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Botulinum Toxin Type A injection and Occupational Therapy in the Upper Limbs of Children with Cerebral Palsy after

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Introduction

Efficacy of Botulinum toxin Type A (BTX – A) was primarily observed in reducing upper limb spasticity, improve movement pattern and fine motor control by inhibiting acetylcholine release from the terminal junction. Weakening of the overactive muscles can provide an opportunity to effect change in motor learning and cortical motor organization, whereas, rehabilitation exercise strengthens antagonist muscle and cultivate a proprioceptive map of the limb.

Objectives

To review the functional outcomes of botulinum toxin type A injections to the upper limb combination with occupational therapy in children with cerebral palsy.

Methodology

4 children who were hemiplegic cerebral palsy and 1 child who was quadriplegic cerebral palsy, received BTX –A injection on their affected upper limb from Jan 2013 to Dec 2013. The child received BTX –A injection to specific muscle with the ultrasound guidance. Doses were 0.5 to 2 Units of Botox per kilogram of body weight per muscle with a maximum dose of approximately 12U/kg. The baseline assessment was conducted 1 month before botox injection including impairment measurement (Tone, range of motion, grip strength); functional measurement (Functional hand grip, The Melbourne assessment of Unilateral Upper limb Function, QUEST). Hand splint was fabricated after 1 week of botox injection followed by intensive occupational therapy training in 3 months. Post botox assessments were conducted at 1 month, 3 months and 6 months. The impairment measure was improved after botox injection with occupational therapy after post injection 1 month. And the functional outcomes were improved after 3 months and some may improve after 6 months injection.

Result

The impairment measure was improved after botox injection with occupational therapy after post injection 1 month. And the functional outcomes were improved after 3 months and some were improve after 6 months injection. To conclude, Occupational

Therapy enhanced functional outcomes following BTX-A injections in the upper limbs of children with CP.