

INPLASY PROTOCOL

To cite: Chen et al. Effects of Chinese medicine injections on inflammatory factors in patients with Subarachnoid Hemorrhage: a system review and meta-analysis of randomized controlled trials. Inplasy protocol 202310042. doi: 10.37766/inplasy2023.1.0042

Received: 15 January 2023

Published: 15 January 2023

Corresponding author:

Jin Zhao

dr.jinzhao@cdutcm.edu.cn

Author Affiliation:

Chengdu University of Traditional Chinese Medicine, Chengdu, China.

Support:

Sichuan Administration of Traditional Chinese Medicine.

Review Stage at time of this submission: Data analysis.

Conflicts of interest:

None declared.

Effects of Chinese medicine injections on inflammatory factors in patients with Subarachnoid Hemorrhage: a system review and meta-analysis of randomized controlled trials

Chen, JQ¹; Jin, WQ²; Jin, Z³.

Review question / Objective: This meta-analysis aims at exploring the effects of Chinese medicine injections on inflammatory factors in patients with Subarachnoid Hemorrhage (SAH) compared with conventional treatment.

Condition being studied: Subarachnoid Hemorrhage (SAH) is one of the most common hemorrhagic cerebrovascular diseases, with high mortality. Nearly half of the patients who survive will face up with severe sequelae, especially neurological deficit and cognitive impairment. Thus, SAH decreases patients' life quality and brings huge economic burden to families and society. Recent studies show that neuroinflammation can cause the death of neurons and result in early brain injury (EBI) and delayed cerebral ischemia(DCI), which triggers poor prognosis of SAH. However, there is still not a recognized effective anti-inflammatory drug treatment option for patients with SAH. Considering that we design a meta-analysis to explore the effects of Chinese medicine injections on inflammatory factors in patients with SAH.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 January 2023 and was last updated on 15 January 2023 (registration number INPLASY202310042).

INTRODUCTION

Review question / Objective: This meta-analysis aims at exploring the effects of Chinese medicine injections on inflammatory factors in patients with

Subarachnoid Hemorrhage (SAH) compared with conventional treatment.

Condition being studied: Subarachnoid Hemorrhage (SAH) is one of the most common hemorrhagic cerebrovascular diseases, with high mortality. Nearly half of

the patients who survive will face up with severe sequelae, especially neurological deficit and cognitive impairment. Thus, SAH decreases patients' life quality and brings huge economic burden to families and society. Recent studies show that neuroinflammation can cause the death of neurons and result in early brain injury (EBI) and delayed cerebral ischemia(DCI), which triggers poor prognosis of SAH. However, there is still not a recognized effective anti-inflammatory drug treatment option for patients with SAH. Considering that we design a meta-analysis to explore the effects of Chinese medicine injections on inflammatory factors in patients with SAH.

METHODS

Search strategy: Take PubMed as an example, the search formulation was as follows: ("subarachnoid hemorrhage" [TI]) OR ("SAH" [TI]) OR ("subarachnoid haemorrhage" [TI] OR ("subarachnoidal hemorrhage" [TI] OR ("subarachnoid hemorrhage" [MeSH Terms])) AND (("inflammatory" [TIAB]) OR ("inflammation" [TIAB])) AND (("level" [TIAB] OR ("express*" [TIAB]) OR ("concentration" [TIAB])) AND (("random*" [TIAB] OR ("group" [TIAB])).

Participant or population: Hospitalized patients (age above or equal 18) with SAH.

Intervention: Chinese medicine injections combined with treatment in control groups.

Comparator: Conventional treatment or conventional treatment combined with western medicine.

Study designs to be included: Randomized controlled trials (RCTs) only.

Eligibility criteria: Inclusion criteria: 1) Randomized controlled studies on hospitalized patients (age above or equal 18) with SAH. 2) Interventions of the experimental groups must include Chinese medicine injections. 3) Concentration of inflammatory factors of the patients before and after treatment must be included in the outcomes. 4) The language limit to English

and Chinese. Exclusion criteria: 1) Studies on patients in lactation or pregnancy or with other serious diseases. 2) Animal experiments, retrospective studies, review, meta-analysis, case report, meeting abstract, articles cannot be got the full content.

Information sources: Electronical databases; contact with authors.

Main outcome(s): The concentration of inflammatory factors.

Additional outcome(s): GOS scores, NIHSS scores, middle cerebral artery blood speed and incidence of adverse reactions.

Data management: Titles and abstracts of articles, which are selected by the retrieval strategy, will be preliminary browsed by two authors. The articles meeting with the inclusion criteria will be screened out. The full text will be obtained and be evaluated by two team members independently. Any conflict about inclusion or exclusion of articles between the two authors will be solved through discussion or being reviewed by the third author. A standardized table will be used to organize the extracted data from the articles included. Data being extracted from the articles include: the first author, the published year, numbers of patients in experimental groups and control groups, the characteristics of the participants (age, sex), the specific interventions, curative course, outcome indicators.

Quality assessment / Risk of bias analysis: We will use Revman5.4 quality assessment tool to evaluate the quality of these RCTs. The quality of each article will be evaluated through group discussion.

Strategy of data synthesis: The system review and meta-analysis will be conducted in the Review Manager 5.4 software. Continuous random variables will be merged by mean difference (MD), also can be shown by std.mean difference (SMD). Dichotomous variables will be summarized by odds ratio (OR). Each effect size was measured by the 95 % confidence interval

(95% CI). I² test statistical methods are used to evaluate heterogeneity. If I² is less than 50%, we will use the fixed effect model. Otherwise, we will use random effect model. If more than ten studies are included, we will use a funnel plot to explore publication bias.

Subgroup analysis: If necessary, different comparison methods will be used for subgroup analysis.

Sensitivity analysis: Sensitivity analysis will be used to explore the robustness of the main outcome.

Language restriction: English and Chinese.

Country(ies) involved: China.

Keywords: Chinese medicine injections; Subarachnoid hemorrhage (SAH); inflammatory factors; meta-analysis.

Contributions of each author:

Author 1 - Chen Jiaqi - Research design, data extraction and analysis and manuscript writing.

Email: 1016051912@qq.com

Author 2 - Jin Wenqin - Modify the format of articles and related charts, manuscript preparation.

Email: 352951260@qq.com

Author 3 - Jin Zhao - Check and approve, manuscript preparation.

Email: dr.jinzhao@cdutcm.edu.cn