Effectiveness of restrictive therapy combined with occupational and physical therapy on upper extremity motor function in children with cerebral palsy hemiparesis

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ABSTRACT

Introduction: Restrictive therapy is effective to enhance affected upper limb use, however combined therapy application protocols and use of instruments to evaluate results, vary.

Objective: To evaluate changes in motor function of the affected upper extremity, following the application of restrictive therapy combined with occupational and physical therapy, in 7 to 13 year old children with cerebral palsy (CP) hemiparesis. Methods and Patients: A cohort study of nine children, mean age 10 ± 2.3 years, without affected upper limb function treatment in the previous ≥ 6 months. The intervention consisted of restriction of the undamaged limb for two months, 20 therapy sessions twice a week, and a home work program. Shriner’s Hospital upper extremity evaluation protocol (SHUEE) and a Stereognosis Test were applied prior to, and at 1 and 3 months post intervention.

Results: Median values for dynamic posture analysis and grasp-release, increase significantly when all three evaluations are considered, and at discharge and follow-up, as compared to baseline levels. Spontaneous functional use increases median value with respect to baseline, without statistical significance. At treatment finalization, stereognosis median reaches 100%, achieving an optimal performance maintained at follow-up.

Conclusion: Restrictive therapy combined with occupational and physical therapy is effective to achieve changes in motor function of affected upper limbs in children with CP hemiparesis, as evaluated with SHUEE.

Key words: Cerebral Palsy, Restrictive Therapy, Occupational Therapy, SHUEE protocol.