INPLASY PROTOCOL

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Review Stage at time of this submission: **The review has not yet started.**

Conflicts of interest:
None.

Arthroscopic capsular release for the treatment of post-stroke frozen shoulder: a protocol for systematic review

Zong, LZ[1]; Ma, L[2]; Liu, YY[3].

Review question / Objective: **Is arthroscopic capsular release (ACR) effective and safe for the treatment of post-stroke frozen shoulder (PSFS)?**
Condition being studied: **Arthroscopic capsular release; post-stroke frozen shoulder.**
Information sources: **To identify all relevant articles, we will undertake literature search from both electronic databases and grey literature sources to avoid missing potential studies. We will not limit language and publication status. First, we will search the following electronic databases from inception to the present in MEDLINE, EMBASE, Cochrane Library, Web of Science, Chinese Biomedical Literature Database, WANGFANG, and China National Knowledge Infrastructure. We will create search strategy sample of MEDLINE. Similar search strategy for other electronic databases will be modified and adapted. Second, we will examine grey literature sources, such as conference proceedings, reference list of included studies, and ongoing trials from websites of clinical trial registry.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 July 2020 and was last updated on 29 July 2020 (registration number INPLASY202070128).

INTRODUCTION

Review question / Objective: **Is arthroscopic capsular release (ACR) effective and safe for the treatment of post-stroke frozen shoulder (PSFS)?**

Condition being studied: **Arthroscopic capsular release; post-stroke frozen shoulder**

METHODS

Participant or population: All participants with a confirmed diagnosis of PSFS will be included. There will be no restrictions regarding the age, sex, country and other factors.

Intervention: Patients in the treatment group were treated with ACR alone.

Comparator: Control treatments can be any intervention, such as conventional medication. We will exclude comparators involving ACR.

Study designs to be included: In this study, we will only consider randomized controlled trials (RCTs) for inclusion, which evaluate the efficacy and safety of ACR for PSFS.

Eligibility criteria: In this study, we will only consider RCTs for inclusion, which evaluate the efficacy and safety of ACR for PSFS. Besides RCTs, all other studies will be excluded.

Information sources: To identify all relevant articles, we will undertake literature search from both electronic databases and grey literature sources to avoid missing potential studies. We will not limit language and publication status. First, we will search the following electronic databases from inception to the present in MEDLINE, EMBASE, Cochrane Library, Web of Science, Chinese Biomedical Literature Database, WANGFANG, and China National Knowledge Infrastructure. We will create search strategy sample of MEDLINE. Similar search strategy for other electronic databases will be modified and adapted. Second, we will examine grey literature sources, such as conference proceedings, reference list of included studies, and ongoing trials from websites of clinical trial registry.

Main outcome(s): The primary outcome is shoulder pain, as measured by any pain scale, such as Numeric Rating Scale. The secondary outcomes are shoulder function (as evaluated by associated indexes, such as Shoulder Pain and Disability Index), shoulder motion range (as examined by relevant tool, such as Range of Joint Motion Evaluation Chart), shoulder muscle strength (as identified by any tool, such as Cybex Norm isokinetic dynamometer), health-related quality of life (as appraised by any connected questionnaire, such as 36-Item Short Form Survey), and adverse events.

Data management: Two independent authors will extract data using a pre-designed data extraction form in all eligible trials. Any divergences will be resolved by a third author through consultation. The extracted data comprises of title, first author, publication time, patient characteristics, trial design, trial setting, sample size, details of interventions and controls, outcome indicators, results, conclusion, follow-up information, conflict of interest, and other essential data.

Quality assessment / Risk of bias analysis: Two authors will independently assess study quality of each eligible trial using Cochrane Risk of Bias Tool. We will appraise each study through 7 aspects, and each one will be valued as low, unclear or high risk of bias. Any different views will be figured out with the help of a third author through discussion.

Strategy of data synthesis: We will perform statistical analysis using RevMan 5.3 software. All continuous outcome indicators will be expressed using weighted mean difference (MD) or standard MD with 95% confidence intervals (CIs), and all dichotomous outcome indicators will be estimated using risk ratio with 95% CIs. We will check heterogeneity across included trials using I^2 statistic. $I^2 \leq 50\%$ indicates acceptable heterogeneity, and we will use a fixed-effects model. $I^2 > 50\%$ suggests remarkable heterogeneity, and we will employ a random-effects model. Whenever necessary under acceptable heterogeneity, we will carry out a meta-analysis based on the sufficient similarity in study information, patient characteristics, details of intervention and control, and study quality. Otherwise, if we identify

considerable heterogeneity, we will conduct a subgroup analysis to explore its sources. If a meta-analysis is deemed not to be undertaken, we will report study results using a narrative summary.

Subgroup analysis: We will undertake a subgroup analysis according to the different study information, participant patient characteristics, variations of intervention and control, and study quality.

Sensibility analysis: We will conduct a sensitivity analysis to test the robustness of the merged outcomes by excluding trials with low quality.

Country(ies) involved: China.

Keywords: Frozen shoulder; stroke; arthroscopic capsular release; efficacy.

Contributions of each author:
Author 1 - Long-ze Zong.
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