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Ongoing positive effect of platelet-rich plasma versus corticosteroid injection in lateral epicondylitis: a double-blind randomized controlled trial with 2-year follow-up.

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Abstract

BACKGROUND:

Platelet-rich plasma (PRP) has been shown to be a general stimulation for repair and 1-year results showed promising success percentages.

PURPOSE:

This trial was undertaken to determine the effectiveness of PRP compared with corticosteroid injections in patients with chronic lateral epicondylitis with a 2-year follow-up.

STUDY DESIGN:

Randomized controlled trial; Level of evidence, 1.

METHODS:

The trial was conducted in 2 Dutch teaching hospitals. One hundred patients with chronic lateral epicondylitis were randomly assigned to a leukocyte-enriched PRP group (n = 51) or the corticosteroid group (n = 49). Randomization and allocation to the trial group were carried out by a central computer system. Patients received either a corticosteroid injection or an autologous platelet concentrate injection through a peppering needling technique. The primary analysis included visual analog scale (VAS) pain scores and Disabilities of the Arm, Shoulder and Hand (DASH) outcome scores.

RESULTS:

The PRP group was more often successfully treated than the corticosteroid group ($P < .0001$). Success was defined as a reduction of 25% on VAS or DASH scores without a re-intervention after 2 years. When baseline VAS and DASH scores were compared with the scores at 2-year follow-up, both groups significantly improved across time (intention-to-treat principle). However, the DASH scores of the corticosteroid group returned to baseline levels, while those of the PRP group significantly improved (as-treated principle). There were no complications related to the use of PRP.

CONCLUSION:

Treatment of patients with chronic lateral epicondylitis with PRP reduces pain and increases function significantly, exceeding the effect of corticosteroid injection even after a follow-up of 2 years. Future decisions for application of PRP for lateral epicondylitis should be confirmed by further follow-up from this trial and should take into account possible costs and harms as well as benefits.