INPLASY PROTOCOL

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None.

Meta analysis of correlation between DNA methyltransferase and SLE disease activity index

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ABSTRACT

Objective: **To investigate the correlation between DNA methyltransferase (DNMT) and SLE activity index (SLEAI).**

Condition being studied: **The research institution is the Alliance of Rheumatoid Immunity Medical Consortium in Hubei Province, also is a key specialty of rheumatoid immune disease in Hubei Province.The department receives and treats a large number of SLE patients each year.The leader of this research project leader with extensive research experience.**

Search strategy: **Search strategy will include "systemic lupus erythematosus", "DNA methyltransferase", "SLE disease activity index"with using MeSH words. We will also search for relevant case reports and series from the reference lists of included articles.We will place no language restrictions. Database established to now.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 April 2020 and was last updated on 02 April 2020 (registration number INPLASY202040004.

INTRODUCTION

Objectives / Review question: **To investigate the correlation between DNA methyltransferase (DNMT) and SLE activity index (SLEAI).**

Condition being studied: **The research institution is the Alliance of Rheumatoid Immunity Medical Consortium in Hubei Province, also is a key specialty of rheumatoid immune disease in Hubei**

Province.The department receives and treats a large number of SLE patients each year.The leader of this research project leader with extensive research experience.

METHODS

Participant or population: Patients with systemic lupus erythematosus.

Intervention: None.

Comparator: None.

Study designs to be included: Case-control study, cohort study.

Eligibility criteria: American college of rheumatology classification of SLE, SLE disease activity index.

Information sources: Databases :PubMed, EMBASE, Cochrance library, Web of Science, CNKI, wanfang database, Vip database. Contact authors, or grey papers, or conference papers.

Main outcome(s): Correlation between DNMT1 and SLEDAI, r value and 95% confidence interval (CI) were used as the effect indexes of meta-analysis.

Additional outcomes: Correlation between total DNMT level and SLEDAI, correlation between DNMT2 and SLEDAI, correlation between DNMT3A and SLEDAI, correlation between DNMT3B and SLEDAI, correlation between DNMT3L and SLEDAI.

Data management: According to the inclusion and exclusion criteria, 2 researchers conducted preliminary screening of the retrieved literature, and used NOS (thenewcastle-ottawa Scale) for quality evaluation and cross-checking.Third party evaluation of the controversial literature is conducted and unified through discussion.The two researchers extracted information related to the included study: author location, study design, publication time, sample size, intervention, outcome indicators, etc.

Quality assessment / Risk of bias analysis: The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomised studies in meta-analyses GA Wells, B Shea, D O'Connell, J Peterson, V Welch, M Losos, P Tugwell, Nonrandomised studies, including case-control and cohort studies, can be challenging to implement and conduct. Assessment of the quality of such studies is essential for a proper understanding of nonrandomised studies. The Newcastle-Ottawa Scale (NOS) is an ongoing collaboration between the Universities of Newcastle, Australia and Ottawa, Canada. It was developed to assess the quality of nonrandomised studies with its design, content and ease of use directed to the task of incorporating the quality assessments in the interpretation of meta-analytic results. A 'star system' has been developed in which a study is judged on three broad perspectives: the selection of the study groups; the comparability of the groups; and the ascertainment of either the exposure or outcome of interest for case-control or cohort studies respectively. The goal of this project is to develop an instrument providing an easy and convenient tool for quality assessment of nonrandomised studies to be used in a systematic review.

Strategy of data synthesis: The data of each part of the information design included in the analysis was extracted, imported into Excel, and imported into Medcalc 15.0 software for meta analysis of correlation. R and 95% confidence interval (CI) were used as the effect indexes of meta-analysis.Sensitivity analysis was used to eliminate the included studies one by one and recombine observational statistics to evaluate the stability of the conclusions.Inter-study heterogeneity was determined by X2 test and I2 quantitative analysis. If P>0.1,I2<50%, inter-study heterogeneity was considered acceptable. Fixed-effect model was used for meta-analysis.If P is 50%, it is considered that inter-study heterogeneity is relatively large. Therefore, the random effect model is used for meta-analysis when merging, and the

source of heterogeneity is found through subgroup analysis.

Search strategy: Search strategy will include “systemic lupus erythematosus”, “DNA methyltransferase”, “SLE disease activity index”with using MeSH words. We will also search for relevant case reports and series from the reference lists of included articles.We will place no language restrictions. Database established to now.

Subgroup analysis: Author region, study design, study subject sample size, intervention measures, age,DNMT measurement method, disease, etc.

Sensibility analysis: The included studies were eliminated one by one, and the observational statistics were recombined to evaluate the stability of the conclusions.

Language: All languages.

Keywords: Lupus Erythematosus, Systemic、SLE、DNA methyltransferase、DNMT、SLE disease activity index、SLEAI、.