Clinical Outcomes of Migraine Patients Receiving Calcitonin Gene-Related Peptide Antagonists from an Integrated Health System Specialty Pharmacy

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BACKGROUND

- Migraine is a highly prevalent neurological disease affecting over 1 billion people worldwide. The Calcitonin Gene-Related Peptide (CGRP) antagonists block CGRP, a neuropeptide implicated in migraines. Clinical trials demonstrate that CGRP antagonists robustly reduce monthly migraine days by 33 to 43% compared to placebo in episodic and chronic migraine.
- Limited data exist to demonstrate the real-world clinical outcomes of migraine patients on CGRPs managed within integrated health system specialty pharmacies (HSSPs).
- The purpose of this analysis is to evaluate the percent reduction in patient-reported monthly migraine days of patients receiving CGRPs from an integrated health system specialty pharmacy (HSSP).

METHODS

Study Design: Retrospective observational analysis of adult patients with episodic or chronic migraine receiving a CGRP from NYU Langone Health Specialty Pharmacy between January 1, 2023 and December 31, 2023.

- **Inclusion Criteria:** Patients enrolled in the patient management service for ≥ 4 months with both a baseline and follow up number of monthly migraine days.
- **Exclusion Criteria :** Patients receiving a CGRP with ICD-10 codes unrelated to episodic migraine, chronic migraine, migraine with aura, and migraine without aura

Primary Outcome: Reduction in patient reported monthly migraine days from baseline

Data identification: Data were collected through the electronic medical record or specialty pharmacy management system. Treatment duration was defined as number of days between the baseline and follow up assessment; medication adherence was measured by proportion of days covered (PDC).

Analysis: An ordinal logistic regression model was utilized to evaluate the impact of various patient factors on the change in month migraine days (improved, no change, declined).

RESULTS

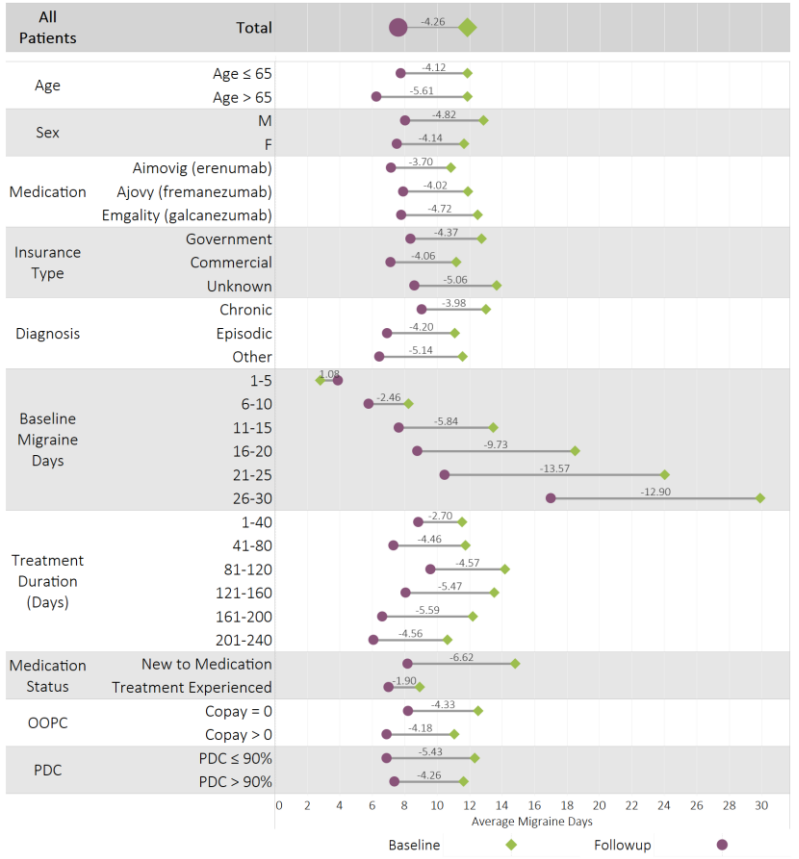
Within the study period, 643 patients meeting the inclusion criteria were identified for analysis. **Table 1** outlines the baseline patient characteristics and mean PDC of the cohort. An average reduction in monthly migraine days of 35.7% was observed in the entire cohort. Patients new to the CGRP medication demonstrated a 44.7% reduction in monthly migraine days (baseline 14.8 days) compared to a 21.3% reduction in existing to medication patients (baseline 8.9 days). A higher number of baseline migraine days and longer treatment duration were associated with a reduction in number of migraine days. Patients with episodic migraines were more likely to experience a reduction in migraine days compared to patients with chronic migraines.

Table 1: Patient Characteristics

Characteristic	N=643	p-value	OR[3]
Age (years)[1]	45	0.630	1.162
Sex (n, %)			
M	112 (17%)	-	-
F	531 (83%)	0.330	0.804
Medication (n, %)			
Aimovig (erenumab)	208 (32%)	-	-
Ajovy (fremanezumab)	119 (19%)	0.870	1.043
Emgality (galcanezumab)	316 (49%)	0.210	1.299
Insurance Type (n, %)			
Government	157 (24.4%)	0.950	1.020
Commerical	407 (63.3%)	0.790	1.073
Unknown/Other	79 (12.3%)	-	-
Diagnosis			
Chronic Migraine	232 (36.1%)	-	-
Episodic Migraine	315 (49.0%)	**0.020**	1.535
Other Migraine	96 (14.9%)	**0.050**	1.693
Baseline Migraine Days[1]	11.86	**<0.001**	1.060
Treatment Duration (days)[1]	144.2	**0.010**	1.002
Medication Status			
New to medication	321 (49.9%)	**<0.001**	3.109
Treatment experienced	322 (50.1%)	-	-
Out-of-Pocket Cost (OOPC)[1]	$9.60	0.070	1.440
Clinical Outcomes			
PDC[1]	94.6%	0.940	1.016

[1]Mean [2]Median [3]Odds ratio

Figure 1: Change in Average Monthly Migraine Days



CONCLUSION

- This real-world analysis demonstrated clinically meaningful reductions in monthly migraine days for migraine patients receiving CGRP antagonists managed within an integrated HSSP, consistent with clinical trial efficacy.
- Patients new to CGRP therapy demonstrated a more robust reduction in monthly migraine days compared to medication experienced patients. Higher baseline migraine frequency, longer treatment duration, and new user status were associated with greater likelihood of reduction.
- Overall, the findings provide real-world evidence supporting CGRP antagonists' effectiveness when managed within a HSSP care model.