PND36

10-year Cost-effectiveness Analyses of Fremanezumab Compared to No Treatment as a Preventive Treatment in Chronic and Episodic Migraine for Patients With Inadequate Response to Prior Preventive Treatments

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CONCLUSIONS

- **Based on current pricing and randomized controlled trial results, fremanezumab treatment is cost-effective versus no treatment**
- **The incremental cost-effectiveness ratio (ICER) was $31,998 per quality-adjusted life years (QALYs) for the base-case 10-year analysis for fremanezumab versus no treatment**

INTRODUCTION

- Migraine affects >1 billion people worldwide[1]
- Fremanezumab is a fully humanized monoclonal antibody (IgG2Δa) that selectively targets calcitonin gene-related peptide (CGRP), which is implicated in migraine pathophysiology[2,3]
- The FOCUS study (ClinicalTrials.gov Identifier: NCT03308968) of fremanezumab was the first and largest study of a migraine preventive treatment in a population of adults with difficult-to-treat migraine and documented inadequate response to 2 to 4 classes of preventive medications[4]

OBJECTIVE

- To evaluate the cost-effectiveness of fremanezumab versus no treatment for the prevention of chronic migraine (CM) and episodic migraine (EM) in patients with prior inadequate response to 2 to 4 classes of preventive medications

METHODS

- A semi-Markov cost-effectiveness model was developed with a 4-week cycle and 10-year analysis time horizon

CEM Parameters and Outputs

Parameters

- Costs and benefits were discounted at 3.0% annual rates
- Treatment efficacies were incorporated as reductions in mean MDs/28 days versus placebo
  - Patient cohorts were distributed among MD categories (0-28 MDs/28 days) based on mean MD levels

Outputs

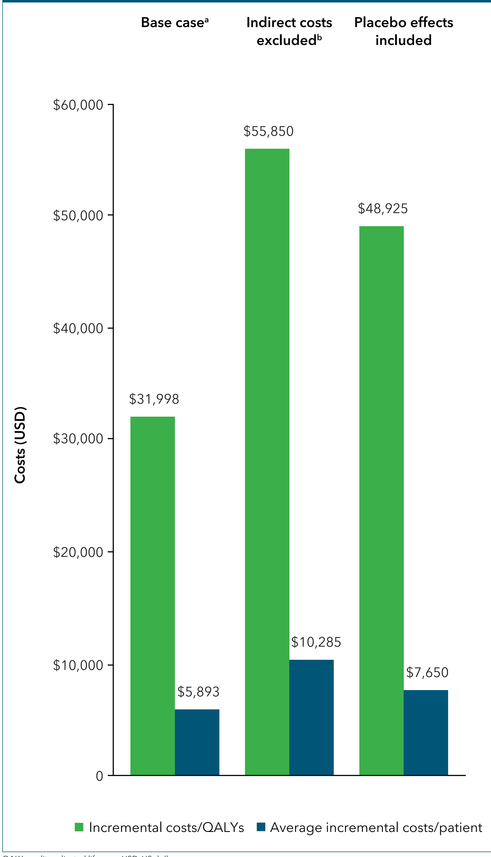
- The CEM estimated the following for fremanezumab and no-treatment arms:
  - Costs: fremanezumab acquisition costs, MD-related costs (direct and indirect)
  - HRQoL (MD- and treatment status-based utilities)
- Outcome measures were costs, reduction in MDs, and QALYs
- Only background mortality was modeled

CEM, cost-effectiveness model; MD, migraine day; HRQoL, health-related quality of life; QALY, quality-adjusted life year.

