## Comparing traditional treatment vs Calcitonin gene-related peptide (CGRP) treatment on Mean Migraine Days (MMD)

Rastogi M, Kukreja I, Verma V, Roy A, **Gaur A**, Nayyar A, Daral S, Anand S, Basra G, Brooks L, Khan S

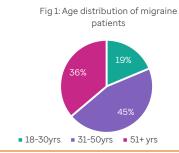
**RWD142** 

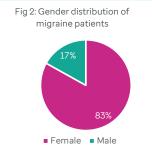
## **Objective**

- The study aims to compare impact of traditional (anticonvulsant and beta blocker) and CGRP treatment on mean migraine days (MMD) in migraine
- The study also provides demographic distribution (age and gender) of migraine in the US.

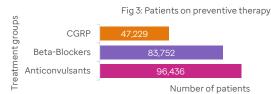
## Method

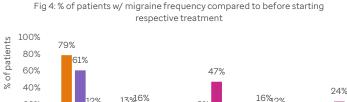
- · Optum's de-identified Market Clarity database which links EHR data with claims data, was used to identify migraine patients aged >= 18 years, using
- Patients with at least 2 claims or/and EHR with migraine diagnosis at least 30 days apart were considered for analysis.
- .Index period for analysis is from 1st Apr 2019 to 31st Mar 2022.
- Index date was confirmed diagnosis of migraine. Continuous eligibility was considered for 6 months pre- and 12 months post index date.
- Patients with migraine or associated epilepsy syndrome in the baseline were excluded from the study.
- Patients were grouped into three groups:
  - · Cohort 1: Patients on anticonvulsants
  - · Cohort 2: Patients on beta blockers
  - · Cohort 3: Patients on CGRP
- Patients identified through market clarity data were mapped to unstructured (physician notes) data. We utilized NLP to extract MMD from clinical notes. Initially, we examined a small sample (5%) of notes that contained mentions of mean migraine days, including their natural variations used by the physicians. Subsequently, we manually identified the pattern associated with MMD and their respective frequencies in a subset of these clinical notes. Finally, we employed NLP on the remaining set of notes to identify MMD for these patients.
- Mean migraine days were defined as the average number of days per month, during which a patient experienced a migraine headache.
- The study extracted MMD frequencies from unstructured physician notes at 6 months after initiating respective treatment. These frequencies were used to classify the patients' change in MMD from baseline to current status of headache episodes
- Patients were categorized into average frequencies of <=1/month, 2/month, or >2/month, while also capturing cases with no change or an increase in frequency compared to the baseline.
- Pearson's Chi-square Test was performed to measure if the difference between demographics, utilization of preventive medication group, and MMD were significantly different or not.

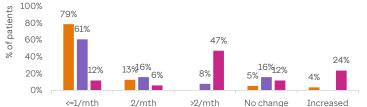




Result







■ CGRP ■ BB ■ Anticonvulsant

- Out of 516,485 patients identified for migraine, 227,417 were taking preventive medications for migraine.
- Patients aged 31-50 years are more likely to experience migraine in comparison to other age groups. (p value <0.0001) (Fig 1).
- Females were found to be more affected by migraine than males (p value<0.0001) (Fig 2).
- Maximum percentage of patients were on anticonvulsants (42.4%), followed by beta-blockers (36.83%) and then CGRP (20.77%). A statistically significant difference was observed for the utilization (p value <0.0001 (Fig 3).
- Patients on CGRP treatment reported a significant reduction in number of headache days per month (>50%) as compared to anticonvulsant and beta-blocker treatment (p value <0.0001) (Fig 4).
- Among patients treated with anticonvulsant medication, 24% experienced a rise in migraine frequency compared to their baseline.
- Among patients who received anticonvulsants and beta-blockers, 27% reported no change in migraine frequency compared to their baseline.
- 79% of patients who received CGRP treatment experienced an average of <=1 migraine episode per month. Furthermore, 5% of patients reported no change in migraine frequency compared to their baseline, and none of the patients reported an increase in migraine frequency from baseline.

## Conclusion

- Migraine has a significant impact on the personal, social, and professional lives of affected patients.
- MMDs are established markers to assess quality of life.
- · Anticonvulsants and beta-blockers are the traditional treatment for migraine prophylaxis, however, their impact on MMD has not been significant as per our analysis.
- CGRP are new line of therapy that demonstrates lesser MMD compared to traditional therapies and improves the quality of life for migraine patients.

