

INPLASY PROTOCOL

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**Review Stage at time of this
submission:** Preliminary
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Conflicts of interest:
There is no conflict of interest.

Effects of salvia- nolic acid B on liver fibrosis: a protocol for systematic review and meta analysis

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Review question / Objective: P: liver fibrosis animal models; I: treatment with salvia-
nolic acid B; C: treatment with saline or
without treatment; O: liver fibrosis scores, indicators of liver
fibrosis, indicators of liver function; S: Randomized
controlled studies.

Condition being studied: Liver fibrosis is widespread in the
development of various chronic liver diseases, such as viral
hepatitis, alcoholic liver disease, nonalcoholic fatty liver
disease, etc; without effectively control, liver fibrosis can
develop into cirrhosis and increase the risk of liver cancer.
Salvia-
nolic acid B is the most abundant and bioactive member
of the salvia-
nolic acids in Traditional Chinese herb of
Danshen. Many experiment studies have showed that
salvia-
nolic acid B produced a good effect in reverse liver
fibrosis, but there is limited evidence regarding its
effectiveness. So, we will conduct this preclinical systematic
review to evaluate the effectiveness of salvia-
nolic acid B for
experimental liver fibrosis.

INPLASY registration number: This protocol was registered with
the International Platform of Registered Systematic Review and
Meta-Analysis Protocols (INPLASY) on 28 May 2020 and was last
updated on 28 May 2020 (registration number
INPLASY202050101).

INTRODUCTION

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of liver cancer. Salvianolic acid B is the most abundant and bioactive member of the salvianolic acids in Traditional Chinese herb of Danshen. Many experiment studies have showed that salvianolic acid B produced a good effect in reverse liver fibrosis, but there is limited evidence regarding its effectiveness. So, we will conduct this preclinical systematic review to evaluate the effectiveness of salvianolic acid B for experimental liver fibrosis.

METHODS

Participant or population: Liver fibrosis animal models.

Intervention: Salvianolic acid B.

Comparator: Interventions with normal saline, distilled water, or no treatment.

Study designs to be included: Randomized controlled studies.

Eligibility criteria: (1) Animal models were induced by carbon tetrachloride (CCI4) or diethylnitrosamine (DEN) or dimethylnitrosamine (DMN) and thioacetamide (TAA); (2) The treatment group was received salvianolic acid B as only treat in any dose. Interventions for control group were normal saline or no treatment; (3) The primary outcome measures were the liver fibrosis scores, indicators of liver fibrosis, such as hyaluronidase, laminin, and indicators of liver function (alanine aminotransferase, aspartate aminotransferase, total bilirubin. the second outcome measures were mechanisms of salvianolic acid B for liver fibrosis.

Information sources: (1)Electronic databases: Date were searched from the following seven databases: PubMed, EMBASE, Web of science, China National Knowledge Infrastructure (CNKI), China Biology Medicine (CBM), Wan fang Database for Chinese Technical Periodicals and VIP Database. All the databases were searched from inception to December 2019. (2)Searching other resources: Gray literature compiles materials and

researches that are not covered in the databases mentioned, as well as the sites of animal research organizations, Google Scholar and Baidu Scholar. Additionally, a manual search will check the reference list or citations found in secondary studies to verify and identify possible eligible studies. Whenever necessary, the authors of the main studies will be contacted for further information.

Main outcome(s): (1)Primary outcome measures were the liver fibrosis scores, indicators of liver fibrosis, such as hyaluronidase, laminin, and indicators of liver function (alanine aminotransferase, aspartate aminotransferase, total bilirubin.

Additional outcome(s): Second outcome measures were mechanisms of Sal B for liver fibrosis.

Quality assessment / Risk of bias analysis: Quality assessment: The study quality assessment was independently valued with the Collaborative Approach to MetaAnalysis and Review of Animal Data from Experimental Studies (CAMARADES). 10item quality checklist criteria: peer reviewed publication, control of temperature, random allocation to treatment or control, blinded induction of model, blinded assessment of outcome, use of anesthetic without significant intrinsic neuroprotective activity, animal model (aged, diabetic, or hypertensive),sample size calculation, compliance with animal welfare regulations, statement of potential conflict of interests. Risk of bias analysis: SYRCLE's risk of bias tool for animal studies.

Strategy of data synthesis: Review Manager 5.2 version software (The Cochrane Collaboration, Software Update, Oxford, United Kingdom). The estimate of the combined effect sizes was calculated by the standardized mean difference (SMD). The heterogeneity assumption was checked by I² statistics, when I² was less than 50%, fixed effects model was used for meta-analysis, otherwise, random effects model was carried out. 95% confidence

intervals (CIs) of all results were calculated, the significance was determined by Z-test, with a P value<0.05 as significant level.

Subgroup analysis: Subgroup analysis will be conducted to explain the potential causes of heterogeneity when necessitated. The subgroup analysis will be implemented according to animal species, the method of animal model induced, the duration of treatment and the quality of studies.

Sensibility analysis: Sensibility analysis will be assessed the effect of each study on the random effects model when necessitated. The sensibility analysis of the overall comprehensive effect of all outcome indicators was carried out by exclusion method, each study will be excluded, and the remaining studies were re-analyzed to determine the stability of the results. If the results show that there is no qualitative change in the comprehensive effect, the results are stable.

Country(ies) involved: China.

Keywords: Salvianolic acid B; Liver fibrosis; Animal experimentation; Study protocol; Systematic review.

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