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Effect of Corticosteroid Injection and PRP in the Treatment of Trigger Finger: A Double-Blind Clinical Trial

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ABSTRACT

Introduction: Flexor tendon entrapment of digits, presenting with symptoms such as catching or locking of the affected finger during movement, with or without pain, is known as trigger digit and trigger thumb. In these cases, involvement of the Flexor pollicis longus tendon often manifests as a fixed flexion contracture, which can become problematic if not diagnosed and treated promptly. Considering the daily functional impairments caused by the trigger finger (TF) and its prevalence of 5-6%, there is a need to identify effective and low-risk treatment methods. This study compared two non-surgical treatments: corticosteroid injection and platelet-rich plasma (PRP) injection.

Methods and Materials: This double-blind clinical trial was conducted at Dr. Ali Shariati Hospital in Isfahan from 2021 to 2022. The study included patients diagnosed with the TF and employed a census approach. All participants (27 people in each group) were diagnosed and confirmed by an orthopedic specialist as having TF. Questionnaire results were collected for each patient in a checklist. Patients were divided into two treatment groups. Follow-ups were conducted 1, 3, and 6 months after treatment to assess pain levels using the visual analog scale (VAS) by an orthopedic specialist and range of motion (ROM) with a manual goniometer. Data were analyzed using SPSS v26 software. For evaluating the classified data, the Chi-square or Fisher's exact test was used.

Results: Based on the study of 54 patients (39 women and 15 men) with a mean age of 49.92 ± 10.48 years (range 28-70), the PRP group showed significant improvement at one, three, and six months follow-up (p = 0.03) in VAS scores (p = 0.004, p = 0.001, and p = 0.002) and ROM (p = 0.003, p = 0.012, and p = 0.000). The CS group had significant improvement at 1 month (p = 0.02) but no significant pain reduction (p = 0.16). At three months, the CS group showed significant improvement in all outcomes (p = 0.003), with continued improvement in VAS (p = 0.003, p = 0.008, and p = 0.002) and ROM (p = 0.001, p = 0.000, and p = 0.006) at one, three, and six months follow-up, respectively.

Conclusion and Discussion: The study found that both invasive treatment methods are effective, but concerns about the clinical efficacy of PRP persist due to a lack of high-quality randomized controlled trials. Future research is necessary to investigate different types of PRP and the influence of conditions such as diabetic neuropathy, as well as to include long-term follow-up to assess recurrence rates based on treatment type, coexisting diseases, and occupations.

Keywords: Hormones, Platelet-rich plasma, Trigger finger disorder