AAN Updates Guidelines on the Uses of Botulinum Neurotoxin

Key Points for Practice

- OnaBoNT-A and incoBoNT-A are equally effective and should be considered for treatment of blepharospasm, and AboBoNT-A is a possibly effective treatment option.
- All FDA-approved formulations of botulinum neurotoxin are commonly used to treat cervical dystonia, despite differing evidence levels.
- Botulinum neurotoxin is effective in treating upper and lower limb spasticity in adults and improving passive function.
- OnoBoNT-A is safe and effective for increasing the number of headache-free days in patients with chronic migraine.

From the AFP *Editors*

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CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 149.

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Botulinum neurotoxin is available in two serotypes, A and B. There are four preparations approved by the U.S. Food and Drug Administration (FDA): onabotulinumtoxinA (onaBoNT-A; Botox), abobotulinumtoxinA (aboBoNT-A; Dysport), incobotulinumtoxinA (incoBoNT-A; Xeomin), and rimabotulinumtoxinB (rimaBoNT-B; Myobloc). There are pharmacologic differences between preparations, such as potency and duration of action, and because of this, each formulation was assessed separately for each indication. Efficacy of botulinum neurotoxin is for symptomatic control; there is no evidence for disease modification. In 2008, the American Academy of Neurology (AAN) published guidelines on the use of botulinum neurotoxin. This summary highlights updates on four indications: blepharospasm, cervical dystonia, spasticity in adults, and headache.

Recommendations

BLEPHAROSPASM

Blepharospasm is a dystonia that can cause disabling eyelid closure. Botulinum neurotoxin was determined to be an effective and safe treatment in the 2008 guideline. Updated recommendations consider botulinum neurotoxin to be the preferred treatment of blepharospasm. OnaBoNT-A and incoBoNT-A are equally effective and should be considered. AboBoNT-A is possibly effective and may be considered as a treatment option. There is insufficient evidence to determine the efficacy of rimaBoNT-B for the treatment of blepharospasm.

CERVICAL DYSTONIA

Cervical dystonia causes involuntary contractions of the neck and upper shoulder muscles. This results in abnormal postures or movements of the neck, shoulders, and head. All FDA-approved formulations of botulinum neurotoxin are commonly used to treat cervical dystonia, despite differing evidence levels. AboBoNT-A and rimaBoNT-B are similarly effective and should be offered. OnaBoNT-A and incoBoNT-A also have similar efficacy and should be considered for the treatment of cervical dystonia.

SPASTICITY IN ADULTS

Studies have established that botulinum neurotoxin is effective in treating upper and lower limb spasticity in adults. It was shown to reduce muscle tone and improve passive function (improved range of motion) and is possibly effective for improving active function.

Upper Extremity Spasticity. AboBoNT-A, incoBoNT-A, and onaBoNT-A are safe and effective for the reduction of upper extremity spasticity and improvement of passive function and should be offered as treatment options. RimaBoNT-B is probably safe and effective and should be considered. There are insufficient data to determine the effectiveness of the four formulations for improvement of active function associated with adult upper limb spasticity. In a study of patients with upper limb spasticity, onaBoNT-A was superior to tizanidine

(Zanaflex) for reducing upper extremity tone in adult spasticity and should be considered as a treatment option before tizanidine.

Lower Extremity Spasticity. For spasticity involving the lower limbs that warrants treatment, onaBoNT-A and aboBoNT-A are safe and effective and should be offered. There is insufficient evidence about whether or not incoBoNT-A or rimaBoNT-B should be used to treat adult lower limb spasticity. Data are inconclusive for all formulations with regard to improvement of active function associated with lower limb spasticity.

HEADACHE

Chronic Migraine. A chronic migraine is defined as migraine attacks that happen 15 days or more each month for at least three months, lasting four hours or more. The data from studies included in the 2008 guideline were inconsistent, resulting in insufficient evidence to support a benefit of botulinum neurotoxin for treatment of chronic migraine. New studies indicate that onaBoNT-A is statistically superior to placebo and has been established as safe and effective for increasing the number of headache-free days. It is probably effective and should be considered for improving health-related quality of life. There is insufficient evidence to compare the effectiveness of botulinum neurotoxin with that of oral prophylactic topiramate (Topamax). No studies of other formulations of botulinum neurotoxin in chronic migraine have been published.

Episodic Migraine. Episodic migraines occur with less frequency than chronic migraines. OnaBoNT-A was ineffective for reducing migraine frequency and should not be offered as a treatment.

Tension-Type Headache. No new study data have changed the 2008 guideline for treating chronic tension-type headaches. Botulinum neurotoxin is probably an ineffective treatment for this headache type and should not be offered.

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