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LETTER TO THE EDITOR

Complications of botulinum toxin application: differences between hemifacial spasm and post-facial palsy synkinesis

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Dear Editor,

Although hemifacial spasm (HFS) and post-facial palsy synkinesis (PFPS) are two different entities with different underlying causes, both share an effective treatment option: botulinum neurotoxin (BoNT). Its mechanism is temporary blocking of the presynaptic release of acetylcholine in neuromuscular junction which lasts 3–6 months [1]. Herein, we report the complications of BoNT use in HFS and PFPS.

A retrospective analysis was conducted using the medical records of well documented 30 HFS and 20 PFPS patients. Botilinum toxin A (Botox®) was reconstituted with 2 ml of preservative free 0.9 % saline solution to yield toxin in a concentration of 5 units per 0.1 ml. Selected muscles were orbicularis oculi, corrugator supercilii, frontalis in superior facial area, zygomaticus, orbicularis oris, mentalis in middle and inferior facial area. Statistical analysis was performed using Mann–Whitney *U* test.

Hemifacial spasm group consisted of 17 females and 3 males with a mean age of 47 ± 11 years. The mean duration of symptoms was 17 ± 8 months. In three patients a dolicho-ectatic basilar artery was founded on the symptomatic side in brain magnetic resonance imaging. All the patients received 3–9 BoNT injections. Mean BoNT dose was 66 ± 56 U. Of HFS patients, 34 % developed complications: ptosis 24 % and orbicularis oris paralysis 10 %.

Post-facial palsy synkinesis group consisted of 18 females and 2 males with a mean age of 59.3 ± 12 years. The mean duration of symptoms was 19 ± 8 months. A medical history of Bell's palsy was present in 12 patients. All of the patients received 3–7 BoNT injections. Mean BoNT dose was 53 ± 24 U. Complications occurred in 77 % of PFPS patients consecutively: ptosis 33 %, dry eye-lagophthalmos 11 %, orbicularis oris paralysis 11 %, eye and mouth complications together 22 %. The difference of complication rates between the two groups was statistically significant (p:0.04).

Based on our results, it appears that complications of BoNT are more frequent in PFPS. This may be due to the previous muscle weakness and axonal damage in PFPS [2]. In conclusion, choosing hyperactive muscle for injections and lower doses of BoNT in PFPS may reduce complication ratios.

Conflict of interest Mirac Aysen declares no conflict of interest.

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