

ANTI-CGRP MONOCLONAL ANTIBODIES FOR CHRONIC MIGRAINE PREVENTION: A CRITICAL SYNTHESIS OF EVIDENCE FROM RANDOMIZED AND REAL-WORLD STUDIES

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Background. Chronic migraine is one of the leading causes of neurological disability. Monoclonal antibodies targeting calcitonin gene-related peptide (CGRP) or its receptor have introduced a mechanism-based preventive strategy, although an integrated appraisal of evidence from randomized trials and real-world studies remains warranted.

Methods. A systematic review was conducted according to PRISMA 2020 guidelines and registered in PROSPERO (CRD420261284751). PubMed, Scopus, and Web of Science were searched through July 2025. Randomized controlled trials and real-world observational studies evaluating erenumab, fremanezumab, galcanezumab, or eptinezumab in adults with chronic migraine were included. Primary outcomes were changes in monthly migraine days (MMDs) or monthly headache days (MHDs), ≥50% responder rates, and safety.

Results. Of 1,688 retrieved records, 11 studies met the inclusion criteria. Anti-CGRP monoclonal antibodies consistently reduced migraine frequency, increased ≥50% responder rates, and showed favorable tolerability compared with placebo and, in comparative studies, conventional preventive therapies. Real-world evidence confirmed effectiveness in heterogeneous and treatment-resistant populations, with high treatment persistence. However, methodological heterogeneity, particularly regarding outcome definitions (MMDs versus MHDs), limited direct quantitative comparisons across studies.

Conclusions. Anti-CGRP monoclonal antibodies represent an effective and well-tolerated preventive option for chronic migraine, with clinically meaningful benefits consistently demonstrated in both randomized and real-world settings. Further long-term prospective studies and standardized outcome measures are needed to optimize treatment positioning and support personalized migraine management.