

Intensive upper limb therapy following Botulinum toxin-A in young children with hemiplegic cerebral palsy: Results from a Randomised Controlled Trial.

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Introduction

A combination of Botulinum toxin-A (BoNT-A) and occupational therapy (OT) has been found to be more effective than OT alone in reducing impairment, improving activity level outcomes and goal achievement for children with cerebral palsy (CP). It is now essential to identify the most effective adjunct therapies following injection of BoNT-A including the timing, frequency and intensity of delivery.

Objectives

This study aims to evaluate the effects of modified constraint-induced movement therapy (mCIMT) or bimanual OT following upper limb injection of BoNT-A in children with hemiplegic CP.

Methods

Randomized, controlled, assessor-blinded trial of 34 children with hemiplegic CP, aged 18 months to 6 years. Primary outcome was the Assisting Hand Assessment. The mCIMT intervention focused on the hemiplegic hand by restraining the unaffected hand using a neoprene mitt for 3 hours per day. Training used a motor learning approach focusing on repetitive practice of unilateral tasks and activities. Using a bimanual approach to training, OT intervention focused on treatment of hand skills using specific task practice and a motor skill acquisition frame of reference. All children received one hour individual treatment sessions provided by a therapist twice weekly for 2 months.

Results

Data from 34 children at all time points are collected as of March 2009. Preliminary analyses suggest bimanual performance (AHA) improved in most children in both groups. Full results will be presented.

Conclusion

This study will provide the first-ever randomized controlled trial evidence to demonstrate the effects of a uni-manual versus bimanual treatment following upper limb injection of BoNT-A in children with hemiplegic CP.

Contribution to the practice/evidence base of occupational therapy

Using gold-standard research methodology, this important trial is the first to compare types of post-injection therapy and findings will provide much needed guidance for therapists wishing to enhance the positive effects of BoNT-A injections in the upper limbs of young children with CP.