

The carpal-tunnel syndrome: Experimental works in diagnosis and treatment of forty-five hands

Mohammad Kamali Kakhki
Tehran Healthcare Clinic, Iran

Carpal tunnel syndrome (CTS) is the most common peripheral nerve involvement which entraps the median nerve in a restricted space at the wrist and converts the anterior surface into the osteofacial tunnel. Carpal tunnel is formed by flexor retinaculum and carpal bones which passes the long flexor tendons of the fingers and median nerve through the tunnel. The clinical sign of the syndrome is defined by burning pain, nocturnal numbness and paraesthesia to the lateral three and a half fingers. In severe cases, median nerve innervated muscles weakness can cause numbness in hands. This syndrome may occur in both employed and non-working people even housewife who forceful hand work with their wrists. There are several ways of treatment for CTS including splints, ultrasound, acupuncture, exercise, laser, steroid injections, oral steroid and surgical technique. However, some of these treatments temporarily reduce pain and are not compelling. This problem is due to the lack of knowledge about the cause of syndrome in the body. We found that this syndrome can be created in two different ways in the body: primitive carpal tunnel syndrome which is caused by narrowing of the canal and compression of median nerve and long flexor tendons. Secondary carpal tunnel syndrome is caused by cervical lesions such as neck osteoarthritis, cervical discs, compression of brachial plexus nerve and this pressure can be transmitted to the tendons of the wrists and fingers. The purpose of the present study is to report the experimental works in CTS based on the type of entrapment by Multi-Functional Vibrating Device (MFVD) in Tehran Healthcare Clinic. Forty patients with carpal tunnel syndrome who complain from tingling, burning pain or weakness in one or two of their hands referred to the Tehran Healthcare Clinic. Of these patients, thirty-two women and eight men referred and five of them had syndrome in both hands. First, the type of syndrome was investigated based on the sort of involvement. Then, current age, onset age, the severity of the syndrome and syndrome duration were asked. Afterwards, the treatment was done by vibration stimulation of entrapped flexor or nerve using MFVD during five sessions. The successful treatment of the syndrome was considered through examination of the pain and the flexion of wrist and finger during the wrist-flexion test and gripping, which is related to the brachial plexus nerves and long flexor tendons. Fifteen out of forty-five hands were not treated because they referred to the clinic very late and their syndrome became chronic. So, they require the other methods like surgical technique for treatment. Of the thirty hands treated, nine had primitive CTS and twenty-one had secondary CTS and the recovery were achieved by works on entrapped flexor and brachial plexus nerves, respectively. The patients with primitive CTS were driver, painter, sculptor, chef or housewife who put a lot of pressure on their wrist and the patients with secondary CTS were farmer, cleaner or the other jobs that put a lot of pressure on their necks, shoulders, arms and wrists. The average age of referred patients was between 45 and 60. The duration of the syndrome is very important for treatment. If the duration of the syndrome is short, it can be easily treated by MFVD, but if it is over a long period of time, the treatment is more difficult and in the chronic form, no sign of recovery was observed by vibration stimulation. Although, there are different ranges of treatment in patients with CTS, but the type of CTS have to be considered on the choice of treatment. This treatment method has been an experimental works which showed very good results for both primitive and secondary CTS but non-chronic syndrome. Thus, this method is recommended for treatment of patients with CTS.

Biography

Mohammad Kamali Kakhki has completed his M.D at the age of 25 years from Mashhad University of Medicine and studied in the field of Trigger point therapy, Palpitation anatomy and Massage therapy from Tehran University of Medicine. He works in Tehran Healthcare Clinic (west marzadaran, Tehran, Iran) and has 30 years experimental works on muscle, ligaman and nervous system.

Mohamad.kamali99@yahoo.com