

Botulinum toxin reduces chronic migraine attacks, compared to placebo

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A growing body of evidence supports the effectiveness of botulinum toxin injections in reducing the frequency of chronic migraine headaches, concludes an updated review and analysis in the January issue of *Plastic and Reconstructive Surgery*, the official medical journal of the American Society of Plastic Surgeons (ASPS).

Based on [meta-analysis](#) of pooled [clinical trial data](#), botulinum toxin is superior to inactive placebo for preventive treatment of [migraine](#), report Prof. Benoit Chaput, MD, Ph.D., of University Hospital Rangueil, Toulouse, France, and colleagues. "Botulinum toxin is a safe and well-tolerated treatment that should be proposed to patients with migraine," the researchers write.

Assembled Evidence Supports Effectiveness of Botox for Chronic Migraine

Prof. Chaput and colleagues identified and analyzed data from 17 previous randomized trials comparing botulinum toxin with placebo for preventive treatment of migraine headaches. Botulinum toxin—best known by the brand name Botox—was approved by the US Food and Drug Administration (FDA) for treatment of chronic migraine in 2010. Since then, a growing number of patients have reported successful results with [botulinum toxin injections](#) to alleviate chronic migraine headaches.

The 17 studies included nearly 3,650 patients, about 1,550 of whom had chronic migraine: defined as at least 15 headache attacks per month for more than three months, with migraine symptoms on at least eight days per month. The remaining patients had less-frequent episodic migraine headaches.

On pooled [data analysis](#), botulinum toxin injections significantly reduced the frequency of chronic migraine attacks with. Three months after injection, patients treated with botulinum toxin had an average of 1.6 fewer migraine attacks per month, compared to those treated with inactive placebo.

The improvement was apparent within two months of botulinum toxin treatment. To sustain the effects of treatment, botulinum toxin injections are typically repeated every three months.

There was also a "statistical tendency" toward less-frequent attacks with botulinum toxin in patients with episodic migraine. Again, improvement occurred within two months. Although botulinum toxin had a higher rate of adverse effects compared to placebo, none of these were serious.

The pooled data also showed significant improvement in quality of life in patients treated with botulinum toxin. This improvement was directly linked to a reduction in depressive symptoms. "It can be explained by the reduced impact of headaches and migraine-related disability, thus reducing symptoms of depression and anxiety," Prof. Chaput and coauthors write.

Migraine headaches are an increasingly common condition, leading to significant disability and increased use of healthcare resources. Although [botulinum toxin](#) injection for chronic migraine is FDA-approved, there are still conflicting data regarding its effectiveness. The new report provides a comprehensive analysis of the highest-quality evidence to

date, including three randomized trials not included in previous reports.

The results strongly support the effectiveness of [botulinum toxin](#) injection as preventive treatment for chronic migraine, with significant reductions in headache frequency at both two and three months. Prof. Chaput and colleagues add, "For the first time, our analysis highlights the significant improvement in patients' quality of life at three months in the Botox group—which exhibited few and mild adverse events."

More information: Eva Bruloy et al. Botulinum Toxin versus Placebo, *Plastic and Reconstructive Surgery* (2018). [DOI: 10.1097/PRS.00000000000005111](#)

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