INTRODUCTION
Overactivity of the facial nerve may be found in bilateral reflex blepharospasm which may be due to irritation of any branch of the trigeminal nerve. Habitual spasm of facial muscles (facial tic) usually occurs in childhood and can be stopped on command. Myokymia is the continuous undulating involuntary movements of unilateral facial muscles including perioral and orbicularis muscles. It may be caused by multiple sclerosis. Hemifacial spasm is the rhythmic, unilateral, painless, intermittent twitching of facial muscles. Spasms may increase during stressful conditions and may persist during sleep. Essential blepharospasm usually starts between the age of 45 and 60 years and is seen more in females. Meige’s syndrome (orofacial-cervical dystonia, blepharospasm-oromandibular dystonia, Brueghel’s syndrome) compasses blepharospasm, mouth retraction, jaw opening or closing, facial grimacing and dystonic involvement of muscles of the neck, vocal cords (spastic dysphonia) and limbs. The probable cause is an abnormal dopamine balance in the basal ganglia and brain stem.

Botulinum toxin has now been used in a variety of diseases including spasticity due to cerebral palsy,1 esophageal achalasia,2 exploding vs. imploding headache in migraine prophylaxis,3 for pain control after mastectomy and expander reconstruction.4 Botulinum toxin has been successfully used for injection into antagonist of a paretic extraocular muscle and into the levator palpebrae superioris to produce therapeutic ptosis and for correction of lid retraction.5 Other indications for botulinum toxin include synkinesis following defective healing of the facial nerve, palatal tremor, severe bruxism, oromandibular dystonias, hypertrophy of the masseter muscle and disorders of the autonomic nerve system like hypersalivation, hyper-lacrimation, pathological sweating, intrinsic rhinitis,6 certain forms of facial pain syndromes7 and wrinkles on the upper half of the face, e.g. crow’s feet, glabella (anger) lines, and the wrinkles on the forehead.8 This study was concluded to determine the effects of botulinum A toxin (Botox) injection in different types of facial dystonia.

METHODOLOGY
A total of 23 botulinum A toxin (Botox) injections were given to 13 patients with facial dystonias in the Eye Department of the Combined Military Hospital, Kharian and Military Hospital, Rawalpindi, from January 2007 to August 2008.

Detailed information was given to the patient and informed consent was taken in every case. Photographs and video clips were taken before the injection (inj) and
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during each follow-up visit at 1 week, 6 weeks and 6 months after the injection.

In 6 patients, 100 units (U) of Botulinum Toxin A were diluted with 4 ml of normal saline solution; 0.1 ml (having 2.5 U) was injected at each site, while in the rest (done by MDK) dilution was done with 2 ml and 0.05 ml (having 2.5 U) was injected at each site. Two upper tarsal (nasal and temporal), 1 lower lateral tarsal, 2 upper brow, 1 outer canthus – each eye in case of orbicularis and 2 in upper cheek, 1 at angle of mouth, 1 in chin (in case of lower facial muscle’s dystonia) was given in each case with a maximum of 1.5 ml given in any case at one time. Onset of action, duration of action and side effects were noted.

RESULTS

The indication was essential blepharospasm in 4 (30.77%) cases and hemifacial spasms in 9 (69.23%) cases. Age ranged from 28 to 60 years (mean 41 ± 12 years). There were 7 males and 6 females.

Onset of action of botulinum A toxin (Botox) was variable starting on the same day in 3 patients, while in the rest of patients it started on the next day. Mean duration of action was 12.77 weeks ± 4.68 (range 6-23 weeks). Temporary slight facial paresis and lagophthalmos occurred in 3 (23%) cases while ptosis occurred in two (15.4%) cases. Two patients (15%) had mild ocular irritation and conjunctival congestion after injection, which settled with topical mild steroid (fluorometholone). Only 6 patients reported again for repeat injection. Four patients were given injections three times and two patients were injected twice.

DISCUSSION

Blepharospasm and dystonia of muscles of the face and neck are not only a source of physical discomfort but also result in significant social blemishers. Best available treatment for these conditions is botulinum A toxin (Botox) injection into the muscles.9,10 Response is best in pure essential blepharospasm. Duration of action is variable ranging from 6 weeks to 6 months. Because of financial constraints many patients cannot afford to have repeated injections. Oral medications, including tricyclic antidepressants and anticholinergics have been tried but the results are not very encouraging. Orbicularis myectomy, peripheral facial nerve avulsion and peripheral facial neurectomy are other less favoured options. There was wide range (6-28 weeks) of duration of action in these patients which is comparable to other studies on this subject.10 The (mean duration of action for blepharospasm is 14.9 weeks and 11 weeks for Meige’s syndrome). However, all the patients had dramatic improvement in signs and symptoms. Two patients complained of ocular irritation after injection, on examination had mild conjunctival congestion which settled with topical mild steroid (fluorometholone).

Botulinum toxin is available in Pakistan now. Prior to that, patients used to arrange it from abroad on their own. Transportation is difficult as it requires ice packing (cold chain). This especially becomes important in hot months otherwise it is likely to lose its efficacy. The vial has vacuum in it so that the fluid used for reconstitution is pulled inside by itself. If this is not so, the injection has to be discarded. Once reconstituted, the injection should not be shaken and must be used within 4 hours during which it should be placed in a refrigerator. The injection site should not be rubbed as it is the case in other injections. All these factors are important to ensure better efficacy of the injection. Short shelf life (about 4 hours) also made it impossible to store it for other patients. We usually pool the patients and one vial containing 100 units was sufficient for 2-3 patients.

CONCLUSION

Botulinum A toxin (Botox) was a useful treatment for different types of facial dystonia.

REFERENCES