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Characterization of patients prescribed rimegepant compared to all patients seeking migraine care via telemedicine

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INTRODUCTION

Several novel migraine medicines for both acute treatment and prevention of migraine have been developed in recent years. This includes rimegepant, an oral calcitonin-related gene receptor (CGRP) antagonist, and the only FDA-approved medication for both the acute and preventive treatment of migraine.

However, many migraine patients have limited access to novel treatments due to the lack of access to neurologists for diagnosis and effective treatment.

The generation of real-world evidence for novel migraine treatments, such as rimegepant, is challenged by limited availability of patient reported outcomes in many large datasets that are required to assess treatment benefit.

Telemedicine may offer a solution to both challenges by providing:

- convenient access for patients to neurologists for diagnosis and subsequent treatment[1].
- de-identified data on patient reported outcomes to assess the effectiveness of migraine treatments in the real world.

Objective

Describe and contrast clinical and demographic characteristics, migraine burden, and health care resource use of patients seeking migraine care who subsequently received rimegepant (patients who subsequently received rimegepant) with the patients seeking migraine care from the overall Cove population (patients from the overall Cove population) (also separately reported in Poster P-354).

METHODS

Data source

Thirty Madison's Cove, a large asynchronous telehealth provider that specialises in migraine and provides patients with access to novel treatments. Patients seeking migraine care (initial Cove consultation between January 2021 and December 2023) were included and a subgroup subsequently prescribed rimegepant were also identified.

Analysis

- Self-reported de-identified data from structured fields of intake forms were descriptively summarised; demographics, treatment history, migraine related impairment, healthcare resource use and rimegepant indication.
- Mean, standard deviation (SD), median, and interquartile range (IQR) were reported for continuous variables
- Counts and proportions (%) were reported for categorical variables

RESULTS

Demographics

- 57, 218 patients were included for the overall population and 6,380 for the subgroup subsequently prescribed rimegepant.
- Compared with the overall population, the subgroup subsequently prescribed rimegepant had: a slightly higher mean (±SD) age: 39.3 (±10.50) vs 37.2 (±10.42) years and slightly higher proportion of female (76.4% and 72.6%, missing: 14.6% and 16.4%). In both groups, over half were white (57.2% and 53.1%; missing: 34.7% and 37.4%).

Table 1. Current and historical treatment before intake

	Overall	Subsequently prescribed Rimegepant
	N = 57,218	N = 6,380
Treatment history		
Prior or current medications		
Yes	48,553 (84.86%)	6,102 (95.64%)
No	8,592 (15.02%)	270 (4.23%)
Missing	73 (0.13%)	8 (0.13%)
Intended indication of prior or current medications		
Acute	45,087 (78.80%)	5,821 (91.24%)
Preventive	21,208 (37.07%)	3,825 (59.95%)
Other	3,279 (5.73%)	777 (12.18%)
Missing	8,672 (15.16%)	278 (4.36%)
Unique medications tried among patients who tried at least one medication to treat their headache		
1	15,438 (26.98%)	1,051 (16.47%)
2	6,418 (11.22%)	518 (8.12%)
3	6,164 (10.77%)	607 (9.51%)
4	4,850 (8.48%)	550 (8.62%)
5+	15,676 (27.40%)	3,376 (52.92%)
Missing	8,672 (15.16%)	278 (4.36%)
Top 5 medications a patient has tried or is currently taking to treat headaches		
Over The Counter acetaminophen, aspirin, and caffeine combination analgesic	21,647 (37.83%)	3,375 (52.90%)
Sumatriptan	21,641 (37.82%)	3,913 (61.33%)
Ibuprofen	21,231 (37.11%)	3,154 (49.44%)
Acetaminophen	20,990 (36.68%)	2,963 (46.44%)
Topiramate	13,476 (23.55%)	2,602 (40.78%)

