

INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Efficacy and safety of acupuncture in the treatment of peripheral neuropathy in multiple myeloma: a protocol for systematic review and meta-analysis

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Review question / Objective: This protocol will provide objective clinical evidence for the safety and effectiveness of acupuncture for patients with Chemotherapy-induced peripheral neuropathy.

Condition being studied: Multiple myeloma peripheral neuropathy is any form of PN (such as injury, inflammation, or degeneration) that occurs in the course of multiple myeloma disease, characterized by sensory, autonomic, and even motor neuropathy. At present, there is no effective method to prevent and cure MMPN. In general, neurotrophic drugs are used to treat MMPN. In severe cases, the dosage is adjusted, or the drugs are interrupted, or the interval time of chemotherapy is prolonged, but at the same time the therapeutic effect of primary diseases is reduced. Acupuncture has been shown to be effective in improving MMPN. Through systematic review and meta-analysis, to evaluate the efficacy and safety of acupuncture in the treatment of MMPN, and to provide reliable evidence for clinical treatment.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 March 2022 and was last updated on 13 March 2022 (registration number INPLASY202230059).

INTRODUCTION

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METHODS

Participant or population: Multiple myeloma patients with peripheral neuropathy symptoms.

Intervention: Acupuncture, including simple acupuncture, electroacupuncture.

Comparator: The control group was given routine treatment such as neurotrophic drugs, and the test group was given acupuncture treatment on the basis of routine treatment.

Study designs to be included: Only human randomized controlled trials can be included in evaluation, while other types of studies will be excluded, such as observational studies, retrospective analysis, self-control trials, case reports, patient series, animal experiments, and other interventions that have nothing to do with this study, such as oral or soaking experiments of traditional Chinese medicine.

Eligibility criteria: (1) according to the clinical symptoms, molecular biology, bone marrow puncture and biopsy, the patients were in accordance with the diagnostic criteria of multiple myeloma.(2) patients with peripheral neuropathy. (3) the function of important organs was basically normal. (4) there were no other complex and serious diseases and no history of other tumors.

Information sources: Data and information will be retrieved from Cochrane Library,

PubMed, Cochrane Controlled Trial CenterRegistration, Chinese Biomedical Literature Database (SinoMed), EMBASE, CNKI, Chinese Journal Full-text Database, Wanfang Database, Chinese Science and Technology Journal Full-text Database, ScienceNet, and VIP Database.

Main outcome(s): The main outcomes included motor nerve conduction velocity, sensory nerve conduction velocity, MMPN severity classification standard of common toxicity and side effects of WHO anticancer drugs, pain score by NRS scale, and evaluation of conscious symptoms and quality of life of cancer patients by FACT-G scale.

Quality assessment / Risk of bias analysis: According to the Cochrane collaborative network risk assessment tool, bias includes selection bias, test bias, follow-up bias and reporting bias. Two researchers will assess the risk of bias by themselves. If there is a difference of opinion, discuss it with the third researcher.

Strategy of data synthesis: When different research data can be combined or there is no heterogeneity, STATA16.0 can be used for Meta analysis, otherwise descriptive analysis is needed. The continuous variables are described by mean difference (MD) and 95% confidence interval (CI), and the two classification variables are described by relative risk (RR) and 95% confidence interval (CI). I^2 test was used for heterogeneity analysis. If $I^2 < 50\%$, there is no heterogeneity, and the fixed effect model is used for the research results; otherwise, the heterogeneity is considered to be significant, and the random effect model is used for systematic evaluation. Results Z test was used in the analysis, and the difference was considered to be statistically significant when $P < 0.05$.

Subgroup analysis: If there is obvious heterogeneity among the included studies, subgroup analysis and Meta regression analysis were carried out according to the characteristics of the subjects, sample size, intervention measures (simple acupuncture, electroacupuncture), different

chemotherapeutic drugs, different evaluation index methods, included trial quality, etc, using STATA16.0 software.

Sensitivity analysis: The stability and reliability of the results were measured by sensitivity analysis, and the causes of heterogeneity were analyzed. After changing some important factors that may affect the results, if the results change, it shows high sensitivity, and this factor is the cause of heterogeneity, otherwise, it shows that the sensitivity is low and the results are stable and reliable.

Country(ies) involved: China.

Keywords: Peripheral neuropathy in multiple myeloma, acupuncture, electroacupuncture.

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