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Efficacy of anti-CGRP monoclonal antibodies in the prevention of chronic migraine: a systematic review of randomized clinical trials

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Introduction
Chronic migraine is a highly disabling neurological condition characterized by recurrent headache attacks associated with symptoms such as photophobia, phonophobia, and nausea, significantly impacting patients' quality of life and daily functioning. Despite the use of conventional preventive therapies, many individuals experience inadequate response or poor tolerability to available treatments. In this context, monoclonal antibodies targeting the calcitonin gene-related peptide (CGRP) pathway have emerged as a therapeutic alternative directed at migraine pathophysiology, demonstrating potential efficacy in reducing attack frequency and improving clinical outcomes.

Objective
To evaluate the efficacy and safety of anti-CGRP monoclonal antibodies in the prevention of chronic migraine in adult patients, with a focus on reducing monthly migraine days compared with placebo.

Methods
A systematic review was conducted using the PubMed, SciELO, and Cochrane Library databases. The search strategy included the descriptors "chronic migraine", "CGRP monoclonal antibodies," "erenumab," "fremanezumab," "galcanezumab," and "eptinezumab" combined with the terms "prevention" and "prophylaxis" using the Boolean operators AND and OR. Randomized, double-blind clinical trials published in English between 2020 and 2026 were included. Pediatric studies and articles without a placebo control group were excluded. A total of seven studies met the eligibility criteria.

Results
Seven randomized, double-blind, placebo-controlled clinical trials were included, comprising more than 4,500 participants with chronic migraine. The studies primarily evaluated eptinezumab, fremanezumab, and erenumab, with a predominance of Asian populations. Most studies demonstrated a significant reduction in monthly migraine days compared with placebo, as well as higher ≥50% response rates and improvements in quality of life. Eptinezumab showed an early therapeutic benefit, observable from the first day after administration, with efficacy maintained for up to 12 weeks. Fremanezumab demonstrated consistent efficacy among Japanese and Korean patients, whereas erenumab exhibited a favorable efficacy and safety profile. Overall, anti-CGRP therapies were well tolerated and showed a safety profile comparable to placebo.

Conclusion
Anti-CGRP monoclonal antibodies demonstrated favorable efficacy and safety in the prevention of chronic migraine in adults, promoting significant reductions in monthly migraine days and improvements in quality of life compared with placebo. However, the predominance of studies conducted in Asian populations may limit the generalizability of the findings, highlighting the need for further multicenter trials involving more diverse populations.

Keywords:
Anti-CGRP monoclonal antibodies
Chronic migraine
Migraine prevention

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