Title

Real-world effectiveness and safety of erenumab for the treatment of migraine: A systematic review and meta-analysis

Abstract

Background: Migraine is a common and disabling primary headache disorder. Several drugs targeting calcitonin gene-related peptide (CGRP), such as erenumab (an anti-CGRP receptor mAb), have been developed recently. However, the real-world effects of erenumab are not well understood. Objective: To assess the clinical effectiveness and safety of erenumab for reducing migraine intensity and frequency in the real world. Methods: A systematic search of PubMed, Scopus, Web of Science and the Cochrane Library was conducted from inception to December 2023. Studies estimating the real-world effect of erenumab on monthly migraine days (MMD), monthly headache days (MHD), headache impact test (HIT-6), number of days in medication (NDM), acute monthly intake (AMI), pain intensity (PI) and safety outcomes were included. Meta-analyses of proportions or mean differences were performed. Results: Fifty-three studies were included. At 3-months, the effect was −7.18 days for MMD, −6.89 days for MHD, −6.97 for HIT-6, -6.22 days for NDM, −15.75 for AMI, and −1.71 for PI. Generally, the effect at 6- and 12-months increased slightly and gradually. The MMD/MHD response rates revealed that approximately one-third of patients exhibited a response greater than 30%, while one-sixth demonstrated a response exceeding 50%. Additionally, 3–4% of patients achieved a response rate of 100%. Adverse event rates were 0.34 and 0.43 at 6- and 12-months, respectively. Conclusion: This study provides strong evidence of the effectiveness and safety of erenumab in the real world; to our knowledge, this is the first real-world meta-analysis specific to erenumab. Erenumab represents a solid therapeutic option for physicians.

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