INPLASY PROTOCOL

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None declared.

Arthroscopic microfracture combined with platelet rich plasma in the treatment of cartilage injury: a Meta analysis

Wu, WY[1]; Xu, WG[2].

Review question / Objective: **This paper systematically evaluates the clinical effect of arthroscopic microfracture procedure combined with platelet rich plasma (PRP) in the treatment of cartilage injury.**
Condition being studied: **the effect of simple microfracture procedure in the treatment of cartilage defect is limited. At present, adjuvant therapy is widely used to enhance the surgical effect of microfracture. Microfracture combined with PRP is a recent research hotspot. This paper systematically evaluates the clinical effect of arthroscopic microfracture procedure combined with platelet rich plasma (PRP) in the treatment of cartilage injury.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 March 2022 and was last updated on 20 March 2022 (registration number INPLASY202230107).

INTRODUCTION

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effect of arthroscopic microfracture procedure combined with platelet rich plasma (PRP) in the treatment of cartilage injury.

METHODS

Participant or population: Patients with knee or ankle cartilage injury, and the diameter of cartilage defect is less than 4cm.

Intervention: Microfracture procedure combined with platelet rich plasma (PRP).

Comparator: Microfracture procedure.

Study designs to be included: All randomized controlled studies and other observational studies.

Eligibility criteria: Not reported.

Information sources: PubMed, Embase database, Cochrane library, Chinese Journal Full text Database, CNKI, Wanfang and VIP database.

Main outcome(s): Visual analogue scale (VAS), International Knee Documentation Comitee （IKDC）score, Lysholm score and American Orthopaedic Foot & Ankle Society (AOFAS).

Additional outcome(s): Cartilage repair morphology reexamination under MRI or arthroscopy at the last follow-up.

Quality assessment / Risk of bias analysis: Randomized controlled trial (RCT) conducted methodological quality evaluation according to Cochrane bias risk assessment standard; The non randomized controlled trial selected Newcastle Ottawa scale (NOS) as the evaluation standard of methodological quality.

Strategy of data synthesis: The Revman 5.3 software provided by Cochrane Collaboration Network was used for meta-analysis. Z Test (95% confidence interval) was used in VAS pain score, IKDC score, Lysholm score and AOFAS score. $P < 0.05$ was the level with statistically significant difference.

Subgroup analysis: Subgroup analysis was performed according to the follow-up time (6, 12 and 24 months) and the treatment joints (knee and ankle).

Sensitivity analysis: Cochran Q statistics and I2 measurement were used to test the heterogeneity. When $I2 < 50\%$, it indicates that the heterogeneity between studies is small. Fixed effect model was used; If $I2 > 50\%$, it indicates large heterogeneity. Analyze the source of heterogeneity and use random effect model. If necessary, sensitivity analysis shall be used to determine its stability.

Country(ies) involved: China.

Keywords: Osteoarthritis; Cartilage defect; Platelet rich plasma; Microfracture; Meta analysis.

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