소아재활

게시일시 및 장소 : 10 월 19 일(토) 08:30-12:30 Room G(3F)

질의응답 일시 및 장소 : 10 월 19 일(토) 11:00-11:30 Room G(3F)

P 3-18

Functional assessment of CP patient who ipsilateral MEP evoked

Ju-Yul Yoon[1,2*], Young-Bin Oh [1,3], Gi-Wook Kim [1,3], Yu Hui Won [1,2], Myoung-Hwan Ko [1,3], Jeong-Hwan Seo [1,2], Sung-Hee Park [1,2†]

Chonbuk National University Medical school and Hospital, Department of Physical Medicine and Rehabilitaion[1], Chonbuk National University and Hospital, Research Institute of Clinical Medicine and Biomedical Research Institute[2], Chonbuk National University Hospital, Translational Research & Clinical Trial Center for Medical Device[3]

Introduction

Cerebral palsy is a group of permanent movement disorders that appears in early childhood. In general development, the most of the ipsilateral connections are withdrawn and taken over by the contralateral motor cortex. As a result, movements of limbs are regulated by contralateral motor cortex through the corticospinal tract. However, an early damage to the motor system can prevent the development progress by preserving the ipsilateral connections between the contralesional hemisphere. Stimulation of motor cortex of brain by using Motor evoked potentials (MEPs) can indicate the preserved connections of ipsilateral side. Many recent studies compared the results of MEPs for ipsilateral evoked patients and contralateral evoked patients for TMS as a treatment, we investigated on functional differences in CP patients with MEPs.

Objective

Out of 78 CP patients who has done MEP, there were ipsilateral MEP evoked patients (n=24) and not-evoked patients (n=54). Retrospective observation was done for hand function test, birth weight and gestational weeks. Throughout the hand function test, we investigated the function of patients who showed evoked result from MEP. In addition, we attempted to show the relationship between gestational weeks and weight. To compare properly, from hand function test, we selected ratio of lesional side and intact side as dependent variable. T-test was done for each box and block ratio, grip power ratio, 9-hole ratio, birth weight and gestational weeks.

Result

Among the hand function test, 9-hole test had significant result from paretic side by having time delay (p=0.0041) while grip power and Box and block results showed p=0.147 and p=0.304 respectively. Longer gestational week (37.85 week vs. 34.81 week) was associated with ipsilateral MEP evoked patients and higher birth weight (3.07kg vs. 2.42kg) was related to ipsilateral MEP evoked patients

Discussion

This study demonstrated that ipsilateral MEP evoked patients show different functional outcome. 9-hole show more noticeable result than grip power and box and block test. It means more influence on fine-motor function; therefore, this study can help to establish the potential treatment options for ipsilateral MEP evoked patients.