Table 2. Healthcare resource use before intake

	Overall	Subsequently prescribed Rimegepant
	N = 57,218	N = 6,380
Number of times a patient sought care in the last 3 months [4,6]		
Primary care doctor or general practitioner		
Patients who had at least one visit	18,630 (32.56%)	2,791 (43.75%)
Mean ± SD	1.62 ± 1.96	1.67 ± 1.76
Neurologist		
Patients who had at least one visit	5,160 (9.02%)	961 (15.06%)
Mean ± SD	1.53 ± 2.37	1.45 ± 1.98
Emergency room doctor		
Patients who had at least one visit	3,489 (6.10%)	513 (8.04%)
Mean ± SD	1.79 ± 3.08	1.62 ± 3.17
Urgent care		
Patients who had at least one visit	3,805 (6.65%)	576 (9.03%)
Mean ± SD	1.68 ± 2.39	1.71 ± 2.49
Other healthcare		
Patients who had at least one visit	1,736 (3.03%)	268 (4.20%)
Mean ± SD	3.09 ± 4.96	3.57 ± 5.75
Diagnostic tests ever performed for headaches		
Imaging	18,444 (32.23%)	3,130 (49.06%)
Blood	9,840 (17.20%)	1,640 (25.71%)
Eye exam	1,641 (2.87%)	252 (3.95%)
Spinal tap	1,487 (2.60%)	239 (3.75%)
Other	1,170 (2.04%)	204 (3.20%)
Missing	28,431 (49.69%)	2,417 (37.88%)

Current and prior treatment before intake

- More patients in the subgroup subsequently prescribed rimegepant had received more prior or current medications (95.6% vs 84.9%) also seen for acute (91.2% vs 78.8%) preventive treatments (60.0% vs 37.1%). Prior use of 5+ migraine medications was also more common in the subgroup (52.9% vs 27.4%; missing: 15.2% and 4.4%) (**Table 1**).

Healthcare resource use before intake

- Patients who were subsequently prescribed rimegepant were more likely to have sought care in the previous 3 months than the overall Cove migraine population, with the largest differences for primary care doctor/GP (43.8% vs 32.6%) and neurologist (15.1% vs 9.0%).
- Rates were also marginally higher for the subgroup subsequently prescribed rimegepant for: emergency room doctor (8.0% vs 6.1%), urgent care (9.0% vs 6.7%) and other health care (4.2% vs 3.0%). The frequencies of visits amongst those with ≥1 visit were similar between the two groups.
- The reporting of diagnostic tests ever performed before intake were higher for the subgroup subsequently prescribed rimegepant for imaging (49.1% vs 32.2%) and blood testing (25.7% vs 17.2%).Other tests were reported much less frequently and generally similar between the groups, although there were generally high levels of missing data (missing: 37.9% and 49.7%) (**Table 2**).

Headache-related characteristics before intake

- While mean headache pain intensity (0-10 scale:7.7 and 7.5) was similar between the groups, the data indicate both groups of patients were experiencing severe pain. Patients subsequently prescribed rimegepant had a slightly higher mean number of monthly headache days before intake (12.8 vs 11.3).
- Furthermore, higher proportions of patients in the subgroup subsequently prescribed rimegepant reported untreated headache duration of more than a day (30.9% vs 24.4%) and more than 72 hours (18.5% and 12.6%), and fewer reported that they were typically headache free between attacks (47.0% vs 53.2%).
- Productivity and activity impairment was substantially higher in the subgroup subsequently prescribed rimegepant; MIDAS grade 4 (severe disability) 67.1% and 53.8% (missing: 27.5% and 16.8%).
- Over the 3 months prior to intake, patients subsequently prescribed rimegepant had slightly higher mean numbers of days where migraine impacted productivity or activity across all domains, although the data show a great deal of variability indicated by large SDs and median values are the same between groups.
- The differences between the means were largest for productivity in school or work reduced by half or more (mean 14.9 vs 13 days), the number of days of inability to do household work (mean 16.3 vs 14.3 days) and the number of days when productivity in household work was reduced by half or more (mean 16.4 vs 14.3) (**Table 3**).

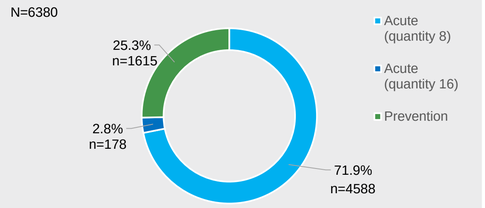
Table 3. Headache characteristics before intake

