

Botulinum Toxin for Treating Temporomandibular Disorders: What is the Evidence?

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Abstract

Aims: To systematically review the scientific literature for evidence concerning the clinical use of botulinum toxin (BTX) for the management of various temporomandibular disorders (TMDs).

Methods: A comprehensive literature search was conducted in the Medline, Web of Science, and Cochrane Library databases to find randomized clinical trials (RCT) published between 2000 and the end of April 2021 investigating the use of BTX to treat TMDs. The selected articles were reviewed and tabulated according to the PICO (patients/problem/population, intervention, comparison, outcome) format.

Results: A total of 24 RCTs were selected. Nine articles used BTX injections to treat myofascial pain, 4 to treat temporomandibular joint (TMJ) articular TMDs, 8 for the management of bruxism, and 3 to treat masseter hypertrophy. A total of 411 patients were treated by injection of BTX. Wide variability was found in the methods of injection and in the doses injected. Many trials concluded superiority of BTX injections over placebo for reducing TMD pain levels and improving maximum mouth opening; however, this was not universal.

Conclusion: There is good scientific evidence to support the use of BTX injections for treatment of masseter hypertrophy and equivocal evidence for myogenous TMDs, but very little for TMJ articular disorders. Studies with improved methodologic design are needed to gain better insight into the utility and effectiveness of BTX injections for treating both myogenous and TMJ articular TMDs and to establish suitable protocols for treating different TMDs.

Similar articles

- [Botulinum toxin therapy for temporomandibular joint disorders: a systematic review of randomized controlled trials.](#)

Chen YW, Chiu YW, Chen CY, Chuang SK. Int J Oral Maxillofac Surg. 2015 Aug;44(8):1018-26. doi: 10.1016/j.ijom.2015.04.003. Epub 2015 Apr 25. PMID: 25920597 Review.

- [Occlusal force characteristics of masseteric muscles after intramuscular injection of botulinum toxin A\(BTX - A\) for treatment of temporomandibular disorder.](#)

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