaths annually. Despite the progress of the diagnosis, staging and treatment of the disease, 5-year overall survival (OS) does not significantly increase in the past two decades, remaining below 30%. Therefore, the identification of new prognostic biomarkers is considered important to predict treatment response or long-term survival for gastric cancer patients.

METHODS

Participant or population: Patients with gastric cancer diagnosed through histopathology will be included.

Intervention: High systemic immune-inflammation index (SII) was the main intervention.

Comparator: The patients with decreased SII were controls.

Study designs to be included: Retrospective cohort study will be included.

Eligibility criteria: 1: Included patients with GC diagnosed through histopathology. 2: Reported hazard ratio (HR) and 95% confidence intervals (CI) for overall survival (OS) or disease-free survival (DFS) or recurrence-free survival (RFS), or included sufficient data to calculate HR and 95% CI. 3: Published in English.

Information sources: PubMed, Embase and the Cochrane Library databases.

Main outcome(s): The pooled hazard ratios (HRs) with 95% confidence intervals (CIs) were calculated to evaluate the association of SII with overall survival (OS).

Quality assessment / Risk of bias analysis: The quality of studies was assessed based on the Newcastle–Ottawa Quality Assessment Scale (NOS). The potential publication bias was evaluated by Begg's test, Egger's test and funnel plot.

Strategy of data synthesis: The Cochrane Q test and I2 statistic were used to assess the heterogeneity of the pooled results. It was considered that our results have not been affected by heterogeneity if I20.10. In this case, a fixed-effects model was used to calculate the pooled estimates. Otherwise, a random-effects model was applied.

Subgroup analysis: According to histopathologic type, treatment methods, cancer stage, sample size and SII cut-off value, further subgroup analysis was also conducted.

Sensibility analysis: By sequentially excluding each study, a sensitivity analysis was carried out to assess the influence of each individual study on the pooled results.

Country(ies) involved: China.

Keywords: gastric cancer; SII; meta-analysis; prognosis.

Contributions of each author:
Author 1 - Xiaoxi Sun.
Email: sinianyun@126.com
Author 2 - Huiqin Wen.
Author 3 - Bingxiang Zhan.
Author 4 - Peng Yang.
Email: yangpeng00812@163.com