

# **Report of Botulinum Toxin in the Treatment of Spasm in Four Cases**

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The characteristics of twitching are the spasm of various muscles and phonetic muscles. It is more common in the ages between 2 -13, without definite causes, but it is linked with excessive dopamine secretion. We used botulinum toxin type A to treat spasm since 1998 in 4 cases, the report is as follows.

## **Data, Procedure and Result**

There were 4 patients, 3 boys and 1 girl; they were 4, 7 10 and 14 years old respectively, with an average age 8.5. Among the 4 cases, 2 demonstrated eyelid spasm while the other 2 showed spasm on the left corner of the mouth. Botulinum toxin type A was injected to muscles under patients' eyelid and into the orbicular muscle of mouth, with dosage 2.5 – 5u. The effect initiates in 2 to 6 days, in average 4. The result was most effective 2 weeks after injection, and it lasted for 10 to 18 weeks, with an average 14. Side effect such as droopy eyelid was reported in one case, but it disappeared after 2 weeks.

## **Discussion**

There are 3 types of twitching. The first type is the transient spasm in one year; the second type is chronic or phonetic spasm, which last more than a year, with a twitching frequency less than 3 months; the third type shows normal symptom and in addition, showing symptoms such as vocal tic, which is known as the Gilles de la Tourette's Syndrome. Drug treatment was effective to only small number of cases, but unsatisfactory to most cases. Botulinum toxin type A do not inhibit the transmission of nerve impulses, it is only applied on the nerve ending of motor neurons. The toxin binds to the proteins which are necessary for the attachment to the presynaptic membrane, thus no acetylcholine is released and caused muscle paralysis. Small dosage of botulinum toxin type A is effective in treating spasm, although without cure. The effect can last for 2 to 4 months, repetitive injection can bring improvement in clinical symptom, as well as providing a effective and safe method to elevate the standard of living. The major side effect is muscle paralysis locally, it may due to the diffusion of toxin to nearby muscles or over-dose toxin used. In general the side effect can be alleviated within 2 weeks, or after the toxin passed its maximum potency.