

Comparison of ultrasound guided local injection of dexamethasone versus dexamethasone phonophoresis for treatment of lateral epicondylitis (tennis elbow)

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Background: Lateral epicondylitis can cause pain and functional disability in many daily activities. Steroid injection or phonophoresis are the recommended treatments in this regard. In this study we aim to efficacy of ultrasound guided local injection of dexamethasone versus dexamethasone phonophoresis for treatment of lateral epicondylitis.

Methods: In this randomized clinical trial, patients with lateral epicondylitis were randomly assigned to injection (n=18) and phonophoresis (n=18) groups. Three patients in phonophoresis group were withdrawn from the study. In Injection group, Dexamethasone and lidocaine were injected with the guide of sonography at the base of common extensor tendon. Phonophoresis group received 5 minutes treatment with ultrasound using dexamethasone gel for ten sessions. Patients' pain in total and their function in specific and usual activities according to PRTEE questionnaire as well as grip strength and sonographic findings before, one and three months after treatment were calculated.

Results: There was no significant differences in sonographic findings and grip strength in different periods but the significantly better grip in injection group after one month of treatment ($p=0.04$). Injection group compared to phonophoresis had significantly better improvement in pain ($p=0.04$), but there was no significant difference in serial changes of functional subscale and total score of PRTEE between groups. Injection group compared to phonophoresis had also better pain and total score one month after treatment ($p=0.01$ and $p=0.003$, respectively).

Conclusion: Dexamethasone injection compared to phonophoresis had significant improvement in patients' pain and the improvement one month after treatment is more obvious. However, the results three months after treatment were similar between groups.

Keywords: Lateral epicondylitis; Corticosteroid injection; Sonography; Phonophoresis