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Analysis of the efficacy and safety of botulinum toxin type A (OnabotulinumtoxinA) in the prophylactic treatment of chronic migraine

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Introduction
Chronic Migraine is a disabling neurological disorder frequently associated with nausea, photophobia, and phonophobia. In addition to its high prevalence, it has a substantial impact on patients' quality of life and daily functioning. In this context, OnabotulinumtoxinA has emerged as a promising prophylactic therapy due to its ability to reduce the frequency and intensity of migraine attacks.

Objective
To evaluate the efficacy and safety of botulinum toxin type A in the prophylaxis of chronic migraine, analyzing attack reduction, improvement in quality of life, and treatment-related adverse effects.

Methods
This study is a systematic literature review, with studies selected from the MEDLINE/PubMed, Cochrane Library, and LILACS databases using the descriptors "Migraine Disorders and Treatment and Botulinum Toxins, Type A". Original articles published in English, freely available, and published within the last five years (2021–2026) were included. The PICO strategy considered: population (adults with chronic migraine), exposure (treatment with botulinum toxin type A), comparison (conventional treatment/placebo), and outcomes (disease progression). Duplicate articles and studies with low relevance to the proposed topic were excluded. Initially, 37 studies were identified, of which 10 met the eligibility criteria and were included in the review.

Results
The analyzed studies demonstrated that OnabotulinumtoxinA provides significant efficacy in the prophylaxis of Chronic Migraine, reducing attack frequency, headache days, and the need for analgesic medications. Randomized clinical trials and meta-analyses showed consistent improvement in clinical outcomes, particularly in patients with medication-overuse headache. Compared with placebo, treatment resulted in an average reduction of 2–3 headache days per month. When compared with topiramate and anti-CGRP monoclonal antibodies, botulinum toxin type A showed similar efficacy in some studies, although anti-CGRP antibodies demonstrated superior outcomes in certain analyses. Nevertheless, botulinum toxin type A stood out for its favorable tolerability profile and lower treatment discontinuation rates. The most commonly reported adverse effects included injection-site pain, neck pain, muscle stiffness, and eyelid ptosis, which were generally mild and transient, with no significant increase in serious adverse events compared with placebo.

Conclusion
OnabotulinumtoxinA demonstrated efficacy and safety in the prophylaxis of Chronic Migraine, reducing attack frequency and improving patients' quality of life and disability associated with the disease. Although newer therapies, such as anti-CGRP monoclonal antibodies, have shown superior outcomes in some measures, botulinum toxin type A remains a relevant therapeutic option due to its clinical effectiveness and good tolerability, especially in patients refractory to conventional therapies.

Keywords:
Chronic migraine
OnabotulinumtoxinA
Prophylactic treatment

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