

Advanced ultrasound guided botulinum toxin injections to salivary glands

Sialorrhea is defined as the inability to control oral secretions, resulting in excessive saliva in the oropharynx. The pathogenesis of drooling in people with neuromuscular disorders does not involve excessive production of saliva but rather impairment of swallowing. Sialorrhea becomes a significant complication for the people with neuromuscular disorders. Drooling causes not only social embarrassment from anterior drooling but also aspiration pneumonia due to posterior drooling and significant swallowing problems. Physiatrists have become the main clinicians in the management of sialorrhea due to expertise in ultrasound, use of botulinum toxins, and familiarity with neuromuscular disorders. Efficacy of botulinum toxin has been significant for managing sialorrhea and preventing aspiration pneumonia with relative minor complications since 1999.

The rationale for the use of Botulinum toxin (BoNT) injections to salivary glands to treat drooling is based on the blocking of cholinergic transmission that underlies the secretion of saliva. This course reviews anatomy of salivary glands and its surrounding structures, presents a video demonstration on the ultrasound technique for the salivary gland injections with botulinum toxin and includes clinical case scenarios. We will also discuss dosing of botulinum toxin, injection technique and physiology of salivary glands. We will discuss the short term and long term efficacy of this treatment and associated adverse events. Attendees will be confident in botulinum toxin injections to salivary glands upon completing this course.

Keywords : Sialorrhea , Botulinum toxin (BoNT)

References

1. Pena A.H., Cahill A.M., Gonzalez L, Baskin K., Kim H., Towbin R.B.: Botox injection of salivary glands in children with drooling and chronic aspiration. *J Vascular Interventional Radiology (JVIR)*;20:368-373, 2009
2. Kim H*, Lee Y., Weiner D., Kaye R., Cahill AM., Yudkoff M.: Quality of Life in Children with Severe Spastic Quadriplegic Cerebral Palsy after Combination Therapy with Botulinum Toxin Injections to Salivary Glands and Single Event Multi-Level Chemoneurolysis. *Arch Phys Med Rehabil* 87:141-144, 2006
3. Cardoso F Botulinum toxin in parkinsonism: The when, how, and which for botulinum toxin injections. *Toxicon*. 2017 Aug 23. pii: S0041-0101(17)30263-5. doi: 10.1016/j.toxicon.2017.08.018. [Epub ahead of print]
4. Sławek J, Madaliński M Botulinum Toxin Therapy for Nonmotor Aspects of Parkinson's Disease. *Int Rev Neurobiol*. 2017;134:1111-1142. doi: 10.1016/bs.irn.2017.04.012. Epub 2017 Jun 9.
5. Alvarenga A1, Campos M1, Dias M1, Melão L2, Estevão-Costa J3 BOTOX-A injection of salivary glands for drooling. *J Pediatr Surg*. 2017 Aug;52(8):1283-1286. doi: 10.1016/j.jpedsurg.2016.09.074. Epub 2016 Oct 14

Remark : Both speakers are experts in botulinum toxin injection, ultrasound guidance injection and are keen in lecture internationally.

All contents are update, practical and advanced rehabilitation management.

