INPLASY PROTOCOL

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Conflicts of interest:
None.

Clinical significance of E-Cadherin and β-catenin in early gastric cancer: a protocol of systematic review

Zhang, SF[1]; Zhang, JH[2].

Review question / Objective: **Are there associations between E-Cadherin and β-catenin and early gastric cancer (EGC)?**
Condition being studied: **E-Cadherin; β-catenin; early gastric cancer.**
Study designs to be included: **All eligible case-control studies (CCSs) on investigating the E-Cadherin and β-catenin in both cancer tissue and adjacent normal tissue of patients with EGC will be considered for inclusion, irrespective language and publication status.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 August 2020 and was last updated on 18 August 2020 (registration number INPLASY202080072).

INTRODUCTION

Review question / Objective: **Are there associations between E-Cadherin and β-catenin and early gastric cancer (EGC)?**

Condition being studied: **E-Cadherin; β-catenin; early gastric cancer.**

METHODS

Participant or population: **Patients with pathologically confirmed as EGC will be included without restrictions to sex, age, racial, and educational background.**

Intervention: **E-Cadherin and β-catenin in cancer tissue of patients with EGC were detected.**

Comparator: **E-Cadherin and β-catenin in adjacent normal tissue of patients with EGC were examined.**

Study designs to be included: All eligible case-control studies (CCSs) on investigating the E-Cadherin and β-catenin in both cancer tissue and adjacent normal tissue of patients with EGC will be considered for inclusion, irrespective language and publication status.

Eligibility criteria: All eligible CCSs on investigating the E-Cadherin and β-catenin in both cancer tissue and adjacent normal tissue of patients with EGC will be considered for inclusion, irrespective language and publication status.

Information sources: Endnote X7 software will be employed to manage all searched records, and all duplications will be removed. Then, two authors will check titles/ abstracts to eliminate irreverent citations. After that, the full text of all potential articles will be cautiously read to judge whether they fulfill all inclusion criteria. Divergences between both of them will be settled down by consultation a third experienced author. A flow diagram will be presented to describe the selection process of all searched records.

Main outcome(s): Primary outcomes are protein expression of E-Cadherin and β-catenin in both cancer and adjacent normal tissue. Secondary outcomes are gene expression of E-Cadherin and β-catenin in both cancer and adjacent normal tissue.

Data management: Two authors will be in charge of data collection independently based on the previously designed data collection form. Any confusion will be cleared up by a third author through discussion. The following data will be collected from included studies, including study characteristics (country, first author, time of publication, sample size, follow-up information, et al), patient characteristics (tumor stage, age, sex, ethnicity, pathological diagnosis, eligibility criteria, et al), study methods, study setting, information of intervention and comparator, outcomes (gene and protein of E-Cadherin and β-catenin), and other essential information.

Quality assessment / Risk of bias analysis: Two authors will independently assess the study quality of all included CCSs using Newcastle-Ottawa scale. Any incompatibility difference will be solved by a third author through discussion.

Strategy of data synthesis: We will use RevMan 5.3 software for statistical analysis. Continuous outcomes will be estimated as weighted mean difference (MD) or standard MD and 95% confidence intervals (CIs), and dichotomous outcomes will be estimated as risk ratio and 95% CIs. Heterogeneity across eligible CCSs will be checked using I^2 test. I^2 ≤50% will be considered as having reasonable heterogeneity, while I^2 >50% will be regarded as having substantial heterogeneity. A fixed-effects model will be employed to pool the data when statistical heterogeneity is absent. In addition, we will perform meta-analysis when sufficient data on the same outcome is collected. A random-effects model will be suggested to synthesize the data when statistical heterogeneity is significant. When necessary, we will carry out subgroup analysis and meta-regression analysis to explore possible sources of significant heterogeneity.

Subgroup analysis: We will conduct subgroup analysis and meta-regression analysis based on different study information, patient characteristics, and tumor stages.

Sensibility analysis: We will carry out sensitivity analysis to check robustness of study results by excluding low quality study.

Country(ies) involved: China.

Keywords: Early gastric cancer; E-Cadherin; β-catenin.

Contributions of each author:
Author 1 - Shu-fen Zhang.
Author 2 - Jian-hua Zhang.