Headache Medicine

The Use of Botulinum Toxin in the Treatment of Headache: an Integrative Literature Review

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Introduction
Headache is a condition characterized by head pain often associated with migraines, significantly impacting patients' quality of life. Conventional drug-based treatments frequently prove ineffective, prompting the search for alternative therapeutic options. In this context, botulinum toxin (BT) has emerged as a promising treatment option due to its ability to alleviate painful symptoms, especially in cases of headache, by acting on nerve endings between motor neurons and muscle fibers, inhibiting pain perception.

Objective
This study aims to conduct an integrative literature review to analyze the benefits and effects of using botulinum toxin in the treatment of headaches. It also seeks to explore the mechanisms of action of the toxin, as well as its safe and effective management in reducing pain in the fronto-cervical region.

Methodology
A comprehensive literature review was conducted, considering authorship, research year, study design, sample size, and primary outcomes. This approach employed qualitative and descriptive methods to evaluate the utilization of Botulinum Toxin in headache treatment. Data were collected in August 2023 from the PubMed and Scielo database platforms, using MeSH descriptors and synonyms "Botulinum Toxins" AND "Headache." The study was conducted without language restrictions and rigorously excluded case reports and literature reviews.

Results
The initial search yielded a total of 144 articles, with 141 found on the PubMed platform and only three within the Scielo database. During the screening process, 68 studies were excluded, and an additional 12 were removed due to duplication. A total of 64 eligible studies were identified, while 38 were excluded due to misalignment with the study's objectives. Of these, 18 were categorized as literature reviews. The included studies encompassed eight carefully selected research samples. This comprehensive approach revealed a predominant use of botulinum toxin type A in headache therapy. Beyond its muscle-paralyzing ability, botulinum toxin demonstrated analgesic and anti-inflammatory actions, modulating inflammatory pathways and neuro-mediators associated with pain perception. Proper administration involved fixed doses ranging from 155 to 195 units in specific regions, such as the frontal, temporal, and occipital areas, resulting in pain relief with effects lasting up to 90 days.

Conclusion
The utilization of Botulinum Toxin presents itself as a viable alternative for headache treatment, given its mechanism of action and the potential for regular applications. Its versatility extends beyond muscle paralysis, making it a valuable therapeutic option. Nonetheless, further research and scientific refinements are imperative to enhance the reliability of this therapy for headache patients, solidifying its role as a therapeutic proposal for management and, consequently, an improvement in the quality of life for these patients.

Keywords: Headache; Drug treatment; Botulinum Toxins Type A.