	Overall	Subsequently prescribed Rimegepant
MIDAS score (categorical)	N = 57,218	N = 6,380
Grade 1 (0-5)	1,976 (3.45%)	143 (2.24%)
Grade 2 (6-10)	2,359 (4.12%)	192 (3.01%)
Grade 3 (11-20)	6,408 (11.20%)	691 (10.83%)
Grade 4 (21-)	30,755 (53.75%)	4,283 (67.13%)
Missing	15,720 (27.47%)	1,071 (16.79%)
Productivity and activity impairment due to headache in the last 3 months		
Number of days with missed work or school		
Mean ± SD	4.63 ± 8.62	5.33 ± 9.73
Median	3	3
Range	(0.00, 90.00)	(0.00, 90.00)
IQR	(0.00, 5.00)	(1.00, 6.00)
Missing	11,160 (19.50%)	1,080 (16.93%)
Number of days with productivity at work or school reduced by half or more		
Mean ± SD	13.01 ± 14.65	14.89 ± 15.68
Median	10	10
Range	(0.00, 90.00)	(0.00, 90.00)
IQR	(4.00, 15.00)	(5.00, 20.00)
Missing	11,160 (19.50%)	1,080 (16.93%)
Number of days with the inability to do household work		
Mean ± SD	14.28 ± 14.98	16.28 ± 15.93
Median	10	10
Range	(0.00, 90.00)	(0.00, 90.00)
IQR	(5.00, 20.00)	(5.00, 20.00)
Missing	11,160 (19.50%)	1,080 (16.93%)
Number of days with productivity in household work reduced by half or more		
Mean ± SD	14.33 ± 15.49	16.42 ± 16.55
Median	10	10
Range	(0.00, 90.00)	(0.00, 90.00)
IQR	(5.00, 20.00)	(5.00, 20.00)
Missing	11,160 (19.50%)	1,080 (16.93%)
Number of days with missed family, social or leisure activities		
Mean ± SD	8.58 ± 12.42	9.63 ± 13.17
Median	5	5
Range	(0.00, 90.00)	(0.00, 90.00)
IQR	(2.00, 10.00)	(2.00, 10.00)
Missing	11,160 (19.50%)	1,080 (16.93%)
Number of monthly headache days		
Mean ± SD	11.30 ± 7.40	12.83 ± 7.35
Missing	11,161 (19.51%)	1,080 (16.93%)
Headache pain intensity		
Mean ± SD	7.50 ± 1.68	7.72 ± 1.49
Missing	61 (0.11%)	8 (0.13%)
Headache duration without treatment		
Less than 15 minutes	164 (0.29%)	6 (0.09%)
15 minutes to 3 hours	1,805 (3.15%)	74 (1.16%)
1-3 hours	1,819 (3.18%)	56 (0.88%)
4-12 hours	10,636 (18.59%)	833 (13.06%)
13-24 hours	8,433 (14.74%)	957 (15.00%)
More than 1 day	13,960 (24.40%)	1,974 (30.94%)
More than 72 hours	7,228 (12.63%)	1,182 (18.53%)
I'm not sure	2,014 (3.52%)	218 (3.42%)
Missing	11,159 (19.50%)	1,080 (16.93%)
Is typically headache free between attacks		
Yes	30,436 (53.19%)	3,000 (47.02%)
No	26,724 (46.71%)	3,372 (52.85%)
Missing	58 (0.10%)	8 (0.13%)

Rimegepant indication subsequently prescribed after intake

Rimegepant was subsequently prescribed as an acute treatment in three quarters of the subgroup (74.7%) with the majority of those patients receiving 8 tablets (**Figure 1**).

Figure 1. Subsequently prescribed rimegepant indication after intake



Indications of rimegepant prescriptions were classified based on both days of supply and physician prescription notes. The acute indication was defined as having either 8-count days of supply or having rimegepant as an acute indicated in the physician prescription notes. The preventive indication was defined as having 16-count days of supply without rimegepant as an acute in the physician prescription notes

CONCLUSIONS

- Large databases rarely include patient-reported outcomes needed to assess the real-world impact of migraine medications.
- Using the Cove de-identified dataset, this study suggests that patients subsequently prescribed rimegepant presented with a distinct and greater disease burden compared to the overall population as demonstrated by:
  - characteristics and treatment history consistent with being more advanced in the migraine care pathway: slightly higher mean age and greater number of previous treatments.
  - more frequently seeking care in the three months prior to intake, particularly from GPs and neurologists
  - a higher prevalence of imaging and blood tests
  - a higher proportion of patients with MIDAS Grade 4 (severe disability caused by headache)
- Rimegepant prescriptions for subsequent use were predominantly for acute treatment (using a quantity of 8 tablets).
- Further research is needed to determine the potential impact of rimegepant in reducing this migraine burden

REFERENCES

1Spina, E., Tedeschi, G., Russo, A., et al. (2022). Telemedicine application to headache: a critical review. *Neurological sciences : official journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology*, 43(6), 3795–3801.

CONFLICTS OF INTEREST

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