Switching between anti-calcitonin gene related peptide monoclonal antibodies in migraine

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Background and importance

Monoclonal antibodies (mAb) against calcitonin gene related peptide (anti-CGRP) and its receptor (anti-CGRP-receptor) are effective in the prophylaxis of migraine.

In our setting there's availability of Erenumab, Fremanezumab and Galcanezumab, and prescription is subject to eligibility criteria within our publicly funded healthcare system.

Nonetheless, studies to determine effectiveness and safety on switching between them in non-responders are scarce[1,2].

Aim and objectives

To evaluate the **real-world clinical effectiveness** and safety of mAb switch in migraine patients.

Materials and methods

- ✔ Retrospective cohort study of adult patients who switched between mAb in a tertiary care hospital from December 2019 until September 2022.
- ✔ Sociodemographic, clinical and pharmacological data were recorded.
- ✔ Outcome measures: reduction of Headache Impact Test (HIT-6) scale score and the reduction of monthly migraine days.
- ✔ Continuous data are presented as the median (interquartile range). Categorical data are presented as counts (%).

Results

147 patients screened

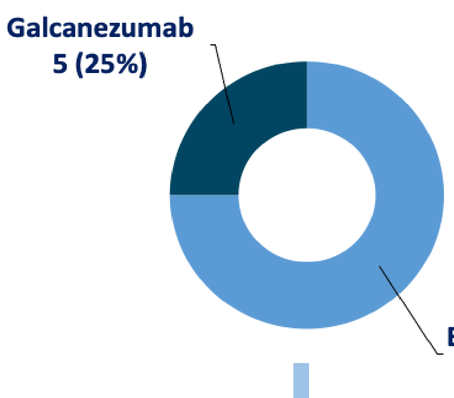
Erenumab: 56 (38.09%)
Galcanezumab: 49 (33.33%)
Fremanezumab: 42 (28.57%)

20 patients switching between anti-CGRP analysed

19 (95%) women
Age: 52.5 years [46.7- 55.9]
Regicor risk: 2 [1- 3]
16 (80%) chronic migraine diagnosis
Baseline migraine days/month: 15 [13- 24]

Number of switches:

14 (9.5%) One switch | **4 (3.4%)** Two switches | **1 (0.7%)** Three switches



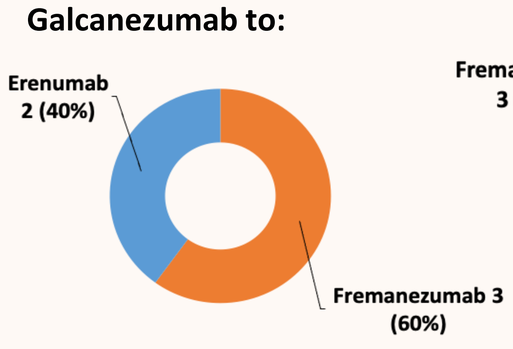
First anti-CGRP treatment

Non-response*: 12 (60%)
Loss of response**: 7 (35%)
Adverse events: 1 (5%) (constipation)

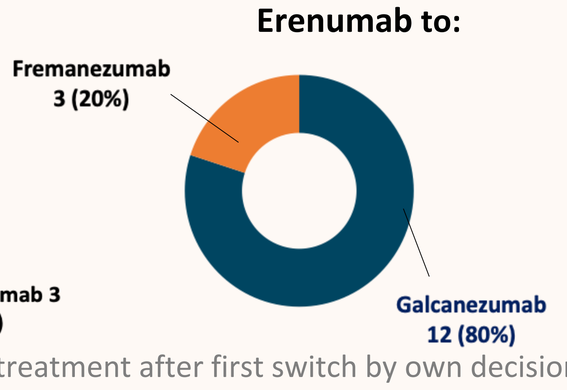
Time to first switch: 7.4 months (5.9-11.8).

First switch (n=20)

Galcanezumab to:



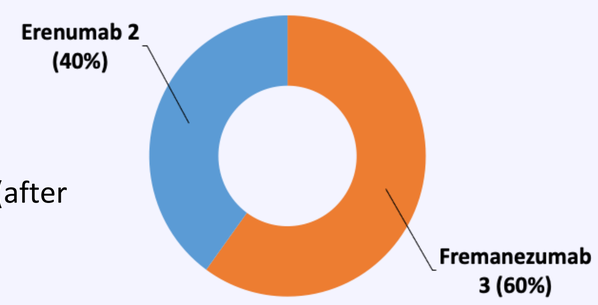
Erenumab to:



3 patients (15%) discontinued treatment after first switch by own decision:
- **2** patients due to **non-response*** (12 and 30 days of migraine a month)
- **1** patient due to **loss of response**** (9-10 days of migraine a month)

Second switch (n=5)

Galcanezumab to:



Time to second switch: 4 months (after first switch) (3.0-5.9).
Reason for second switch: non-response*: 5 (100%).

Third switch (n=1)

Reason for third switch: non response

Erenumab (1st) → Galcanezumab (2nd) → Fremanezumab (3rd) → Erenumab

Outcomes:

	First switch	Second switch
Reduction in HIT-6	-2 [-11.5, 0]	-3.8 [-11.8, 0]
Reduction in migraine days a month	-4.15 [-7, 0]	-4.8 [-6.5, -0.6]

Table 1. HIT-6: Head Impact Test

Adverse effects reported : **5 (25%)** Galcanezumab | **5 (25%)** Erenumab

Most reported adverse effects: **7 (35%)** Constipation | **2 (10%)** Itchiness

Definitions:
***Non-response**: <15% reduction from baseline of days of migraine a month and HIT-6 scale score.
****Loss of response:** ≥15% reduction from baseline of days of migraine a month and HIT-6 scale score at some point during treatment, but <15% by the time of switch.

Conclusions and relevance

Our findings in 20 treatment-resistant patients indicate that switching between CGRP mAbs could be beneficial to some non-responders to a initial mAb. This data is in line with that reported in bibliography[1,2].

References

1 Ziegeler C, May A. Non-Responders to Treatment With Antibodies to the CGRP-Receptor May Profit From a Switch of Antibody Class. *Headache* 2020; 60(2): 469-470.
2 Overeem LH, Peikert A, Hofacker MD, et al. Effect of antibody switch in non-responders to a CGRP receptor antibody treatment in migraine: A multi-center retrospective cohort study. *Cephalalgia* 2022; 42(4-5): 291-301.

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