

Jul 22, 2020

## Platelet Rich Plasma Versus Hyaluronic Acid in the Treatment of Knee Osteoarthritis: a Meta-Analysis of 26 randomized controlled trials

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Arthroscopy. 2020 Jul 14 [Epub ahead of print]

**PURPOSE** The aim of this study was to compare the effectiveness and safety of platelet-rich plasma (PRP) and hyaluronic acid (HA) in adult knee osteoarthritis (KOA) patients and to explore the most effective and safe protocol by using a meta-analysis method.

**METHODS** This study was based on Cochrane methodology for conducting a meta-analysis. Only randomized controlled trials with an experimental group that used PRP and a control group that received HA were eligible for this study. The participants were adults who had KOA. The outcome measures were the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), the visual analog scale (VAS), the EuroQol visual analog scale (EQ-VAS), the International Knee Documentation Committee (IKDC), the Tegner score, the Lequesne Scale, the Knee injury Osteoarthritis Outcome Score, satisfaction rate and adverse events. Subgroup analyses was performed for patients with different doses, types and times of PRP interventions and grades of OA. The Review Manager Database was used to analyze the included studies.

**RESULTS** Twenty-six randomized controlled trials involving 2430 patients were included. The WOMAC total scores, WOMAC physical function scores and VAS scores of the PRP group were better than the those of the HA group at 3, 6 and 12 months. The PRP group had better WOMAC pain, WOMAC stiffness, EQ-VAS and IKDC scores than the HA group at 6 and 12 months. There was no significant difference in adverse events between the two groups (RR, 1.21 [95% CI, 0.95 to 1.54];  $p = 0.13$ ).

**CONCLUSIONS** For the nonsurgical treatment of KOA, compared with HA, intra-articular injection of PRP could significantly reduce patients' early pain and improve function. There was no significant difference in adverse events between the two groups. PRP was more effective than HA in the treatment of KOA, and the safety of these two treatment options was comparable.

**LEVEL OF EVIDENCE** Level I, meta-analysis of Level I RCTs.

**SOURCE** : [Arthroscopy](#)

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