

INPLASY PROTOCOL

To cite: Wu et al. Comparison of clinical efficacy of arthroscopic rotator cuff repair suture bridge sutures with and without knots in the inner row: a meta-analysis. Inplasy protocol 202290003. doi: 10.37766/inplasy2022.9.0003

Received: 02 September 2022

Published: 02 September 2022

Corresponding author:

Nie Mao

302218@hospital.cqmu.edu.cn

Author Affiliation:

Second Affiliated Hospital of Chongqing Medical University.

Support: Nie Mao, Second Affiliated Hospital.

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

Conflicts of interest:

None declared.

Comparison of clinical efficacy of arthroscopic rotator cuff repair suture bridge sutures with and without knots in the inner row: a meta-analysis

Wu, JP¹; Nie, M².

Review question / Objective: Which has better clinical efficacy: arthroscopic repair of the rotator cuff with double-row suture bridge, with or without knotting of the inner row?

Condition being studied: Arthroscopic rotator cuff repair via double-row suture bridge technique has become very popular, for its greater contact area, increasing yield load, and less operative time. But the clinical efficacy of internal row knotting versus no knotting has not been consistently concluded.

Information sources: We will search 5 different databases (MEDLINE, PubMed, Embase, Web of Science, and the Cochrane Library) after 2011 for English clinical literature. Thereafter, we sifted out clinical studies of knotted versus unknotted internal rows of double-row sutures for arthroscopic suture bridges in the shoulder.

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 INPLASY202290003).

INTRODUCTION

Review question / Objective: Which has better clinical efficacy: arthroscopic repair of the rotator cuff with double-row suture bridge, with or without knotting of the inner row?

Condition being studied: Arthroscopic rotator cuff repair via double-row suture bridge technique has become very popular, for its greater contact area, increasing yield load, and less operative time. But the clinical efficacy of internal row knotting

versus no knotting has not been consistently concluded.

METHODS

Participant or population: Patients with rotator cuff injuries who have undergone arthroscopic rotator cuff repair with double-row suture bridge repair.

Intervention: Suture bridge with inner row knotted.

Comparator: Suture bridge with inner row knotless.

Study designs to be included: Randomized controlled trials, cohort studies.

Eligibility criteria: Only clinical articles that include knotted versus knotless internal rows of rotator cuff repair suture bridges under shoulder arthroscopy will be included. All other type designs were excluded. The inclusion criteria consisted of the following: Patient Those who have been diagnosed with rotator cuff tears, and underwent shoulder arthroscopic surgery, regardless of age, sex, course of the disease, underlying diseases, and other differences among the various groups in the same study. Experimental Design It compared the clinical outcomes of knotted and knotless suture bridge rotator cuff repair techniques. Outcome Measures The primary outcome was postoperative retear count, postoperative retear staging. Secondary outcomes consisted of postoperative pain score, postoperative Forward flexion mobility, postoperative abduction mobility, postoperative external rotation mobility, the University of California, Los Angeles (UCLA) scoring systems at postoperative year 1, the UCLA score at postoperative year 2, the American Shoulder and Elbow Surgeons (ASES) score at postoperative year 1, the ASES score at postoperative year 2, the Constant score at postoperative year 1 and ASES score at postoperative year 1. Study Design Clinical articles that reported knotted versus knotless internal rows of rotator cuff repair suture bridges under shoulder arthroscopy.

Information sources: We will search 5 different databases (MEDLINE, PubMed, Embase, Web of Science, and the Cochrane Library) after 2011 for English clinical literature. Thereafter, we sifted out clinical studies of knotted versus unknotted internal rows of double-row sutures for arthroscopic suture bridges in the shoulder.

Main outcome(s): Postoperative retear count, postoperative retear staging, postoperative pain score.

Quality assessment / Risk of bias analysis: Two reviewers assessed risk of bias independently (W.J.P. and Q.X.L.). The Risk of Bias Tool (Version 1.0; Cochrane Collaboration) was used to assess each trial for possible bias. Using this tool, bias was categorized into 7 aspects, namely selection bias, allocation concealment bias, blinding bias, outcome reporting bias, outcome completeness, and others. Each aspect has three levels of low risk, medium risk, and high risk. The Newcastle-Ottawa scale (NOS) quality evaluation tool was used to evaluate the quality of the cohort studies from 3 aspects: case selection, comparability, and outcome reporting.

Strategy of data synthesis: Meta-analyses statistics and generation of forest plots figures were performed using Stata SE 15.0. In order to quantify the degree of heterogeneity due to between-study characteristics, I^2 statistics and the χ^2 test were used to calculate heterogeneity. I^2 values were interpreted as described in the Cochrane Handbook: 0% to 40% might not be important; 30% to 60% may represent moderate heterogeneity; 50% to 90% may represent substantial heterogeneity; and 75% to 100% represents considerable heterogeneity. For continuous data, the mean difference plus 95% confidence interval (CI) was calculated, and for non-continuous data, the RR value was calculated. Then a forest plot was drawn. At first, all analyses were performed using a fixed-effects model, and a random-effects model was considered for meta-analysis if there is heterogeneity. A P value

<0.05 was considered significant. Finally, publication bias test was performed and the beggs test was used, when P was > 0.05, there was no publication bias.

Subgroup analysis: Functional scores were analyzed separately according to three categories: ASES, Constant, and UCLA.

Sensitivity analysis: If heterogeneity exists, continue with sensitivity analysis after excluding heterogeneity.

Country(ies) involved: China.

Keywords: clinical efficacy, suture bridges, double-row suture bridge techniques, knotted, knotless.

Contributions of each author:

Author 1 - Wu Jiangping - Author 1 searched the primary literature, analyzed the data, and wrote the article.

Email: 2020120919@stu.cqmu.edu.cn

Author 2 - Nie Mao - uthor 2 searched the primary literature, analyzed the data, and wrote the article.

Email: 302218@hospital.camu.edu.cn