

Clinical Use of Botulinum Toxin

Type A : Spasticity & Cervical Dystonia

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Botulinum toxin type A is a powerful neuroparalytic agent. It is one of the seven serotypes produced by the anaerobic bacterium *Clostridium Botulinum*. Type A toxin has been used to selectively weaken affected muscles. Its pharmacologic effect is presynaptically producing neuromuscular blockade. The action is inhibition of acetylcholine release from nerve endings at the motor end plates. In recent years it has become the treatment of choice for many conditions manifested by involuntary muscle spasms, including blepharospasm and other focal dystonias, hemifacial spasm, spasticity, and various musculoskeletal spasms.

Spasticity is a disorder of the sensorimotor system characterized by a velocity -dependent increase in muscle tone with exaggerated tendon jerks, resulting from hyperexcitability of the stretch reflex. Conventional treatment for spasticity includes systemic drug therapy, physiotherapy, orthoses, orthopaedic surgery, and neurosurgery. Surgical procedures and commonly used drugs, such as diazepam, baclofen, and tizanidine, have potentially serious side effects. Botulinum toxin treatments offer a new targeted approach to managing spasticity. A clinical overview of treatments decisions in the management of spasticity and the stepping forward in cerebral palsy management with botulinum toxin are discussed.

Cervical dystonia is characterized by involuntary contraction of neck muscles causing abnormal head posture and jerky head movement. Apart from the chronic pain they experience, their everyday activities are also severely restricted. Psychological difficulties are common as a result of these restrictions. The spectrum of dystonic head movements, diagnostic features, examination of the patients, cervical dystonia rating scales and disabilities are discussed. The introduction of botulinum toxin type A in the treatment of cervical dystonia now offers excellent therapy. Rationales for electromyography assisted technique and adverse effects are discussed.

In conclusion, botulinum toxin type A is the new therapeutic agent that now offers excellent alternative therapy option in treatment of spasticity and cervical dystonia without any serious side effect if used by experienced physicians.