Botox for Management of Sialorrhea in Patients with CP: Attitudes and Perceptions of Dentists

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Cerebral Palsy

Cerebral Palsy (CP) is a group of conditions that can affect one's movement and posture, often caused by damage to the developing brain prior to birth. It is the most common childhood disability that affects 1/345 children.[1] Major symptoms of CP include muscle stiffness, spasticity, uncontrolled movements or a combination of these.

Oral complications include sialorrhea, bruxism, increased risk for periodontal disease, erosion, TMJ related injuries, traumatic dental injuries and enamel defects. (1)

Botox may be helpful in reducing oral complications such as sialorrhea that often manifest in patients with CP.

Botox

Also known as Botulinum toxin type A, Botox is a neurotoxin synthesized from *Clostridium botulinum* bacteria. Beyond its esthetic use for reducing skin wrinkles, it has a versatile range of therapeutic uses, including treatment of tightened masseter muscles for orofacial pain reduction. (3)

The anticholinergic effect inhibits the release of acetylcholine, which causes temporary muscle paralysis to reduce hyperactivity and pain. (6)

Sialorrhea

Younger patients with CP are at greater risk of sialorrhea, or excessive drooling, which causes reduced quality of life and increased chance of rapid death. (5)

Chronic aspiration of saliva causes recurrent chest infections, lung damage, respiratory disability, and death.

When injected into the submandibular and parotid glands, bilaterally, Botox injections demonstrate 68% efficacy in reducing drooling in patients for up to 4-6 months. (4)

Submandibular gland excision (SMGE), bilateral ligation of submandibular ducts, and anticholinergic drugs are efficacious alternatives to botulinum toxin. (4)

Surgical interventions have a greater extent of impact with longer-lasting effects on sialorrhea, but they are often linked with a more substantial risk of side effects. SMGE is a better treatment for reducing sialorrhea with low adverse side effects, but it results in a greater risk for caries, especially in the lower central incisor region. (1)

Purpose of the Study

- To evaluate attitudes, perceptions, and interest regarding the use of Botox in patients with cerebral palsy for treatment of sialorrhea among licensed, practicing dentists.

Methods

- An original 22-item survey has been developed to assess experience, willingness, and interest of licensed dentists to undergo training and/or interest in administering Botox to treat sialorrhea in patients with CP.
- Participation is voluntary and responses are completely anonymous.
- The survey takes 5 minutes to complete.
- Must be a licensed dentist who is currently practicing to be eligible to participate.
- **Click on the QR code below to participate. Clicking on the QR code indicates consent. ATSU IRB #2025-034**

Practice Implications

- Botox has been shown in multiple studies to be an effective treatment and management tool in adults and children with CP presenting with sialorrhea, with minimal side effects, improved tolerance, and fewer complications than surgical intervention.
- The effects of Botox last 3-6 months, making it a non-permanent treatment and management option for patients with CP.
- Additional studies are needed to formulate best practice guidelines with dosages, technique and points of injection.

References

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