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The new treatment of tennis elbow: Brachial plexus nerves involved in tennis elbow syndrome

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Lateral epicondylitis or tennis elbow is a common painful condition which affecting the tendon origin of the forearm extensor muscles. This disease is widespread in athletes and people aged between 30 and 50 years old and causes the elbow pain and tendency from lateral epicondyle. The source of pain is unknown exactly up to now, but the generation or partial tearing of extensor muscles is considered as the major origin of the disease. However, the results of some studies showed that the neural tissue in the arm with tennis elbow was involved and make it significantly less extensible. There are many recommendations for management of the disease like exercise, non-steroidal anti-inflammatory medication, surgery, orthotics or physiotherapy to improve the disease, but no successful treatment of tennis elbow was found by involving nervous system until now. In this study we found that the brachial plexus nerves involved in the patients with tennis elbow syndrome and the pain get relief by vibrating stimulation of the nerves entrapment. The purpose of the present study is to report the new treatments of tennis elbow on the brachial plexus nerves by multi-functional vibrating device (MFVD) in Tehran Healthcare Clinic. Twenty volunteer patients with tennis elbow who complain lateral elbow pain after lifting objects or gripping were referred to the Tehran Healthcare Clinic during 2016-2018. In this study, the treatment was done by stimulation of entrapped nerves for the first time. Four brachial plexus nerves including median nerve, ulnar nerve, radial nerve and musculocutaneous nerve exposed to vibration stimulation using MFVD during three sessions. The MFVD produced 3-axis vibration (horizontal, vertical, rotational) which removes the nerve entrapment. The successful treatment of the disease was considered through examination of the pain on gripping and testing the ability of the patients in elbow rotation without any pain and the flexion of wrist and finger, which is related to the brachial plexus nerves. The fifteen out of twenty (75%) patients were cured completely. The mean treatment duration was 9 days at 3 sessions (each session was done every 3 days). This method of treatment has been an experimental works with this hypothesis that there may be specific nerves (brachial plexus nerves) involved in patients with tennis elbow. Although, there were wide ranges of management in patients with tennis elbow, but, there are both advantages and disadvantages in the choice of the treatment. Most of these methods like exercise, physiotherapy, acupuncture and shockwave therapy take a long time (over 1 month) until the recovery be achieved. The other methods like corticosteroid injections, platelet-rich plasma injection and surgery may have side effects and even be harmful in the long time. So, there is a clear need for a short duration method without any side effects to aid clinicians in their treatment of tennis elbow. Experimental works established that the elbow pain may also arise from entrapment of brachial plexus nerves which can be treated using MFVD during 3 sessions. Thus, this method is recommended for rapid treatment of patients with tennis elbow.

Biography

Mohammad Kamali Kakhki has completed his MD 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, ligament and nervous system.

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