

신경근육재활 및 전기진단

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

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Change of the Movement and Morphology of the Median Nerve according to Steroid Injection in the CTS

Hyunseok Moon^{1*}, Sungwon Park¹, Ju Young Cho¹, Kwang Jae Yu¹, Jong Min Kim¹, Zeeihn Lee¹, Byung Joo Lee¹, Donghwi Park^{1†}

Daegu Fatima Hospital, Department of Rehabilitation Medicine¹

Introduction

Carpal tunnel syndrome (CTS) is the most common entrapment neuropathy of the peripheral nerves. Currently, ultrasonography is used to diagnose entrapment neuropathy of the upper extremities, and most of them have focused on a key findings of focal swelling of the median nerve at the carpal tunnel. Among many methods, steroid injection is an easy, safe and effective treatment that is frequently used. Although Several studies have investigated the sonographic changes after steroid injection in CTS, we compared the deformation and displacement of the median nerve in accordance with electrophysiological severity between patients with mild stage of CTS and healthy controls.

Participants and Methods

We studied 14 asymptomatic healthy without any history of CTS, and We also studied 24 with mild stage. The severity of CTS was graded into 7 subgroups based on the Bland scale, and only CTS patients in mild stage (Bland scale 1-3) were included in this study. To study the deformation and transverse movement of the median nerve, cross-sectional images of the carpal tunnel were obtained by placing the transducer at the proximal carpal tunnel. Cross-sectional ultrasound images were obtained during maximal voluntary motions of the finger and wrist joint. Under sterile conditions, a single injection of 0.5 ml 20 mg triamcinolone and 1.25 ml of 1% lidocaine and 0.9% normal saline was injected by the same physiatrist. All participants were examined by the same physiatrist using high resolution Ultrasound at post-injection 2 weeks.

Results

Because it may vary according to individual hand size, The distance that the median nerve moves with the movement of the finger and hand is corrected by dividing the distance between carpal bone and pisiform. This distance was 13.02 ± 4.41 in pre-injection patients with mild stage CTS, 14.39 ± 5.46 in post-injection patients. Also, it may vary according to individual median nerve size, The area that the median nerve moves with the movement of the finger and hand is corrected by dividing the CSA. This area was 24.65 ± 11.76 in pre-injection patients, 32.05 ± 11.93 in post-injection patients. Because it may vary according to individual median nerve size, the circumference length that the median nerve moves

with the movement of the finger and hand is corrected by dividing median nerve circumference length at neutral position. This circumference length was 20.71 ± 12.35 in pre-injection patients, 21.84 ± 7.28 in post-injection patients.

Conclusion

In our study, there is no significant difference in transverse movement of median nerve. However, there is significant difference in the median nerve area that the median nerve moves with the movement of the finger and hand between pre-injection and post-injection patients with mild stage CTS. ($p=0.036$)