

Biologics for episodic and chronic migraines

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Clinical question

What is the efficacy of calcitonin gene-related peptide (CGRP) inhibitors in migraine prophylaxis?

Bottom line

Treating 5 to 8 patients with CGRP inhibitors will lead to 1 patient having at least a 50% reduction in monthly migraine days (MMD) compared with placebo. From baseline, a decrease of 1 to 2 MMD may be seen. Cost may limit use.

Evidence

Results are statistically significant unless noted.

- A systematic review (5 RCTs, 2928 patients, about 9 to 18 MMD, 84% female)¹ of patients treated with either 70 mg or 140 mg of subcutaneous erenumab monthly for 12 weeks: more patients in the 70-mg dose group achieved at least a 50% reduction in MMD compared with the placebo group (42% vs 27%; number needed to treat [NNT]=7). Similar results were found in the 140-mg dose group versus the placebo group (40% vs 21%; NNT=5). A reduction of 1.5 to 2.0 MMD was found.
- A systematic review (3 RCTs, 2886 patients, about 9 to 19 MMD, 85% female)² of patients treated with 120 mg or 240 mg of subcutaneous galcanezumab monthly for 12 to 24 weeks: about 41% of patients in both the 120-mg and 240-mg dose groups achieved at least a 50% reduction in MMD compared with 26% in the placebo group (NNT=7). A reduction of 1.9 MMD was found.
- In 5 RCTs (3379 patients, about 16 MMD)³ of patients treated with 675 mg of subcutaneous fremanezumab every 3 months: more patients in the treatment group achieved at least a 50% reduction in MMD compared with the placebo group (41% vs 19%; NNT=5). A reduction of 2.2 MMD was found.
- Another systematic review had similar findings.⁴
- Adverse events: There was no difference except for injection site pain (11% vs 8% with placebo).^{1,2,4}
- Limitations: These were industry-sponsored studies of short duration (12 to 24 weeks); long-term efficacy and safety are unknown. Trials often excluded patients for whom more than 2 to 3 medication groups failed.

Context

- Other medications achieving more than a 50% reduction in MMD include propranolol (NNT=4)⁵ and tricyclic

antidepressants (NNT=5).⁶ Candesartan (about 1.5 days) and topiramate (about 1.0 day) have shown headache frequency reduction versus placebo.^{5,7}

- In Canada, CGRP inhibitors cost about \$7000 per year.⁸
- Guidelines⁹ recommend a trial of at least 2 oral agents before prescribing CGRP inhibitors.

Implementation

Clinicians may start prophylactic medications if acute treatments are ineffective, or if headache frequency is more than 8 days per month despite use of acute treatments.¹⁰ Guidelines have recommended that oral prophylactic medication such as propranolol, amitriptyline, and nortriptyline are generally trialed before other interventions (eg, onabotulinumtoxinA injections).¹⁰ Migraine triggers can include alcohol, caffeine overuse, diet, smoking, and vasodilating antihypertensives.¹¹ Tools to track and monitor migraines include the Canadian Migraine Tracker and the Migraine Buddy app.^{12,13}

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Competing interests
None declared

The opinions expressed in Tools for Practice articles are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

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