A randomized clinical trial of acupuncture vs oral steroid for Carpal tunnel syndrome: A long term follow up

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Abstract

Objectives: The aim of this study was to investigate and compare the long-term effects of acupuncture treatment with steroid treatment in patients with mild-to-moderate carpal tunnel syndrome (CTS) as measured by objective changes in nerve conduction studies (NCS) and subjective symptoms assessment in an extended follow-up study.

Methods: We prospectively followed up patients with CTS in our previous study for 1 year. A total of 77 consecutive patients with electrophysiologically confirmed mild to moderate CTS were randomized and assigned into two treatment arms: (1) two weeks of prednisolone 20 mg daily followed by two weeks of prednisolone 10 mg daily (n =39), and (2) acupuncture administered in 8 sessions over 4 weeks (n=38). After one month treatment, we concluded that short-term acupuncture treatment is as effective as short-term low-dose prednisolone for mild-to-moderate CTS. In the current study, patients were extendedly followed up at 7 and 13 months by Global Symptom Score (GSS) assessments and NCS repeated again at 13 months. The primary outcome was symptom relief in terms of the GSS, which rates symptoms on a scale of 0 (no symptoms) to 50 (most severe). NCS was used as secondary outcome assessments. We also detect any long-term adverse effects in either group. All main analyses used intent-to-treat principle.

Results: When comparing with baseline level, the percentages of patients with treatment failure, moderate improvement, good improvement were significantly
different between the two groups at month 7, 10.5%, 2.6%, 86.8% for acupuncture
group and 33.3%, 7.7%, 59.0% for steroid group, respectively ($p = 0.014$) and month
13 (15.8%, 2.6%, 81.6% vs 51.3%, 0.0%, 48.7%, $p = 0.002$). With at least 5 points
increase in GSS after the cease of treatment defined as recurrent, acupuncture group
had a significantly lower recurrent rate than steroid group at both month 7 (2.6%
vs.28.2%, respectively, $p = 0.003$) and month 13 (10.5% vs.41.0%, respectively, $p =
0.004$). Acupuncture group had a significantly better improvement in GSS, distal
motor latencies (DML) and distal sensory latencies (DSL) when compared to steroid
group throughout the one-year follow-up period ($p < 0.01$). Furthermore, significant
correlation was observed between change of GSS (month 13 - baseline) and all
parameters of the electrophysiological assessments except for compound muscle
action potential (CMAP) amplitude.

**Conclusions:** In patients with mild-to-moderate CTS, short-term acupuncture
treatment provides long-term benefit, although the mechanisms warrant investigation.
Most of responders maintained their effect for more than one year without any
additional therapy. We concluded that short-term acupuncture treatment may result in
long-term improvement in mild to moderate CTS. Although acupuncture is a
time-consuming treatment, acupuncture treatment could be considered as an
alternative therapy as other conservative treatments for those who do not opt for early
surgical decompression.