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Project title
A Prospective Randomized Study in Comparing the Effects of the Combined Use of Wrist Extension Splint and Tennis Elbow Band with Tennis Elbow Band For Patients with Lateral Epicondylitis

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Introduction
Tennis elbow usually affects adults in 40 to 50 years old, leading to a substantial loss of labour force due to pain over the lateral epicondyle. The prognosis for tennis elbow is good. 80% of patients recovers within a year. The average duration of symptoms ranges from 6 months to 24 months. However, if not treated properly, 5 to 10% patients will develop chronic symptoms. There are several studies done to compare the clinical outcomes of tennis elbow band (TEB) and wrist extension splint (WES). However, lack of studies directly comparing the clinical outcomes of the combined effects of TEB and WES with TEB only for the management of lateral epicondylitis.

Objectives
The aim of this study is to compare the effects of TEB and WES with isolated use of TEB in the treatment of patients with lateral epicondylitis.

Methodology
Thirty-nine patients (45 elbows) referred to occupational therapy department with diagnosis of lateral epicondylitis / tennis elbow, complain of pain over lateral epicondyle and complain of pain in resisted wrist extension and long finger extension were invited to participate in the study. They were randomized into two treatment groups: Group 1: TEB only; Group2: TEB + WES. There were total 22 elbows in Group 1 and 23 elbows in Group 2. Measures on resting pain, pain on exertion, grip strength measured in elbow in flexion and extension, Disabilities of Arm, Shoulder and Hand Questionnaire (DASH-HKPWH), Chinese version of Short Form Health Survey - Physical Health Summary (SF-12 PCS) and Mental Health Summary (SF-12 MCS) were collected prior to treatment, at 6 weeks and at 12 weeks.

Result
Group 2 (TEB=WES) had significant improvement in resting pain (p<0.05), pain on exertion (p<0.001), DASH total score (p<0.05), DASH-Symptom score (p<0.05) and DASH-Work (p<0.05) at 12 weeks. There were significant differences in resting pain (p<0.01), pain on exertion (p<0.05), percentage of grip strength of affected side/unaffected (elbow in flexion; elbow in extension) (p<0.01; p<0.05 respectively), DASH total score (p<0.05), DASH- Symptom Score (p<0.01) and DASH-Work score (p<0.05) when measured between the two treatment groups. There were no significant differences for all outcome measures except percentage of grip strength of affected side/unaffected (elbow in flexion) (p<0.05) at 12 weeks in Group 1.

The combined use of tennis elbow band and wrist extension splint is more effective in reducing pain, increasing grip strength and improving functioning than isolated use of tennis elbow band for patients with tennis elbow.