

INPLASY PROTOCOL

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Efficacy and safety of acupuncture in the treatment of cervical spondylotic radiculopathy: a meta-analysis

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Review question / Objective: The purpose of this systematic review is to compare the efficacy and safety of acupuncture and traction in cervical spondylotic radiculopathy, in order to provide better information for clinical practice. To this end, the proposed systematic review will address the following questions: What is the best option for acupuncture or traction in patients with radicular cervical spondylotic disease.

Condition being studied: Cervical spondylotic radiculopathy (CSR) is a serious and common degenerative disease of the cervical spine. The clinical manifestations are sensory, motor, and reflex disorders when the cervical spinal nerve roots are stimulated and compressed, and numbness and pain in the neck, shoulders, upper limbs, and fingers. Acupuncture has been widely used in the treatment of CSR with remarkable efficacy.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 02 September 2022 and was last updated on 02 September 2022 (registration number INPLASY202290007).

INTRODUCTION

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neck, shoulders, upper limbs, and fingers. Acupuncture has been widely used in the treatment of CSR with remarkable efficacy.

METHODS

Search strategy: PubMed, EMBASE, The Cochrane Library, Web of Science, China National Knowledge Infrastructure, China Biology Medicine disc (CBMdisc), Wanfang Database, and China Science and Technology Journal Database (VIP) were searched to collect randomized controlled studies related to acupuncture treatment of cervical spondylotic radiculopathy. Research should be conducted through objective search, using free text terms and standardized search terms. The search terms include 'spondylosis', 'cervical spondylotic radiculopathy', 'acupuncture', 'randomized controlled trial', 'acupuncture therapy'. Due to the differences between Chinese and English databases, the search terms in Chinese databases are translations or synonyms of the above words.

Participant or population: Compliant diagnostic criteria for cervical spondylotic radiculopathy. (without restrictions on age, gender, profession, ethnicity, and source of cases.)

Intervention: Two types of RCTs will be included: The experimental group is treated with needle alone, while the control group accepts other therapies. The experimental group is treated with needle combined with other therapies, while the control group accepts the same other therapies.

Comparator: The experimental group is treated with needle alone; The experimental group is treated with needle combined with other therapies.

Study designs to be included: RCTs.

Eligibility criteria: The language is limited to Chinese and English. Others such as randomized crossover trials, animal trials, medical cases, Non-RCTs, and only

published in the form of abstracts will be excluded.

Information sources: PubMed, EMBASE, The Cochrane Library, Web of Science, China National Knowledge Infrastructure, China Biology Medicine disc (CBMdisc), Wanfang Database, and China Science and Technology Journal Database (VIP) .

Main outcome(s): After a large number of literature screenings, 14 RCTs were finally selected. Meta-analysis showed that acupuncture was superior to traction therapy in the treatment of cervical spondylotic radiculopathy in both effectiveness and safety. The evaluation indexes included pain score, physical function score, social function score and overall health score.

Data management: After using NoteExpress to exclude repetitive literature, 2 researchers will independently read the title and abstract, conduct a preliminary screening based on the inclusion criteria, and then check the full text to determine whether it will be included. If there is any disagreement, further discussion and verification will be conducted, or the third researcher will assist in the resolution.

Quality assessment / Risk of bias analysis: For literature quality assessment, the Cochrane-recommended risk of bias assessment tool was used to assess the quality and risk of bias of all included literature. The assessment include: sequence generation; allocation concealment; blinding of participants, personnel, and outcome assessors; incomplete outcome data; selective outcome reporting; other sources of bias. The methodological quality of the included studies was evaluated according to the "Risk of Bias Assessment Tool" in the Cochrane Collaboration.

Strategy of data synthesis: X2 test was used to test the heterogeneity among the literature results. RevMan5.4 software was used for statistical analysis. Randomized

controlled trial for binary classification variables, using the relative risk (relative risk, RR) and 95% confidence interval (confidence interval, CI) evaluation effect; For continuous variables, mean difference (MD) and 95% confidence interval (CI) were used to assess the effect size. The results of data analysis are represented by forest plots.

Subgroup analysis: If the test result was $P > 0.1$ and $I^2 < 50\%$, it was judged that there was no heterogeneity and the fixed effect model was used for meta-analysis. If $P \leq 0.1$ and $I^2 \geq 50\%$, the random effects model was used for the meta-analysis. Subgroup analyses were performed to eliminate any heterogeneity.

Sensitivity analysis: Sensitivity analyses were performed by individually deleting each study to assess the consistency and quality of results.

Country(ies) involved: China.

Other relevant information: These authors contributed equally to this work.

Keywords: cervical spondylotic radiculopathy; acupuncture; randomized controlled trial; meta-analysis.

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