



Cannabis in Autoimmune Seizures and Encephalitis

There has been an increasing interest in the effectiveness of cannabis and cannabis-related compounds in the treatment of various neurologic disorders, including autoimmune encephalitis. While there is promising data in animal models on the anti-inflammatory effects of cannabidiol, a component of cannabis,¹ there has been little evidence to date of its effect in people with autoimmune encephalitis. One study reported on the effect of cannabidiol on febrile infection-related epilepsy syndromes (FIRES) in seven children from seven centers, who had not responded to antiseizure medications and other therapies.² In this condition, patients without a prior history of seizures present with fulminant onset of severe, frequent, and refractory seizures, often leading to prolonged hospitalizations. While the disease is poorly understood, it is thought to be due to neuro-inflammation. In these children, after starting cannabidiol, six out of seven experienced an improvement in seizure frequency and duration. It should be noted that this was an open label study, which means children, their caregivers, and their doctors, knew they were getting the medication, which introduces the possibility of bias, i.e. interpretation of clinical status favorably because of a desire for a positive outcome. There have not been other reports of the use of cannabidiol in other forms of autoimmune encephalitis or related illnesses. Of note, cannabidiol has been approved for use in treatment of other neurologic conditions, including Lennox-Gastaut syndrome and Dravet syndrome, which are forms of epilepsies affecting children with developmental delay and refractory epilepsy. It should be noted that cannabis and cannabis-related compounds (e.g. cannabidiol) can also cause side effects, which patients with autoimmune encephalitis may be at risk for because of their underlying condition and the medications they take for it, including somnolence, and gastrointestinal side effects such as vomiting. Lastly, it may interact with other medications. Therefore, patients should always check with their physician before using cannabis.

References:

1. French JA, Koepp M, Naegelin Y, et al. Clinical studies and anti-inflammatory mechanisms of treatments. *Epilepsia* 2017; 58 Suppl 3: 69-82.
2. Gofshteyn JS, Wilfong A, Devinsky O, et al. Cannabidiol as a Potential Treatment for Febrile Infection-Related Epilepsy Syndrome (FIRES) in the Acute and Chronic Phases. *J Child Neurol* 2017; 32: 35-40.

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