Effect of Ultrasound Thermotherapy in Mild to Moderate Carpal Tunnel Syndrome

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Objective : *To investigate the efficacy of low intensity ultrasound thermotherapy, a conservative option of treatment of mild to moderate carpal tunnel syndrome (CTS).*
Design : *Prospective experimental, placebo- controlled, before-after treatment trial.*
Setting : *King Chulalongkorn Memorial Hospital, Outpatient Clinic and Electrodiagnostic Laboratory, Department of Rehabilitation Medicine.*
Patients : *Eighteen women, 30 hands who had clinical and electrophysiologic evidence of mild to moderate CTS.*
Interventions : *Patients of CTS were divided into two groups; A and B of 15 hands by random sampling. Group A was given placebo and continuous ultrasound therapy with the intensity of 0.5 W/cm² applied to the palmar carpal tunnel for 10 minutes. Group B was given Diclofenac 75 mg/day in divided doses and sham ultrasound. The ultrasound was applied 5 days a week for 4 weeks.*
Outcome measures : *Each patient was clinically and electrophysiologically evaluated before and after treatment.*
Results : *There were statistically significant improvements ($p < 0.05$), in the clinical parameters of both groups after treatment. In the electrophysiologic study, the median SNAP amplitude was increased significantly after the treatment in ultrasound group (group A). When both groups were compared, group A had significant difference in increasing of median SNAP amplitude after treatment.*
Conclusion : *The therapeutic efficacy of low intensity ultrasound thermotherapy was satisfied for mild to moderate CTS. However, the electrophysiological changes after ultrasound treatment need further investigation.*

Keywords*: Ultrasound thermotherapy, Carpal tunnel, SNAP amplitude.*

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