Effect of Spinal Manipulation on Tibial H-Reflex

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Objective: Spinal manipulation is a manual technique commonly used for the treatment of low back pain. The physiologic mechanisms of spinal manipulation are largely unknown. One basic physiologic response to spinal manipulation (SM) is alternation in motoneuronal activity, as assessed by the Hoffmann reflex (H-reflex) technique.

Accordingly, the purpose of this study was to determine the effect of spinal manipulation on amplitude and onset latency of H-reflexes and on H/M amplitude ratio in patients with low back pain.

Methods: fifty eight patients with low back pain aged between 20-60 years, who had no exclusion criteria were included.

Tibial nerve H reflex and M wave were recorded before and after Lumbosacral spinal manipulation.

Results: Lumbosacral manipulation significantly decreases amplitude of H reflex and H/M amplitude ratio. (P value<0.05)

It had not significantly effect on H reflex latency or M wave amplitude and latency. (P value>0.05)

Conclusion: Lumbosacral manipulation produces attenuation of alpha motoneuronal excitability. These findings support of this theory that manual spinal therapy can lead to reduction in muscle tone.