INPLASY PROTOCOL

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Imbalance of TH 1 cytokines, TH 2 cytokines and associated cytokines in patients with chronic hepatitis B : A meta-analysis

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Review question / Objective: The aim of this meta-analysis is to study the alteration in the levels of Th1 and Th2 cells in the peripheral blood of Chronic hepatitis B patients compared with healthy people, as well as the alteration in the associated cytokines secreted by it. Through subgroup analysis, we can explore the reasons for the difference between Th1 and Th2 research results.

Condition being studied: The pathogenesis of chronic hepatitis B (CHB) is still unclear. The role of the abnormal immune system response caused by the imbalance of T cell subsets and the disorder of cytokine secretion in the pathogenesis of CHB has always been a hot topic in the academic field. Although there are a large number of literatures on Th1 and Th2 disorders in CHB patients, and changes in related cytokines, the results of the study have always been controversial.

INTRODUCTION

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METHODS

Search strategy: We will search articles in six electronic databases including PubMed、Embase、Cochrane、Web of Science Wanfang database、and Chinese National Knowledge Infrastructure databases. All the English publications until 31 Dec. 2022 will be searched without any restriction of countries or article type. Reference list of all selected articles will independently screened to identify additional studies left out in the initial search. (Chronic hepatitis B)OR (CHB) OR (hepatitis B)OR (hepatitis B Virus) OR (HBV) AND (Th1 Cells[mh]) OR (Cell,Th1) OR (Cells, Th1) OR (Th1 Cell) OR (TH-1 Cells) OR (Cell, TH-1) OR (Cells, TH-1) OR (TH 1 Cells) OR (TH-1Cell) OR (T Helper 1 Cells) OR (Type 1 Helper T Cells) OR (Th2 Cells[mh]) OR (Th2 Cell) OR (Cell, Th2) OR (Cells,Th2) OR (T Helper2 Cell) OR (Cell, T Helper2) OR (Cells, T Helper2) OR (TH-2 Cell) OR (Cell, TH-2) OR (Cells,TH-2) OR (TH 2 Cell) OR (TH-2 Cells) OR (TH 2 Cells) OR (T Helper2 Cells) OR (T Helper 2 Cells) OR (Type-2 Helper T Cells) OR (Type 2 Helper T Cells) OR (T Helper 2 Cell) OR (Type-2 Helper T Cell) OR (Type 2 Helper TCell).

Participant or population: Study on the differences in serum Th1, Th2 cells and associated cytokines secreted by patients with Chronic hepatitis B and healthy people will be included.

Intervention: Chronic hepatitis B.

Comparator: Healthy population.

Study designs to be included: Case control study will be included irrespective of publication status or language. RCT

Eligibility criteria: Exclusion criteria: (1) Animals as the research object ; (2) The research content is not relevant; (3) The experimental samples used are non-human serum ; (4) Unable to obtain sufficient experimental data ; (5) review.

Information sources: PubMed、Embase、Cochrane、Web of Science、 Wanfang database and Chinese National Knowledge Infrastructure databases.

Main outcome(s): Changes in the percentage of Th1, Th2 cells and changes in secreted associated factors.

Additional outcome(s): Factors causing the difference of Th1 and Th2 test results in Chronic hepatitis B patients.

Data management: Two authors will independently extract data. Any disagreement will be resolved by discussion until consensus is reached or by consulting a third author. The following data will be extracted: author, year of publication, country where the study was conducted, sex ratio, disease duration, and medicine.

Quality assessment / Risk of bias analysis: We will use Egger 's test and Begg 's test to assess the risk of bias in the literature.

Strategy of data synthesis: Using stata MP 16 software for statistical analysis. The included data are continuous variables and the measurement methods are the same, so we choose WMD as the effect scale. Random-effects model was used for data analysis. Sensitivity analysis and subgroup analysis were used to find the sources of heterogeneity.

Subgroup analysis: Incorporate published countries, disease activity and drug use into subgroup analysis to find the impact of race, severity of illness and and drug on Th1 and Th2 cell levels in Chronic hepatitis B patients.

Sensitivity analysis: The sensitivity analysis was performed by Stata software, which

reflected the sensitivity of the study by the change in the effect size after the deletion of one of the papers.

Language restriction: English.

Country(ies) involved: China.

Keywords: T cell type 1; T cell type 2 ;chronic hepatitis B ;cytokines.

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