

Botulinum Toxin Type A in Treatment of Meige's Syndrome

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Abstract

We used botulinum toxin type A in treatment of 16 cases of Meige's Syndrome, and obtained satisfactory results. The onset of treatment was about 1 – 2 days, duration of drug was about 5 – 10 weeks. Local side effects were slight and the operation was easy. There were 9 cases of repeated injection, the effect did not decrease. It was thought that the treatment was safe and effective, and was the first choice for treating Meige's Syndrome.

Key words: Botulinum toxin; Meige's Syndrome

Recently, we used local injection of botulinum toxin type A in treating 16 cases of Meige's Syndrome, and obtained satisfactory results upon follow-up visits. The results were reported as follows.

Clinical Information

1. General Information

There were 6 males and 10 females, age ranged from 44 – 46, with an average of 58. The medical state ranged from half to 3 years.

2. Clinical Expression

In all patients, the disease is expressed as bilateral idiopathic closure of eyes, difficulty in opening of eyes, and progressively emphasized, the onset interval gradually shortened, and the time of closure of eyes extended. Duration of each time of onset varied from a few seconds to a few minutes. The state of illness gets more serious during emotional tension, tiredness and light stimulation. During onset, accompanying symptoms include dryness, swelling and unclear vision. There were 4 serious cases processed functional blindness, 4 cases processed opening and moving of mouth, elevation of eyebrow and forehead, 1 case accompanied tension of pharynx and difficulty in mouth opening. 2 cases used to process dramatically improvement during yawning.

3. Body Check

All the 16 cases had bilateral idiopathic closure, spasm, bilateral fissure. 4 cases accompanied by different degrees of mouth angle associated motion.

4. Accessory Examination

Cranial CT was processed in 16 cases and no abnormality observed, results of examination of cerebrospinal fluid by spinal puncture in 5 cases were normal.

5. Previous Treatment

All 16 cases used many treatments: 12 cases of valium, levodopa, carbamazepine and neurotrophyl drugs, 9 cases of acupuncture and Chinese medicines, 4 cases of influence electricity, all ineffective or bad curative effects.

6. Treatment Method

Botulinum toxin type A produced by Lanzhou Institute of Biological Products was used, 110U a vial, stored in low temperature fridge, diluted by 2.2ml saline to 5U/0.1ml when used. 1ml syringe and No. 4.5 needle head were used for injection. Injection points were selected according to different symptoms and signs. Generally, the injection points were located at upper and lower orbicular muscle of eyes near inner and outer canthus and 1cm of outer angle of eyes, middle of eyebrows, nose bridge and mouth angle were usually selected. In our group, there were 12 cases which accepted injection for 10 points at the 1/3 of middle-internal and 1/3 of middle-outer parts of upper and lower eyelids, as well as outer canthus; 4 cases accepted injection for 3 points at mouth angle, middle of eyebrows and nose bridge, 0.1ml (5u) for each point, dosage varied from 50 – 65U each time. 9 patients accepted reinjection for 2 – 3 times after recurrent of symptoms, the dosages and injection locations were the same as the first injection.

After injection, the pathogenic change was observed and recorded in detail. In the first month, examinations were processed twice a week in the former 2 weeks and once a week in the latter 2 weeks. Afterwards examination was processed once a month.

Result

Standard of curative effects: Before treatment, the spasm was classified according to the standard introduced by Scott *et al*^[1]. Level 0: no spasm; level 1: slight spasm initiated by external stimulation; level 2: slight, observable jitter, no dysfunction; level 3: obvious medium spasm, with slight dysfunction; level 4: severe, serious spasm and dysfunction, affect works and daily life. There were 14 cases of level 4 and 2 cases of

level 2 before treatment.

In all the 16 cases, the symptoms started to be improved after 1 – 2 days of injection, and the effect become more obvious day by day. The duration of drug was 5 – 10 weeks, with an average of 8.5 weeks. There were 12 cases of complete remission (75%) and 4 cases of obvious remission (25%). 9 cases processed 2 – 3 times of reinjection after recurrence, the dosage and injection points were the same as the first injection, and the effects were the same.

Side effect: Local side effects were slight and temporary. There were 5 cases of temporal eyelid swelling after injection, 4 cases of slight eyelid dysraphism, no systemic and allergic reaction occurred, automatically recovered within 1 – 2 weeks. No drugs were taken for the side effects.

Discussion

Meige's Syndrome, also called Brueghel Syndrome, idiopathic blepharospasm and blepharospasm-omandibular dystonia, is most commonly occurred in elderly, mainly expressed as blepharospasm combined with abnormal motion of mouth and face. In 1910, French neurologist Henry Meige firstly described this new disease which different from hemifacial spasm. Marsdan classified it into blepharospasm type, blepharospasm and oromandibular type, oromandibular type^[2]. The onset of disease is about 56 years old, it was estimated that 12% patients will develop into functional blindness in average 2.1 years, 21% patients have other facial disturbance. Tricks phenomenon, the dramatically symptoms improvement during yawning, eating, coughing, singing, playing harmonica and blowing whistle, was one of the characteristics of this disease. In this study, 12 cases were type I, 4 cases were type II. 2 cases processed the classical Tricks phenomenon, 5 cases had developed into functional blindness. At present, the disease still has no clear diagnosis standard, but it is not difficult to diagnose according to blepharospasm and / or the symmetry of mouth and face muscle, irregular contraction, Tricks phenomenon and disappearance during sleeping.

Although EMG investigation thought that the cause of disease may be related to midbrain and basal nuclei, but the actual cause is still not cleared. In many years, there is no good medication for the disease, and the effect is not good. Application of botulinum toxin type A injection in treating local dystonia is a new method in therapeutics of neurology diseases^[3-5]. We used local injection of botulinum toxin type A to treat 16 cases of Meige's Syndrome and obtained better results. The 12 cases

of type I patients accepted only bilateral eyelid injection for 10 points; 4 cases of type II patients processed facial contraction in one side but not the other, except bilateral eyelid injection for 10 points, 3-point injection of mouth angle, glabella and nose bridge. During treatment, once should observe in detail the spasm location for injection. If local subcutaneous injection was performed under EMG guidance for clearing of spasm location, the effect may be even better.

We thought that this treatment has the following strength: i) Fast onset and long duration of drug effects. The onset time in this study was 1 – 2 days, the effect lasted for 5 – 10 weeks. ii) Good effect with high efficacy. There were 12 cases (75%) of complete remission and 4 cases (25%) of obvious remission, the total efficacy was 100%. iii) Easy and simple to operate, easily to be promoted. iv) Local side effects are slight, temporal, mostly naturally recovered, no systemic and allergic reaction occurred. v) Reinjection without cease of effects. There were 9 cases accepted reinjection for 2 – 3 times after recurrence, the effects did not decrease. Thus we thought that botulinum toxin is a safe and effective biological formulation, and should be treated as the first choice in treatment of Meige's Syndrome, worth to be promoted in clinical application.

References

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