- Analyses were performed on a combined CM (67%)/EM (33%) population
- ICERs were reported as cost/QALYs gained for fremanezumab versus no treatment
- Fremanezumab migraine days (MDs)/28-day reductions versus placebo were sourced from a network meta-analysis (NMA)
  - This NMA found 1 study (the FOCUS trial) evaluating fremanezumab in patients with migraine and prior inadequate response to 2 to 4 classes of preventive medications
  - In the base-case versus no-treatment analysis, fremanezumab was compared with constant no-treatment MD profiles
- With the placebo effect, placebo patients followed FOCUS trial placebo patient MD trajectories. Without the placebo effect, placebo patients remained at baseline MDs

RESULTS

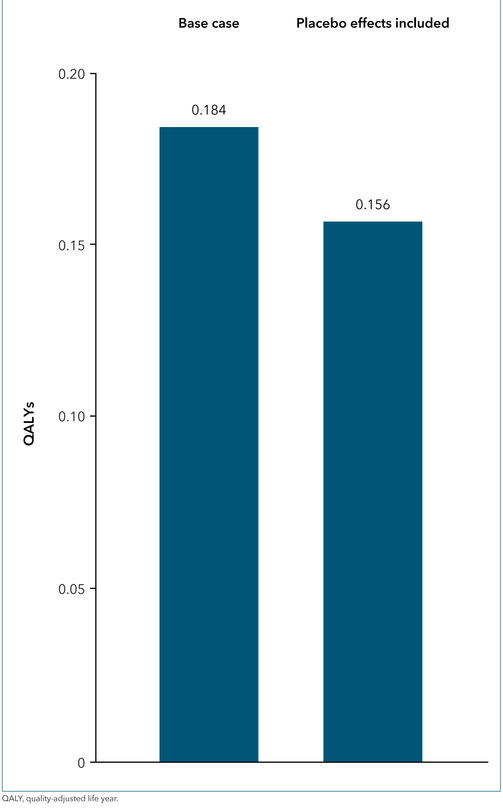
Figure 1. Incremental costs/QALYs and average incremental costs/patient for fremanezumab versus no treatment.



QALY, quality-adjusted life year; USD, US dollars.
[a]In the base case, indirect costs associated with work productivity losses due to migraine were included.
[b]Indirect costs associated with work productivity losses due to migraine.

- Compared with no treatment, fremanezumab resulted in an ICER of under $32,000/QALYs, with average incremental costs of under $6,000 for the base-case analysis (**Figure 1**)
- ICER and average incremental costs with fremanezumab, excluding indirect costs associated with work productivity losses due to migraine and including placebo effects, are also summarized in **Figure 1**

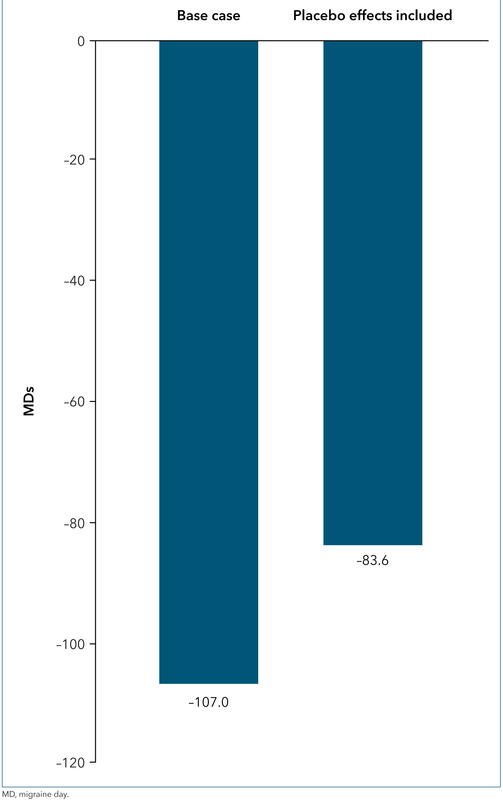
Figure 2. Incremental QALYs for fremanezumab versus no treatment.



QALY, quality-adjusted life year.

- Incremental QALYs associated with fremanezumab compared with no treatment, excluding indirect costs and including placebo effects, are summarized in **Figure 2**

Figure 3. Reduction in MDs for fremanezumab versus no treatment.



MD, migraine day.

- Reduction in MDs/patient for fremanezumab compared with no treatment is summarized in **Figure 3**

References

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Acknowledgments

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Disclosures

L. Smolen and T. Klein are employees of Medical Decision Modeling Inc., Indianapolis, IN, which received payment for their work on these analyses from Teva Pharmaceuticals. S.K. Gandhi, S. Thompson, and J.M. Cohen are employees of Teva Pharmaceuticals.

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