★ FEATURED

Published in Primary Care (/explore/channel/primary-care/sp6) and 1 other channel ▾
Journal Scan / Research · June 01, 2017

Cannabidiol for Drug-Resistant Seizures in Dravet Syndrome

The New England Journal of Medicine

1 Expert Comment

TAKE-HOME MESSAGE

- This double-blind, placebo-controlled trial sought to determine the benefit of cannabidiol in drug-resistant seizures in 120 children and young adults with the Dravet syndrome. Patients receiving cannabidiol experienced fewer seizures per month, down from 12.4 to 5.9 after a 14-week treatment period, compared with a marginal change from 14.9 to 14.1 seizures per month in the placebo group. Overall condition was improved in 62% of cannabidiol-treated patients compared with 34% of those given placebo. None of the placebo-treated patients became seizure-free during the trial, while 5% of the cannabidiol group did. Cannabidiol treatment was associated with diarrhea, vomiting, and fatigue.
- The results indicate that cannabidiol may be an effective treatment for drug-resistant seizures in patients suffering from the Dravet syndrome.

Primary Care

Written by Dipesh Navsaria MPH, MSLIS, MD (/author/dipesh-navsaria/1247)

Dravet syndrome is a condition I had to look up and refamiliarize myself with. It's a rare childhood epilepsy syndrome with a genetic basis. It has an early onset, and a high mortality rate due to the risk for sudden unexpected death. So far, there has been no approved antiepileptic drugs for this syndrome. Even with off-label use, a subset of patients has seizures that do not respond to existing antiepileptics, presenting a quandary for clinicians and families.

Given that there is some report of antiepileptic activity of cannabidiol, the authors of this paper conducted a randomized, double-blinded, placebo-controlled trial of cannabidiol oral solution as treatment for this condition in children. Patients did continue all their medications, ketogenic diets, and the like; so, this was not a trial looking at monotherapy.

The end result was a significant improvement compared with placebo—the frequency of seizures dropped to about half in the treatment group, and a measurement of caregivers' perceptions also changed similarly. However, serious adverse events did increase, more than triple than was seen in the placebo group, and 8 patients withdrew from the treatment group as a result, versus just 1 in the placebo group. This would be a significant issue with respect to considering using this agent for treatment.

So, what does this mean for clinical practice? Nothing yet—this is not approved for use; until FDA review has occurred, this is not an option. However, it does appear to have promise in a hitherto difficult to treat syndrome with a high mortality rate for which there may be no other options. I don't expect most primary care clinicians will encounter this for some time to come, and most probably children with Dravet syndrome will be managed by neurologists for the foreseeable future.

Of note, for those who might be wondering—cannabidiol apparently does not have much affinity for cannabinoid receptors and does not have the psychoactive properties of THC, the active ingredient in marijuana.

Abstract

This abstract is available on the publisher's site.

Access this abstract now (http://www.nejm.org/doi/full/10.1056/NEJMoa1611618)

BACKGROUND

The Dravet syndrome is a complex childhood epilepsy disorder that is associated with drug-resistant seizures and a high mortality rate. We studied cannabidiol for the treatment of drug-resistant seizures in the Dravet syndrome.

METHODS

In this double-blind, placebo-controlled trial, we randomly assigned 120 children and young adults with the Dravet syndrome and drug-resistant seizures to receive either cannabidiol oral solution at a dose of 20 mg per kilogram of body weight per day or placebo, in addition to standard antiepileptic treatment. The primary end point was the change in convulsive-seizure frequency over a 14-week treatment period, as compared with a 4-week baseline period.

RESULTS

The median frequency of convulsive seizures per month decreased from 12.4 to 5.9 with cannabidiol, as compared with a decrease from 14.9 to 14.1 with placebo (adjusted median difference between the cannabidiol group and the placebo group in change in seizure frequency, -22.8 percentage points; 95% confidence interval [CI], -41.1 to -5.4; P=0.01). The percentage of patients who had at least a 50% reduction in convulsive-seizure frequency was 43% with cannabidiol and 27% with placebo (odds ratio, 2.00; 95% CI, 0.93 to 4.30; P=0.08). The patient's overall condition improved by at least one category on the seven-category Caregiver Global Impression of Change scale in 62% of the cannabidiol group as compared with 34% of the placebo group (P=0.02). The frequency of total seizures of all types was significantly reduced with cannabidiol (P=0.03), but there was no significant reduction in nonconvulsive seizures. The percentage of patients who became seizure-free was 5% with cannabidiol and 0% with placebo (P=0.08). Adverse events that occurred more frequently in the cannabidiol group than in the placebo group included diarrhea, vomiting, fatigue, pyrexia, somnolence, and abnormal results on liver-function tests. There were more withdrawals from the trial in the cannabidiol group.

CONCLUSIONS

Among patients with the Dravet syndrome, cannabidiol resulted in a greater reduction in convulsive-seizure frequency than placebo and was associated with higher rates of adverse events.

Topic Alerts

Click on any of these tags to subscribe to Topic Alerts. Once subscribed, you can get a single, daily email any time PracticeUpdate publishes content on the topics that interest you.

Visit your Preferences and Settings section to Manage All Topic Alerts ▸

Neurology Tags

Epilepsy ❯

Primary Care Tags

Epilepsy ❯ Neurology (EBM) ❯

Copyright © 2017 Elsevier Inc. All rights reserved.

Additional Info

Disclosures Article Citation

Disclosure statements are available on the authors' profiles:

Dipesh Navsaria MPH, MSLIS, MD (/author/dipesh-navsaria/1247)

We Recommend

Cannabidiol Promising for Seizures in Dravet Syndrome
PracticeUpdate, 2017

Positive Results Claimed for First Cannabidiol RCT
Kristina Fiore, MedPage Today, 2016

Cannabidiol in Patients With Treatment-Resistant Epilepsy
PracticeUpdate, 2016

Medical Marijuana Extract May Improve Severe Childhood Epilepsy
PracticeUpdate, 2015

Cannabidiol May Reduce Seizures by Half in Patients With Lennox-Gastaut Syndrome
PracticeUpdate, 2017

Perampanel for TonicClonic Seizures in Idiopathic Epilepsy
PracticeUpdate, 2015

Topline Results Positive for Cannabidiol in Lennox-Gastaut
Pauline Anderson et al., Medscape, 2016

Positive Topline Results With Cannabidiol (Epidiolex) in Dravet Syndrome
Pauline Anderson, Medscape, 2016

Cannabidiol Effective and Safe at 3 Months for Epilepsy
Pauline Anderson et al., Medscape, 2015

Cannabidiol Works in Dravet, Lennox-Gastaut
Kristina Fiore, MedPage Today, 2016

Powered by