INPLASY PROTOCOL

To cite: Tang et al. A comprehensive evaluation of single nucleotide polymorphisms associated with atrophic gastritis risk: a protocol for systematic review and network meta-analysis. Inplasy protocol 202050016. doi: 10.37766/inplasy2020.5.0016

Received: 05 May 2020

Published: 05 May 2020

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Support: **Guangxi natural science founda**

Review Stage at time of this submission: **The review has not yet started.**

Conflicts of interest:
The authors declare that they have no competing interests.

A comprehensive evaluation of single nucleotide polymorphisms associated with atrophic gastritis risk: a protocol for systematic review and network meta-analysis

Tang, ZY[1]; Ye, ZM[2]; Zheng, JH[3]; Jiang, F[4]; Tang, YM[5].

Review question / Objective: **Do PTPN11,PSCA gene polymorphisms have any associations with a higher gastric cancer risk?**
Condition being studied: **Atrophic gastritis.**
Information sources: **Studies published through January 2020 that compared frequency differences in SNPs between atrophic gastritis patients and healthy controls were identified from PubMed, Web of Science, Embase, Cochrane Library, China National Knowledge Infrastructure (CNKI), the Chinese Science and Technology Periodical Database (VIP) and Wanfang databases, with no language limits. The search strategy was based on the following search terms: "single nucleotide polymorphism", "SNP", "atrophic gastritis"and "chronic atrophic gastritis".**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 May 2020 and was last updated on 05 May 2020 (registration number INPLASY202050016).

INTRODUCTION

Review question / Objective: **Do PTPN11,PSCA gene polymorphisms have any associations with a higher gastric cancer risk?**

Condition being studied: **Atrophic gastritis.**

METHODS

Participant or population: Patients with atrophic gastritis.

Intervention: Associated with atrophic gastritis gene polymorphisms.

Comparator: People without atrophic gastritis.

Study designs to be included: Case-control studies.

Eligibility criteria: This study will include RCTs and case-control study that comparing the risk of different gene polymorphisms for patients with AG.

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Main outcome(s): Atrophic gastritis risk comparisons.

Quality assessment / Risk of bias analysis: The methodological quality of data was assessed based on the STREGA statement. Two reviewers conducted the rating independently and a third reviewer was consulted for consensus if disagreement occurred.

Strategy of data synthesis: Two reviewers conducted the selection process independently, with cases of disagreement resolved by discussion or consulting a third reviewer. Data extracted from each paper included: author, country of publication, year, number of men and women, sample size, race, and details of target SNPs, including genotyping methods, genotype frequency, and HWE values.For controls of each study, HWE was estimated using the goodness-of-fit test. For pairwise meta-analysis, a fixed- or random- effects pooled odds ratio (OR) with 95% confidence intervals (CIs) were calculated, depending on degree of heterogeneity under six genetic models (allele contrast model, homozygous model, heterozygous model, dominant model, recessive model, and over-dominant model). Heterogeneity was quantified with the I2 statistic and P value; a I2 statistic < 50% and a P > 0.1 indicated low heterogeneity between studies, in which case the fixed-effect model was employed.For significant SNPs with evidence of heterogeneity in meta-analysis, assessment of sources of heterogeneity was employed using subgroup analysis if sufficient data existed. Publication bias was assessed using the Begg's and Egger's tests.

Subgroup analysis: Subgroup analyses, which are designed for patients’race, age, gender,the quality of literature , will be used to find the possible sources on account of a possibility of significant heterogeneity or inconsistency.

Sensibility analysis: Sensitivity analysis will be conducted to check the robustness and reliability of pooled outcome results.

Country(ies) involved: China.

Keywords: Atrophic gastric; case-control study; model of inheritance; network meta-analysis; susceptibility.

Contributions of each author:
Author 1 - Zhen-yu Tang.
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Author 4 - Feng Jiang.
Author 5 - You-ming Tang.