Turk J Phys Med Rehab 2017;63(3):281-282
DOI: 10.5606/tftrd.2017.1187

Letter to the Editor

Botulinum toxin-induced facial asymmetry in a patient with cerebral palsy

Sevtap Acer, Ece Ünlü, Özgür Zeliha Karaahmet, Eda Gürçay, Ebru Umay, Aytül Çakcı

Department of Physical Medicine and Rehabilitation, Ankara Dışkapı Yıldırım Beyazıt Training and Research Hospital, Ankara, Turkey

Received: December 2016 Accepted: January 2017

Spastic movement disorders such as cerebral palsy frequently lead to bruxism with masseter muscle hypertonia. Botulinum toxin type-A (BoNT-A) injections effectively reduce hypertonia. The incidence of side effects due to BoNT-A injection is low and transitional in cerebral palsy patients.[1]

Herein, we presented a case of botulinum toxin-induced facial asymmetry who had cerebral palsy accompanied by bruxism.

A 23-year-old male patient with cerebral palsy was admitted to our inpatient rehabilitation unit. He had spastic quadriplegia with the fourth level of Gross Motor Function Classification System. His mother complained about his severe teeth grinding during the whole day and the difficulties in cleaning the oral cavity and teeth. The patient had a history of BoNT-A injections several times into the masseter muscles without any complication.

His cooperation was poor and was able to speak only a few simple words. Cranial nerve examination including facial, trigeminal, and glossopharyngeal nerves was normal. Swallow function was evaluated with liquid, semi-solid, and solid foods; he had difficulty in opening his mouth. There was no aspiration finding such as voice changing, coughing, and reducing oxygen saturation.

The BoNT-A injection was planned to attain mouth opening, less tongue biting, and bruxism. It was injected into the masseter muscles bilaterally under electromyography guidance and midazolam sedation. The dose of injection to each masseter muscle was 20 U diluted with 1 mL. No serious complication was observed.

At the third week control, jaw clenching and tooth grinding reduced; however, facial asymmetry and drooling occurred. The residual food was found during the swallowing assessment. The rehabilitation program including electrical stimulation and exercises was performed along a month. At three months, the improvement in the bruxism sustained and the facial asymmetry and drooling recovered. The dental gap was increased to 4 cm from 1 cm which contributed to the goal attainment evaluation of caregivers and physicians.

In general, both masseter and temporalis muscles are assessed in bruxism and treated with BoNT-A bilaterally. The total dose range is between 50 and 200 U with 1 mL dilution via two to three sites of injections to avoid the diffusion and weakness in surrounding muscles.[2,3] The side effects of BoNT-A administration such as bruising, local swelling, and pain are fairly common, but transient.[1,4] In our case, facial asymmetry, poor lip closure, and drooling and residual food were clinically visible. Facial muscle weakness was occurred probably due to the dispersion of the BoNT-A. The presence of residual food was the result of the inability of the lips, tongue, and cheeks to perform normal deglutition.[5]

In conclusion, the presented case illustrates that BoNT-A is an effective treatment option for the management of bruxism in spastic disorders. However, the benefit-risk ratio should be well analyzed for adverse reactions which may cause unsafe consequences in

Corresponding author: Eda Gürçay, MD. Ankara Dışkapı Yıldırım Beyazıt Eğitim ve Araştırma Hastanesi, Fizik Tedavi ve Rehabilitasyon Kliniği, 06080 Altındağ, Ankara, Turkey. e-mail: dredagurcay@mail.com

Cite this article as:
Acer S, Ünlü E, Karaahmet ÖZ, Gürçay E, Umay E, Çakcı A. Botulinum toxin-induced facial asymmetry in a patient with cerebral palsy. Turk J Phys Med Rehab 2017;63(3):281-2.

the orofacial regions. Although further researches are required to identify the optimal doses, injection frequency, muscle selection, and administration techniques, BoNT-A appears to be an alternative method for controlling bruxism.

Declaration of conflicting interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

REFERENCES

1. Blaszczyk I, Foumani NP, Ljungberg C, Wiberg M. Questionnaire about the adverse events and side effects following botulinum toxin A treatment in patients with cerebral palsy. Toxins (Basel) 2015;7:4645-54.
2. Santamato A, Panza F, Di Venere D, Solfrizzi V, Frisardi V, Ranieri M, et al. Effectiveness of botulinum toxin type A treatment of neck pain related to nocturnal bruxism: a case report. J Chiropr Med 2010;9:132-7.
3. Bhidayasiri R, Cardoso F, Truong DD. Botulinum toxin in blepharospasm and oromandibular dystonia: comparing different botulinum toxin preparations. Eur J Neurol 2006;13:21-9.
4. Heinen F, Desloovere K, Schroeder AS, Berweck S, Borggraefe I, van Campenhout A, et al. The updated European Consensus 2009 on the use of Botulinum toxin for children with cerebral palsy. Eur J Paediatr Neurol 2010;14:45-66.
5. Rodrigues dos Santos MT, Masiero D, Novo NF, Simionato MR. Oral conditions in children with cerebral palsy. J Dent Child (Chic) 2003;70:40-6.