

AAN 77th ANNUAL MEETING ABSTRACT

Media Contacts:

Renee Tessman, rtessman@aan.com, (612) 928-6137

Natalie Conrad, nconrad@aan.com, (612) 283-5484

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Abstract Title: Effectiveness of Zonisamide Prophylaxis in Reducing Headache Days per Month for Pediatric Patients with Migraine Disease, A Retrospective Analysis

Press Release Title: Drug may prevent some migraine attacks in children and teens

Authors: Isabelle Kang¹, Sam Blizzard¹, Ashley Sablich¹, Heba Akbari², Wenya Chen², Alma Bicknese², Anisa Kelley²

¹Northwestern University Feinberg School of Medicine, ²Ann and Robert H. Lurie Children's Hospital of Chicago

Objective: To examine zonisamide prophylaxis and reduction in headache days per month (HDPM) in pediatric patients with migraine disease.

Background: The anti-seizure medication zonisamide has been used off-label for prevention of migraine attacks in pediatric patients, but its effectiveness has not been well studied.

Design/Methods: In this retrospective cohort study, Epic SlicerDicer was used to identify patients with migraine using prophylactic zonisamide. Patients with seizure disorder, zonisamide use for less than 6 weeks, or unclear documentation of headache days were excluded. Wilcoxon tests were used to analyze change in HDPM on presentation and first follow-up. Analyses compared subgroups stratified by time to first follow-up, intractable vs non-intractable, and transformation between chronic and episodic migraine.

Results: A total of 256 patients were included. Participants were 70% female with median age of 15, and 28% intractable migraine. For the entire cohort, the results suggest a median decrease from 18 to 6 HDPM at first follow-up after zonisamide initiation (95% CI: -12, -8.5; $p < 0.001$). Patients that followed up within 2-6 months showed the largest reduction with a median decrease of 6 HDPM ($Z = 2.18$, $p = 0.01$). Both intractable and non-intractable groups showed a median decrease of 6 HDPM at first follow-up (95% CI: -10, -3; $p < 0.001$; 95% CI: -13.75, -10; $p < 0.001$, respectively). At the first follow-up, 34% of patients transformed from chronic to episodic migraine and 4% from episodic to chronic.

Conclusions: The data suggest that prophylactic zonisamide was effective in significantly reducing median number of HDPM for pediatric patients with migraine disease, demonstrating its potential novel clinical impact. Zonisamide appeared to be an effective prophylaxis for both intractable and non-intractable migraine, with the strongest effect seen after at least 2 months of use. Future research could compare zonisamide prophylaxis to the current gold standard, topiramate.

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