

Ultrasound-Guided Injection of Platelet-Rich Plasma and Hyaluronic Acid, Separately and in Combination, for Hip Osteoarthritis: A Randomized Controlled Study

This is a sizeable, well-controlled Level 1 study (the best design), from one of the top research centers for orthobiologics and PRP in Europe.

Since insurance will not pay for either type of injection in the hip, PRP alone seems the most cost-effective treatment available, especially when compared to surgery!

- Kelly Cunningham, MD

Background: The effectiveness of intra-articular platelet-rich plasma (PRP) injections has been evaluated in knee chondroplasty and osteoarthritis (OA); however, little evidence of its efficacy in hip OA exists.

Purpose: To compare the therapeutic efficacy of autologous PRP, hyaluronic acid (HA), or a combination of both (PRP+HA) in hip arthritis (OA).

Study Design: Randomized controlled trial; Level of evidence, 1.

Methods: Patients aged between 18 and 65 years who were treated with outpatient surgery and who had hip OA and pain intensity at baseline of .20 on a 100-mm visual analog scale (VAS) were recruited for this study. Exclusion criteria were extensive surgery; presence of excessive deformities; or rheumatic, infective, cardiovascular, or immune system disorders. The primary outcome measure was a change in pain intensity as assessed by the VAS at 2, 6, and 12 months after treatment. Secondary outcome measures were the Harris Hip Score, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and concentration of growth factors in PRP and their correlation with clinical outcomes. Clinical outcomes were evaluated by assessors and collectors blinded to the type of treatment administered.

Results: A total of 111 patients were randomly assigned to 3 groups and received 3 weekly injections of either PRP (44 patients), PRP+HA (31 patients), or HA (36 patients). At all follow-ups, the PRP group had the lowest VAS scores. In particular, at 6-month

follow-up, the mean VAS score was 21 (95% CI, 15-28) in the PRP group, 35 (95% CI, 26-45) in the PRP+HA group, and 44 (95% CI, 36-52) in the HA group (P.0005 [PRP vs HA] and P = .007 [PRP vs PRP+HA]; F = 0.663). The WOMAC score of the PRP group was significantly better at 2-month follow-up (mean, 73; 95%CI, 68-78) and 6-month follow-up (mean, 72; 95%CI, 67-76) but not at 12-month follow-up. A significant, "moderate" correlation was found between interleukin-10 and variations of the VAS score (r = 0.392; P = .040). Significant improvements were achieved in reducing pain and ameliorating quality of life and functional recovery.

Conclusion: Results indicated that intra-articular PRP injections offer a significant clinical improvement in patients with hip OA without relevant side effects. The benefit was significantly more stable up to 12 months as compared with the other tested treatments.

The addition of PRP+HA did not lead to a significant improvement in pain symptoms.

Keywords: platelet-rich plasma; hyaluronic acid; osteoarthritis; hip; intra-articular injection

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