Epilepsy Trials and Treatment

Mac Burnham
EpLink Co-Director
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Outline

I’d like to talk today about 3 topics:

- EpLink – New in Epilepsy Research
- The EpLink PUFA Trial
- The EpLink CBD Trial
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- In TSC, seizures are common and hard to control.

- There is a new epilepsy/seizure research program in Ontario.
EpLink is the Epilepsy Research Program of the Ontario Brain Institute.
EpLink

- The OBI provides EpLink with 1.5 million per year to do epilepsy research.

- That makes EpLink one of the largest epilepsy research programs in Canada.
EpLink

- EpLink consists of more than thirty epilepsy researchers.
- They work in Ottawa, Toronto, Hamilton and London.
EpLink

- They work at 6 different institutions, including:
  - The Children’s Hospital of Eastern Ontario (Ottawa)
  - The University of Toronto
  - The Hospital for Sick Children (Toronto)
  - The Toronto Western Hospital
  - Hamilton Health Sciences Centre
  - University Hospital (London)
  - Western University (London)
EpLink

- The Co-Directors of EpLink are:
  - Mac Burnham, PhD (Toronto) and
  - Jorge Burneo, MD (London)

- The Program Manager is Kathryn Hum, PhD (Toronto).
EpLink

- EpLink’s research is “translational” research.

- It is designed to improve clinical epilepsy care in the near future.
EpLink Partners

- The Epilepsy Associations
- An industry advisory board
EpLink Research

- Drugs
- Diet
- Surgery
- Brain Stimulation
- Quality of Life
Contact Us

- Website: www.eplink.ca
- Email: eplink.obi@gmail.com
Epilepsy Trials – PUFA and CBD

- I’d like to talk today about two of our clinical trials.

- These trials might offer help for people with seizures in the near future.
The EpLink PUFA Trial

- It has been known for many years that special diets can help to control seizures.

- The traditional ketogenic diet, however, is very restricted and hard to maintain.
The EpLink PUFA Trial

- We are now testing an entirely new diet approach at the Toronto Western Hospital.
- It involves adding fish oil to a normal diet.
The EpLink PUFA Trial

- Fish oil is a rich source of the n-3 PUFAs.

- PUFAs are the “good” fats that improve health.
The EpLink PUFA Trial

- Research in our laboratories has shown that adding fish oil to a normal diet raises seizure threshold in rats.

- We are now trying to see whether it will work in people.
The EpLink PUFA Trial

- 15 adult patients are getting fish oil supplements – 15 others are getting placebo capsules (double blind)

- Both groups are keeping seizure diaries.
The EpLink PUFA Trial

- The trial will last for 6 months.
- We are about half-way through.
- We will have data to report next spring.
The EpLink PUFA Trial

- We are hopeful. A similar trial in Egypt has reported positive results in children.

- We will let you know the results of our study as soon as we have them.
What Can You Do?

- Omega 3 PUFA can be bought without a prescription at any health food store.

- We are giving our adults 3 grams per day.
What Can You Do?

- The only known side effects are diarrhea and bruising/bleeding.

- The effects take more than a month to occur.
What Can You Do?

- **Crucial:** You want DHA, not EPA.

- **Many preparations contain both.**
  - EPA: Eicosapentaenoic Acid
  - DHA: Docosahexaenoic Acid
The EpLink CBD Trial

- A second trial will begin next summer.

- It will be a test of “medical marijuana” for seizure control.
The EpLink CBD Trial

- It has been known for thousands of years that cannabis (marijuana) suppresses seizures.

- Unfortunately, it also makes you “high”.
The EpLink CBD Trial

- There are two major extracts from cannabis:
  - Tetrahydrocannabinol (THC) which stops seizures and makes you “high”.
  - Cannabidiol (CBD) which stops seizures but doesn’t make you “high”.
The EpLink CBD Trail

- EpLink is working with Tilray – a grower in BC – to start a trial of CBD in adults.

- We are currently working getting the necessary permissions from Ottawa.
The EpLink CBD Trial

- Adults will get either placebo, CBD or CBD with a little bit of THC (double blind).

- They will record their seizures in a seizure diary. The trial will last 3 months.
The EpLink CBD Trial

- We are hopeful. An adult trial in 1980 reported positive effects.

- An ongoing trial in children in the US is reporting positive results.
What Can You Do?

- CBD is already available in Canada under the “medical marijuana” regulations.

- A doctor must fill out a form. A patient can then get CBD from a grower.
What Can You Do?

- The dose we will be testing in adults will be about 1600 mg per day. (about 1.5 grams).

- The side-effects are unknown, but probably involve some sleepiness.
What Can You Do?

- Details of how to obtain and use CBD can be obtained from a variety of contracts.

- Ask me if you’re interested.
What Can You Do?

- Crucial: You would want to use a cannabis strain high in CBD.
- Not THC.
QUESTIONS?