

Treatment of Lateral Epicondylitis With Platelet-Rich Plasma, Glucocorticoid, or Saline

A Randomized, Double-Blind, Placebo-Controlled Trial

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Abstract

Background: Lateral epicondylitis (LE) is a common musculoskeletal disorder for which an effective treatment strategy remains unknown.

Purpose: To examine whether a single injection of platelet-rich plasma (PRP) is more effective than placebo (saline) or glucocorticoid in reducing pain in adults with LE after 3 months.

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

Methods: A total of 60 patients with chronic LE were randomized (1:1:1) to receive either a blinded injection of PRP, saline, or glucocorticoid. The primary end point was a change in pain using the Patient-Rated Tennis Elbow Evaluation (PRTEE) questionnaire at 3 months. Secondary outcomes were ultrasonographic changes in tendon thickness and color Doppler activity.

Results: Pain reduction at 3 months (primary end point) was observed in all 3 groups, with no statistically significant difference between the groups; mean differences were the following: glucocorticoid versus saline: -3.8 (95% CI, -9.9 to 2.4); PRP versus saline: -2.7 (95% CI, -8.8 to 3.5); and glucocorticoid versus PRP: -1.1 (95% CI, -7.2 to 5.0). At 1 month, however, glucocorticoid

reduced pain more effectively than did both saline and PRP; mean differences were the following: glucocorticoid versus saline: -8.1 (95% CI, -14.3 to -1.9); and glucocorticoid versus PRP: -9.3 (95% CI, -15.4 to -3.2). Among the secondary outcomes, at 3 months, glucocorticoid was more effective than PRP and saline in reducing color Doppler activity and tendon thickness. For color Doppler activity, mean differences were the following: glucocorticoid versus PRP: -2.6 (95% CI, -3.1 to -2.2); and glucocorticoid versus saline: -2.0 (95% CI, -2.5 to -1.6). For tendon thickness, mean differences were the following: glucocorticoid versus PRP: -0.5 (95% CI, -0.8 to -0.2); and glucocorticoid versus saline: -0.8 (95% CI, -1.2 to -0.5).

Conclusion: Neither injection of PRP nor glucocorticoid was superior to saline with regard to pain reduction in LE at the primary end point at 3 months. However, injection of glucocorticoid had a short-term pain-reducing effect at 1 month in contrast to the other therapies. Injection of glucocorticoid in LE reduces both color Doppler activity and tendon thickness compared with PRP and saline.

Footnotes

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