INPLASY PROTOCOL

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The author(s) declared no potential conflicts of interest with respect to the research, authorship, or publication of this article.

Association between complement 4 copy number variation and systemic lupus erythematosus: a protocol for systematic review and meta-analysis

Luo, S[1]; Zhou, Y[2]; Zhang, G[3].

Review question / Objective: **The association between complement 4 copy number variation and systemic lupus erythematosus.**
Condition being studied: **The association between complement 4 copy number variation and systemic lupus erythematosus has being done now.**
Strategy of data synthesis: **The meta-analysis will be conducted using the STATA 15.0 software (Stata Corp., College Station, TX, USA). Associations between C4 CNV and SLE will be estimated by pooled OR and 95% CI. Between-study heterogeneity was assessed by the Q-test, with P value < 0.05 regarded as statistically significant heterogeneity, and I2 statistics (I2 > 50%). In the absence of significant between-study heterogeneity, the analysis will be conducted using a fixed-effects model. For statistically significant heterogeneity, the random-effects model will be applied. All P values less than 0.05 were considered statistically significant.**

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 INPLASY202080076).

INTRODUCTION

Review question / Objective: **The association between complement 4 copy number variation and systemic lupus erythematosus.**

Condition being studied: The association between complement 4 copy number variation and systemic lupus erythematosus has being done now.

METHODS

Search strategy: A systematic search will be performed in Web of Science, PubMed, EMBASE, Scopus and the Cochrane Library until 8th of August 2020. The MeSH search and text word will be used with the terms related to "complement 4" and "systemic lupus erythematosus". To perform a comprehensive and focused search, experienced systematic review researchers will be invited to develop a search strategy. An example of search strategy for PubMed database shown in Table 1 will be modified and used for the other databases. The reference lists of all relevant studies will be searched for additional relevant studies not retrieved from the electronic database search.

Participant or population: Patients with systemic lupus erythematosus.

Intervention: Complement 4 copy number variation.

Comparator: None.

Study designs to be included: The studies will meet the following inclusion criteria: published prior to 8th of August 2020; case-control study evaluating the relation between C4 CNV and SLE; sufficient data to estimate the odds ratio (OR) with 95% confidence intervals (95% CI); and written in English.

Eligibility criteria: The studies will meet the following inclusion criteria: published prior to 8th of August 2020; case-control study evaluating the relation between C4 CNV and SLE; sufficient data to estimate the odds ratio (OR) with 95% confidence intervals (95% CI); and written in English. Studies will be excluded from the meta-analysis for the following reasons: case report or family-based study; lack of usable data; and studies with duplicate data.

Information sources: Web of Science, PubMed, EMBASE, Scopus and the Cochrane Library until 8th of August 2020.

Main outcome(s): First, the study characteristics, including the first author, publication study, title, sample size, study population, and genotyping methodology, will be recorded. Secondly, the number of C4 CNV in SLE patients and healthy controls will be noted.

Data management: The data will be extracted out by two independent reviewers in accordance with the Cochrane Handbook of Systematic Reviews of Interventions. Two investigators will independently screen all the included studies.

Quality assessment / Risk of bias analysis: Two reviewers will evaluate independently the risk of bias of included studies using a modified Version of Cochrane tool in which we will to check for allocation concealment, blinding, incomplete outcome data, selective reporting, and other bias, each of which makes high risk, low-risk, and unclear grades. Any discrepancy was resolved by discussion or by a third reviewer.

Strategy of data synthesis: The meta-analysis will be conducted using the STATA 15.0 software (Stata Corp., College Station, TX, USA). Associations between C4 CNV and SLE will be estimated by pooled OR and 95% CI. Between-study heterogeneity was assessed by the Q-test, with P value < 0.05 regarded as statistically significant heterogeneity, and I2 statistics (I2 > 50%). In the absence of significant between-study heterogeneity, the analysis will be conducted using a fixed-effects model. For statistically significant heterogeneity, the random-effects model will be applied. All P values less than 0.05 were considered statistically significant.

Subgroup analysis: If there is enough research, we will conduct a subgroup analysis to investigate differences in age, gender and et al.

Sensibility analysis: If included studies are more than ten, funnel plot will be used to identify the possible publication bias. Additionally, Egg regression and Begg's tests will be utilized to detect the funnel plot asymmetry.

Language: English.

Country(ies) involved: China.

Keywords: complement 4; systemic lupus erythematosus; meta-analysis.

Contributions of each author:
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