Can Sonography Replace Electromyography and Nerve Conduction Velocity in Carpal Tunnel Syndrome?

A presentation at the 2019 American Association of Neurological Surgeons Annual Scientific Meeting


This study was conducted to justify the efficacy of the ultrasonography (US) in the diagnosis of carpal tunnel syndrome (CTS) in the postoperative follow-up in comparison to electrodiagnostic tests, like electromyography (EMG) and nerve conduction velocity (NCV).

One hundred CTS patients were documented through clinically, electrophysiologically and intraoperatively grading by using the Tuncali grading system (TGS), in Mansoura University Hospital, Insurance Hospital and EL Ahrar. All patients were evaluated pre and postoperatively by both the gold standard invasive electrodiagnostic (EMG, NCV) and the new noninvasive US tests.

US showed improvement of morphological criteria (within 3 weeks) than the betterment of the function by electrodiagnostic (after 6 months) in the postoperative follow up of CTS cases. Therefore, US examination for CTS can possibly be done without the need for other invasive investigations.

Author Block: Ashraf A. El Badry, MD, IFAANS (Mansoura city, Egypt, Arab Rep.)

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