

INPLASY PROTOCOL

To cite: Lingyuan et al. Efficacy and safety of liquid nitrogen cryotherapy in the treatment of lichen simplex chronicus: a meta-analysis of randomized controlled trials. Inplasy protocol 202080061. doi: 10.37766/inplasy2020.8.0061

Received: 14 August 2020

Published: 14 August 2020

Corresponding author:
Lingyuan Zhong

1547146750@qq.com

Author Affiliation:
Hospital of Chengdu
University of Traditional
Chinese Medicine, Chengdu,
China

Support: None

Review Stage at time of this submission: Preliminary searches.

Conflicts of interest:
None.

INTRODUCTION

Review question / Objective: The efficacy and safety of liquid nitrogen cryotherapy in patients with lichen simplex chronicus were discussed through a meta-analysis of all relevant randomized controlled trials.

Efficacy and safety of liquid nitrogen cryotherapy in the treatment of lichen simplex chronicus: a meta-analysis of randomized controlled trials

Lingyuan, Z¹; Qiuyue, W²; Pingsheng, H³.

Review question / Objective: The efficacy and safety of liquid nitrogen cryotherapy in patients with lichen simplex chronicus were discussed through a meta-analysis of all relevant randomized controlled trials.

Condition being studied: (1) Study type: RCT;(2) Subjects: patients clinically diagnosed with neurodermatitis (without other complications affecting the outcome) were not limited in age or gender;(3) Intervention: The experimental group was treated with liquid nitrogen cryotherapy or combined with other therapeutic measures;The control group used other methods except liquid nitrogen refrigeration;(4) Outcome indicators: effective rate and recovery rate were evaluated by grade 4 scoring (adverse reaction incidence and recurrence rate) (recovery, significant effect, effective, ineffective and other indicators). 5. The baseline status before treatment was clear, and the baseline difference was not statistically significant, which was comparable.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 August 2020 and was last updated on 14 August 2020 (registration number INPLASY202080061).

Rationale: We searched all randomized controlled trials(RCTs) for Efficacy of liquid nitrogen cryotherapy (LNC) in the treatment of lichen simplex chronicus(LSC) From the establishment of the database to August 14, 2020.Cochrane collaboration tools are used to assess in RCT bias risk and the quality of the literature. We

performed a random-effects model meta-analysis to obtain estimates of combined treatment effects.

Condition being studied: (1) Study type: RCT;(2) Subjects: patients clinically diagnosed with neurodermatitis (without other complications affecting the outcome) were not limited in age or gender;(3) Intervention: The experimental group was treated with liquid nitrogen cryotherapy or combined with other therapeutic measures;The control group used other methods except liquid nitrogen refrigeration;(4) Outcome indicators: effective rate and recovery rate were evaluated by grade 4 scoring (adverse reaction incidence and recurrence rate) (recovery, significant effect, effective, ineffective and other indicators). 5. The baseline status before treatment was clear, and the baseline difference was not statistically significant, which was comparable.

METHODS

Search strategy: Search for words Cryotherapy, Liquid nitrogen Cryotherapy, Neurodermatitis, Lichen Simplex Chronicus,, based on database search requirements, combined nominations, keywords, subject, free words, etc.Two authors independently screened the title of the search results and summary, in order to identify potential qualification test, and check the full text of these studies, in order to determine whether they conform to our included. Necessary to contact the author literature, discussion, or by the third review to decide whether to include using endnote will remove duplicate, literature database is established.

Participant or population: Number of participants included in all included literature.

Intervention: Liquid nitrogen cryotherapy with or without other therapeutic measures.

Comparator: Other treatments except liquid nitrogen cryotherapy.

Study designs to be included: Randomized Controlled Trial.

Eligibility criteria: The type of study was RCT, and the subjects were clinically diagnosed as neurodermatitis. The intervention and control were qualified;The outcome measures were effective rate, adverse reaction rate and recurrence rate.The baseline conditions before treatment were clear, and the baseline differences were not statistically significant and comparable.

Information sources: We searched all randomized controlled trials(RCTs) for Efficacy of liquid nitrogen cryotherapy (LNC) in the treatment of lichen simplex chronicus(LSC) From the establishment of the database to August 14, 2020. Our Databases include PubMed, EMBASE, and Web of Science, Cochrane Controlled Trials Register, China National Knowledge Infrastructure, China Biomedical Literature Database, Database of Chinese scientific journals and Wanfang Database.

Main outcome(s): Percentage of complete/good/no improvement of all lesions. Adverse events.

Additional outcome(s): Serum IL-6 level, recurrence rate.

Data management: In the database, the duplication was removed by endnote, irrelevant literature was removed by title abstract, and then the full text was read and sorted out the literatures meeting the requirements. All the above operations were carried out by two persons independently.

Quality assessment / Risk of bias analysis: Risk assessment methods: The risk assessment of literature was carried out according to the random sequence generation, allocation and concealment, blind method, completeness of outcome data, selective outcome reporting or other biased sources. If there were more than 10

literatures, funnel plot should be used to detect whether there was publication bias.

Strategy of data synthesis: We performed a random-effects model meta-analysis to obtain estimates of combined treatment effects by Review manager 5.4.

Subgroup analysis: According to the frequency of use of liquid nitrogen cryotherapy, the literature was divided into several subgroups to explore whether different frequency of use has difference in efficacy.

Sensibility analysis: When heterogeneity is high in the analysis results, sensitivity analysis should be conducted, and the changes of heterogeneity should be observed by excluding references article by article, so as to find out the causes of heterogeneity.

Language: No.

Country(ies) involved: China.

Keywords: Cryotherapy, liquid nitrogen cryotherapy, neurodermatitis, lichen simplex chronicus, Meta analysis, review.

Contributions of each author:

Author 1 - Lingyuan, Zhong - The first author writes drafts, the first and second authors retrieve and sort out materials and data, the third author conducts data analysis, and the first author writes articles.

Author 2 - Qiuyue, Wang.

Author 3 - Pingsheng, Hao.