

Original Paper

Comparison of epineural and peripheral methods in ulnar nerve repair

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Abstract

Background and Objective: Repair of peripheral nerve is one of main challenge in surgery and despite improvement in this field less than 50% of cases have functional improvment. This study was done to evaluate the comparison of epineural and peripheral methods in ulnar nerve repair.

Method: In this clinical trial study, 28 patients with ulnar nerve injury in distal of forearm were randomly divided equly into epineural and peripheral surgery methods. After 4 months of surgery, the subjects were examined using with EMG, nerve conduction velocity (NCV) and sensorimotor examination on the first dorsal interosos muscle (FDIM) and abductor digiti minim muscle (ADM).

Results: The mean of domain nerve activity, latency nerve activity and NCV in affected upper limb and non affected side had significant differences in epineural and peripheral methods ($P < 0.05$). Latency nerve activity and NCV were similar in both methods. The mean of motor unit potential (MUP) was determined in 71% and 64% of patiants in epineural and peripheral methods, respectively. Muscle activity of FDIM was observed in 64% and 57% of patients in epineural and peripheral methods, respectively. Light touch was determined in 35.7% and 28.5% of patients in epineural and peripheral methods, respectively. Pain was reported in 78.5% and 57% of patients in epineural and peripheral methods, respectively.

Conclusion: There was no difference between nerve repair by epineurium and prineurium methods using EMG, NCV and motorosensorial examination.

Keywords: Nerve repair, Epineural, Peripheral, EMG, Nerve conduction velocity, Light touch, Pain

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