INPLASY PROTOCOL

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Corresponding author:
Liu Chengmei

lcm0428@163.com

Author Affiliation:
Henan University of Chinese Medicine

Support: **192102310162; 182102310311**

Review Stage at time of this submission: **Preliminary searches.**

Conflicts of interest:
None.

Effect of extracorporeal shock wave therapy for rotator cuff tendinitis: a protocol for systematic review and meta-analysis

Chen, KW[1]; Yin, S[2]; Wang, XD[3]; Lin, QQ[4]; Duan, HJ[5]; Zhang, ZH[6]; Chang, YN[7]; Gu, Y[8]; Wu, ML[9]; Liu, CM[10]; Wu, N[11].

Review question / Objective: **Does extracorporeal shockwave therapy reduce pain and calcification size in patients suffering from rotator cuff tendinitis? Is extracorporeal shockwave therapy more effective than sham-ESWT or ultrasound-guided needling for treating rotator cuff tendinitis?**
Condition being studied: **Extracorporeal shockwave therapy; rotator cuff tendinitis.**
Information sources: **Pubmed, Cochrane Library, Web of Science, EMBASE, China National Knowledge Infrastructure, China Biomedical Literature Database, Chinese Science Journal Database and WangFang database will be searched without language restrictions. We will also trace the references of relevant studies to ensure that any potential eligible RCTs will not be missed.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 August 2020 and was last updated on 08 August 2020 (registration number INPLASY202080028).

INTRODUCTION

Review question / Objective: **Does extracorporeal shockwave therapy reduce pain and calcification size in patients suffering from rotator cuff tendinitis? Is extracorporeal shockwave therapy more effective than sham-ESWT or ultrasound-guided needling for treating rotator cuff tendinitis?**

Condition being studied: **Extracorporeal shockwave therapy; rotator cuff tendinitis.**

METHODS

Participant or population: Patients with clinically diagnosed of rotator cuff tendinitis will be fully considered for inclusion with any restrictions, such as race, age, and gender.

Intervention: In the experimental group all patients received extracorporeal shock wave therapy.

Comparator: In the control group all subjects received sham-ESWT or ultrasound-guided needling.

Study designs to be included: Only randomized controlled trials will be included.

Eligibility criteria: All randomized controlled trials comparing the efficacy of ESWT with sham-ESWT or ultrasound-guided needling will be considered.

Information sources: Pubmed, Cochrane Library, Web of Science, EMBASE, China National Knowledge Infrastructure, China Biomedical Literature Database, Chinese Science Journal Database and WangFang database will be searched without language restrictions. We will also trace the references of relevant studies to ensure that any potential eligible RCTs will not be missed.

Main outcome(s): Pain intensity and size of calcification are the primary outcomes. Pain intensity will be assessed by Visual Analogue Scale or Numerical Rating Scale. The size of calcification will de evaluated by radiographs or ultrasound imaging or Gärtner classification.

Additional outcome(s): Clinical outcome is measured using the Oxford Shoulder Score and the Constant Murley Score; the functional outcomes, measured by the ASES and SST scores.

Data management: Literature retrieval, screening and information extraction will be completed by two researchers independently. If there are differences, a third author will be invited and discuss the solution. The following data will be extracted and recorded on the up-front excel sheet: the first author, publication year, country, sample size, treatment measures, study design and methods, assessment time, follow-up time and outcome index.

Quality assessment / Risk of bias analysis: The quality evaluation of the included study will be conducted by two researchers using Cochrane collaboration's tool, covering selection bias, performance bias, detection bias, attrition bias, reporting bias and other bias, each rated as low-risk, unclear and high-risk.and consulted a third reviewer when necessary. Two researchers will complete the process independently and and a third researcher will be consulted if their evaluation results are inconsistent.

Strategy of data synthesis: The analysis will be done using Review Manager 5.3 Software. The heterogeneity between the included studies will be analyzed by Cochran's Q test and Higgins I^2 statistic. If there is no statistical heterogeneity between the results of each study($P>0.1$, $I^2<50\%$), fixed-effect model will be used for meta analysis, otherwise the source of heterogeneity will be further analyzed and random-effect model will be used after excluding the influence of obvious clinical heterogeneity. All outcomes will be analysed using 95% confidence intervals (95% CI).

Subgroup analysis: Subgroup analyses will be performed for people with different control groups or different follow-up times when data are available.

Sensibility analysis: Sensitivity analysis is performed when Cochran's Q test and Higgins I^2 statistic show significant heterogeneity.

Language: English.

Country(ies) involved: China.

Keywords: extracorporeal shock wave therapy; rotator cuff tendinitis; calcification; meta-analysis

Contributions of each author:
Author 1 - Chen Kewei.
Author 2 - Yin Shuai.
Author 3 - Wang Xiaodan.
Author 4 - Lin Qianqian.
Author 5 - Duan Huijie.
Author 6 - Zhang Zhenhua.
Author 7 - Chang Yiniu.
Author 8 - Gu Yujing.
Author 9 - Wu Mingli.
Author 10 - Liu Chengmei.
Author 11 - Wu Nan.