Botulinum toxin indications

Painful tic convulsif

The standard modality for painful tic convulsif of treatment is microvascular decompression, which has shown greater effectiveness and control of symptoms in the long-term. However, the medical treatment, which includes percutaneous infiltration of botulinum toxin, has produced similar results at medium-term in the control of each individual clinical manifestation, but it must be considered as an alternative in the choice of treatment [1)].

Botulinum toxin (Botox®): reduces transmission of calcitonin gene-related peptide (CGRP) producing a direct effect on the sensory nerve fibers.

Whiplash-associated disorders (WAD)

Although botulinum toxin has not been evaluated in large long-term trials, these initial data are promising and suggest a role for this agent in the treatment of WAD. Additional study is needed to identify the subset of patients with WAD who are most likely to respond to treatment with botulinum toxin. [2)].

Occipital nerve entrapment-Chronic cervical-associated headache

Fourteen subjects who received botulinum toxin A and 12 who received saline completed the study. At both 2 and 4 weeks post injection, the treatment group showed a significant improvement in pain and range of motion from preinjection levels (P<.01). The placebo group demonstrated no statistically significant changes at any posttreatment time. This study had quite a few placebo responders [3)].

Piriformis syndrome

Retrocollis

Local injection of botulinum toxin: may work for retrocollis, is poor for lateral torticollis (must inject posterior cervicals and both SCM, and may cause temporary pharyngeal muscle dysfunction resulting in dysphagia), and is totally ineffective for anterocollis.

Blepharospasm

Local injection of botulinum toxin (Oculinum®) may be effective in treating HFS and/or

blepharospasm [4] [5].

Spasticity

Hemifacial spasm

A total of 539 patients with hemifacial spasm (HFS) underwent MVD treatment in the Xinhua Hospital between January 2014 and June 2017. Among them, 83 patients had received botulinum toxin (BT) injection before surgery and were recorded as BT group. Eighty-three patients underwent acupuncture before surgery and were recorded as acupuncture group. Five patients received both BT injection and acupuncture before surgery and were recorded as mixed group. A total of 368 patients who had not received any treatment before surgery were recorded as simple MVD group. Zhang et al. calculated the immediate and long-term remission rates after surgery. Abnormal Muscle Response (AMR) and Compound Motor Action Potential (CMAP) monitoring were routinely performed during surgery.

Immediate remission rate after surgery was 96.4% (80/83) in BT group, 100% (83/83) in acupuncture group, 100% (5/5) in mixed group, and 95.1% (350/368) in simple MVD group, and the immediate remission rate of BT group is significantly higher than that of simple MVD group ($p = 0.04$). Long-term remission rate: the remission rates of the four groups were 94.0% (78/83), 97.6% (81/83), 100.0% (5/5) and 92.7%(341/368), respectively, and there is no statistical difference between them ($p > 0.05$). The amplitude of one branch or several branches of CMAP on the affected side was lower than the healthy side in BT or acupuncture treatment patients.

A preoperative BT injection or acupuncture treatment do not reduce the postoperative remission rate of HFS patients treated with MVD, and the amplitude of CMAP on the affected side was lower than the healthy side. [6].

References

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