Suppression of the photoparoxysmal response in photosensitive epilepsy with cenobamate (YKP3089)


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Study objective and summary result
This study examined the effects of cenobamate on photoparoxysmal EEG responses (PPRs) to intermittent photic stimulation (IPS) in patients with photosensitive epilepsy, and it found that cenobamate reduces IPS-induced PPRs in such patients.

Classification of evidence
Class III.

What is known and what this paper adds
Animal experiments have indicated that cenobamate has anticonvulsant effects. This trial shows that it also reduces IPS-induced PPRs, which are commonly associated with generalized epilepsies.

Participants and setting
This trial recruited 7 participants with photosensitive epilepsy (5 women; age range, 19–28 years) who were taking 0–2 concomitant antiepileptic drugs and had reproducible IPS-induced PPRs under 1 or more of the following eye conditions: eyes open, eye closure, and eyes closed. Six of the 7 participants had evaluable data. This trial was conducted through 4 US centers between August 2007 and January 2009.

Design, size, and duration
In this nonrandomized phase 2a trial, treatment-blinded participants received cenobamate at sequentially increasing doses of 100, 250, and 400 mg with ≥2-week between-dose washout periods. Placebo doses were given 1 day before and after each cenobamate dose. IPS-induced PPRs were assessed with standardized photosensitivity range scores under the 3 aforementioned eye conditions before and after each cenobamate or placebo dose. Blinded personnel assessed EEG data.

Primary outcome measures
The primary outcome was comparison of IPS-induced PPRs after cenobamate dosing with IPS-induced PPRs after placebo dosing.

Main results and the role of chance
Relative to pre-cenobamate placebo doses, 250-mg and 400-mg cenobamate doses consistently suppressed IPS-induced PPRs.

Harms
Dizziness and somnolence were the most common adverse events.

Bias, confounding, and other reasons for caution
This trial included few participants.

Generalizability to other populations
The small sample size may limit the generalizability of the results.

Study funding/potential competing interests
This study was funded by SK Life Science. Some authors report serving as consultants and advisors for various healthcare companies, including SK Life Science; receiving travel and conferences expenses from various foundations and healthcare companies, including SK Life Science; receiving research support from various foundations and healthcare companies, either directly or through an employer; co-owning Cognizance Biomarkers; and serving on journal editorial boards. Go to Neurology.org/N for full disclosures.

Trial registration number
NCT00616148 on ClinicalTrials.gov.
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