Comments on: Ocular surface status in patients with hemifacial spasm under long-lasting treatment with botulinum A toxin: A comparative fellow eye study

Dear Sir,

We read the article titled "Ocular surface status in patients with hemifacial spasm under long-lasting treatment with botulinum A toxin: A comparative fellow eye study" by Pellegrini *et al*.[1] with great interest. We have few suggestions and observations to make. It would be interesting to note the ocular surface status in these patients as short-term and long-term effects post botulinum toxin A (BTX-A) injection since the duration of the treatment in this study ranged from 1 to 17 years with a mean of 7.2 ± 5.4 years. Czyz *et al*.[2] in their study on Long-term Botulinum Toxin Treatment of Benign Essential Blepharospasm, Hemifacial Spasm, and Meige Syndrome concluded that the highest percentage of adverse events, both major and minor, occurred during the titration phase of treatment (treatment number 1-3). Similarly Defazio *et al*.[3] found adverse events in 14.2% of patients in the first year of treatment vs 3.4%in the tenth year of treatment which was also the observation made by Mejia *et al*.[4] in their study. It would rather be more interesting if the groups were divided based on number of injections as described in Table 1.

Czyz *et al*.[2] in their study divided the groups based on number of treatments which comprised of initial treatment (treatment number 4 was taken as initial), treatment number 4 to final treatment and final treatment. Treatment number one to three was taken as control in their study. In present study it is not very clear that at what duration of treatment with BTX-A the eye is or how many botox injections were given to the eye when ocular surface parameters were recorded. The authors do acknowledge that the increased blink rate in hemifacial spasm may result in dysfunctional lubricity and blink-related microtrauma along with chronic ocular surface inflammation can itself affect the ocular surface status which also is proved in their table number 2 which compares the ocular surface parameters between the contralateral and homolateral. We suggest to take the controls as the patients of hemifacial spasm who presented for the first time in the study duration with no prior treatment or are at injection number 1 to <3. It is also well known that the effect of botulinum toxin is temporary and repeated applications are required.[5,6] Gunes *et al*.[7] in their study on the corneal parameters and tear film in patients on botulinum toxin treatment prior to injection, 3 weeks and 3 months after the injection concluded that the Schirmer test score, corneal fluorescein staining values, and Ocular Surface Disease Index score were lower 3 weeks after injection but these values increased again by 3 months suggesting the short lived effect of injection. This is of particular importance because in current study the authors evaluated the ocular surface before and after one month of last botulinum toxin injection, so are they implying that the effect of the injection is cumulative on ocular surface status. Horwath-Winter *et al*.[6] investigated the effect of BTX-A injections on tear function and on the morphology of the ocular surface, found that the tear film break up time (TBUT) increased both 1 week and 1 month after the injections and no change in conjunctival cell morphology one month and 3 months after the injection. Botulinum toxin A has also been suggested for treating dry eye syndrome.[8-10] Sahlin *et al*.[11] in their study concluded that botulinum injection also leads to reduced lacrimal drainage after treatment. Additional lacrimal drainage test could have been performed in 11 of the 26 patients in the current study who were diagnosed as dry eyes using TFOS DEWS II criteria.

Table 1: Patient can be divided into groups based on number of injections

Number of patients	Number of injections
Group 1	6-12
Group 2	12-25
Group 3	25

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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References

1. Pellegrini M, Schiavi C, Taroni L, Sebastiani S, Bernabei F, Roda M, *et al*. Ocular surface status in patients with hemifacial spasm under long-lasting treatment with botulinum A toxin: A comparative fellow eye study. Indian J Ophthalmol 2019;67:1405-9.
2. Czyz CN, Burns JA, Petrie TP, Watkins JR, Cahill KV, Foster JA. Long-term botulinum toxin treatment of benign essential blepharospasm, hemifacial spasm, and meige syndrome. Am J Ophthalmol 2013;156:173-177.e2.
3. Defazio G, Abbruzzese G, Girlanda P, Vacca L, Currà A, De Salvia R, *et al*. Botulinum toxin A treatment for primary hemifacial spasm. A 10-year multicentre study. Arch Neurol 2002;59:418-20.
4. Mejia NI, Vuong KD, Jankovic J. Long-term botulinum toxin efficacy, safety, and immunogenicity. Mov Disord 2005;20:592-7.
5. Park DI, Shin HM, Lee SY, Lew H. Tear production and drainage after botulinum toxin A injection in patients with essential blepharospasm. Acta Ophthalmol 2013;91:108-12.
6. Horwath-Winter J, Bergloeff J, Floegel I, Haller-Schober EM, Schmut O. Botulinum toxin A treatment in patients suffering from blepharospasm and dry eye. Br J Ophthalmol 2003;87:54-6.
7. Gunes A, Demirci S, Koyuncuoglu HR, Tok L, Tok O. Corneal and tear film changes after botulinum toxin-A in blepharospasm or hemifacial spasm. Cornea 2015;34:906-10.
8. Park DI, Shin HM, Lee SY, Lew H. Tear production and drainage after botulinum toxin A injection in patients with essential blepharospasm. Acta Ophthalmol 2013;91:108-12.
9. Horwath-Winter J, Bergloeff J, Floegel I, Haller-Schober EM, Schmut O. Botulinum toxin A treatment in patients suffering from blepharospasm and dry eye. Br J Ophthalmol 2003;87:54-6.

10. Costa PG, Cardoso IP, Saraiva FP, Raiza AC, Tanaka LK, Matayoshi S. Lacrimal film evaluation of patients with facial dystonia during botulinum toxin type A treatment. Arq Bras Oftalmol 2006;69:319-22.
11. Sahlin S, Chen E, Kaugesaar T, Almqvist H, Kjellberg K, Lennerstrand G. Effect of eyelid botulinum toxin injection on lacrimal drainage. Am J Ophthalmol 2000;129:481-6.

Access this article online

Quick Response Code:

Website: www.ijo.in

DOI: 10.4103/ijo.IJO_1645_19

Cite this article as: Singh M, Das S, Sangwan V. Comments on: Ocular surface status in patients with hemifacial spasm under long-lasting treatment with botulinum A toxin: A comparative fellow eye study. Indian J Ophthalmol 2020;68:264-5.