

Provocative Test's *Versus* Electrophysiological Studies as a Measure of Severity Grades of Carpal Tunnel Syndrome

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Abstract

Background	Carpal tunnel syndrome (CTS) is the most common nerve entrapment, electrodiagnostic studies are a valid and reliable means of confirming the diagnosis.
Objectives	The study aims to find a correlation between the presence of Tinel's sign and Phalen's maneuver and the degree of severity of the CTS and to compare it with severity of nerve conduction study of median nerve.
Methods	The study involves 133 patients (102 females and 31 males) with CTS, all were examined for Phalen's maneuver and Tinel's sign and median and ulnar nerves electro physiological study in Al-Yarmouk Teaching Hospital and the Neurosciences Hospital in Baghdad between January 2010 and January 2011. Their ages ranged between (19-87) years. The patients were grouped into mild, moderate and severe CTS according to modified Padua scale of CTS severity. Statistical correlation was done using one way Anova test.
Results	Positive Tinel's sign was seen in 25% and positive Phalen's maneuver in 28%, coexistent Tinel's sign and Phalen's maneuver positive at the same time were seen in 47%. Total Tinel's sign was 72% and total patients who had positive Phalen's sign was 75%. Mild, moderate and severe CTS were seen in 38%, 41% and 21% out of the total number of the studied patients.
Conclusion	The study didn't find association between severity grading and provocative test, added to negative provocative tests in high percentage of patients. These results mandate the use of electrophysiological examination for the diagnosis of carpal tunnel syndrome and assessment of severity.
Keywords	Carpal tunnel syndrome, Tinel's sign, Phalen's maneuver

Introduction

Carpal tunnel syndrome (CTS) is the commonest entrapment neuropathy which is characterized by a combination of clinical symptoms and signs arisen from compression of the median nerve at the wrist ⁽¹⁾. It is characterized by tingling, numbness and pain in the first three fingers and half the ring finger of the hand, it is commonly radiating to the forearm ^(1,2). Diagnosis of CTS is based on

clinical symptoms, physical signs, and nerve conduction abnormalities ⁽³⁾.

Diagnosis based only on symptoms or signs are less reliable because other common disorders such as tendonitis and cervical radiculopathy may cause similar symptoms and signs. Thus, electrophysiological testing is often employed to confirm the clinical diagnosis.

Electrophysiological findings, includes abnormal sensory conduction over the tested segments