Abstract

Botulinum Toxin as an adjunct in the rehabilitation management of Cerebral Palsy

Dr Amara Naicker

Cerebral Palsy is an umbrella term used to describe any non-progressive disability resulting from damage to the brain tissue during pregnancy, birth or during early childhood. The abnormal development or injury to the brain tissue disrupts the nerve signals to the muscles and therefore causes difficulty with movements, posture and co-ordination. As there are several subtypes,rehabilitation programs for children with CP should be appropriate for the age and functional condition of the patients. The aim of CP rehabilitation should be to minimize disability and to promote independence and social participation. The long-term goal is the optimal functioning in adulthood.

As this is a complex condition, management will be based on a multidisciplinary approach requiring clinicians and allied health professionals working together.

Spasticity is a common issue that often interferes with the function involving fine and gross motor leading to challenges in carrying out activities of daily living as well as gait and posture. Spasticity is considered an important neural contributor to increased muscle tone (hypertonia) in children with cerebral palsy (CP).Muscle tone regulation is important for normal posture and to facilitate movement and thus modulation of stretch reflex to prevent excessive and inappropriate muscle muscle activation will be amongst strategies used to manage spasticity.

Therapeutic approaches for spasticity include physical therapy, occupational therapy which will focus on number of crucial tasks and specific goals that will promote their sensorimotor development, improve their overall posture and position and enhance their control of movements in all their daily activities.These therapies are based on different theoretical principles though the main target is the management of abnormal muscle tone and improving the range of motion,posture, balance and mobility. Other approaches include usage of orthotics and various groups of antispastic medications working at presynaptic and post synaptic nerve terminals, as well as some that works peripherally at the level of the muscle fiber decreasing muscle contraction. Chemo denervation using

botulinum toxin type A, has proved easier, more effective, and less painful than other invasive therapies. The effect is more localized and can last for 3-4 months or longer . Other more invasive methods in managing spasticity include surgical interventions such as rhizotomies and selected orthopedic procedures. Intrathecal baclofen is another emerging although a costly intervention that is gaining traction in the management of more generalized spasticity interfering with function.

Besides these approaches appropriate nutrition and management of nutritional deficiencies are fast becoming important in comprehensive management of spasticity in Cerebral palsy as well as a means to improve overall response to rehabilitation management.

.