

Response to Cannabidiol in Epilepsy of Infancy With Migrating Focal Seizures Associated With KCNT1 Mutations: An Open-Label, Prospective, Interventional Study

Kelsey Poisson ¹, Matthew Wong ², Chon Lee ³, Maria Roberta Cilio ⁴

Affiliations + expand

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Abstract

Epilepsy of Infancy with Migrating Focal Seizures (EIMFS) is a rare, developmental and epileptic encephalopathy most commonly associated with mutations in KCNT1, a potassium channel. Polymorphous migrating focal seizures begin within 6 months of life and are pharmacoresistant to standard anticonvulsants. Additional therapies are needed to decrease seizure frequency and subsequent developmental deterioration associated with EIMFS. Cannabidiol (CBD) has recently arisen in public interest due to its potential in treatment-resistant epilepsies as demonstrated in randomized controlled trials for Dravet Syndrome and Lennox-Gastaut Syndrome. Here we evaluate the response of three patients, all diagnosed with EIMFS secondary to KCNT1 mutations, to pharmaceutical grade CBD. Two patients showed no benefit and have since voluntarily stopped CBD. One patient showed no overall reduction in seizure frequency, however showed a notable reduction in seizure intensity with possible developmental progression. Further studies are needed to assess the potential benefit of CBD in treatment-resistant epilepsies such as EIMFS, with a focus on early identification and intervention.

Keywords: Cannabidiol; Epilepsy of infancy with migrating focal seizures; Epileptic encephalopathy; Treatment resistant epilepsy.

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