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AIM

To investigate **neurophysiological changes** induced by atogepant in individuals with high-frequency episodic migraine (HFEM)

CONCLUSION

- After 3 months of atogepant:
- **Decreased central sensitization**
 - **Modulation of habituation at brainstem level**
 - **No changes at cortical level**

METHODS

Prospective, open label study

N=38 – 29 females
Age: 35.5 ± 21.9 y

9.9 ± 2.3 MMDs
7.8 ± 4.2 days of drug intake

T0 **atogepant 60mg** → T1

- Monthly migraine days (MMDs)
- Days of acute drugs intake

T1: after a 3-month atogepant treatment

NEUROPHYSIOLOGICAL ASSESSMENT

- 1) RIII reflex → central sensitization at spinal level
 - RTh: Single stimulus reflex threshold
 - TST: Temporal Summation Threshold
- 2) Nociceptive blink reflex (nBR) → habituation and modulation of the trigemino-cervical complex
 - 26 stimuli at 0.2 Hz, 0.3 Hz, and 0.5 Hz
 - nBR habituation index (HI): percentage change in nBR amplitude at the end of stimulation compared to baseline
- 3) Visual evoked potentials (VEPs) → habituation and modulation of the visual cortex
 - 600 sweeps divided into six blocks of 100 responses
 - VEPs HI: percentage of change in P100 amplitude of the last block compared to the first block

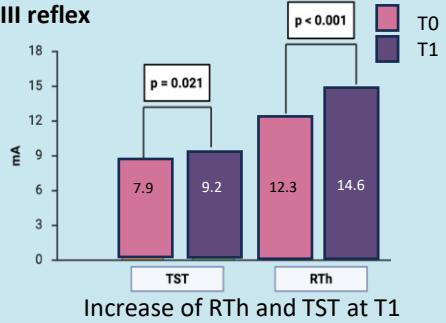
RESULTS

Clinical findings

MMDs decreased:

- T0 = 9.9 ± 2.3 → T1 = 4.3 ± 3.0 ($p < 0.001$)
- **Responders** (≥ 50% MMDs reduction) → 71.1%

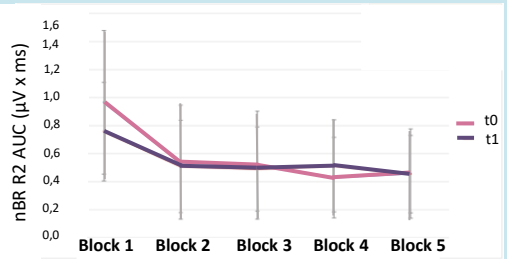
RIII reflex



Visual evoked potentials

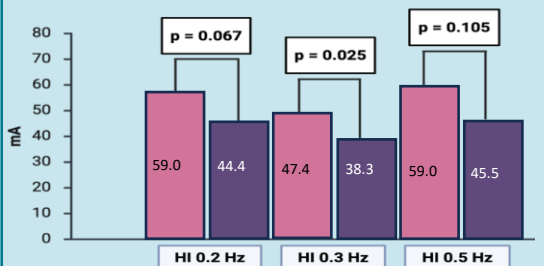
No changes in the habituation pattern at T1 (TIMExBLOCKS $p=0.986$)

Nociceptive blink reflex (nBR) at 0.3 Hz



- More pronounced habituation deficit at T1 (TIMExBLOCKS $p=0.045$)
- Lower area of «Block 1» of the nBR at T1 ($p=0.022$)

nBR habituation index



At T1: reduction in 0.3 Hz HI ($p=0.025$)