



erc
epilepsy RESOURCE CONNECTION

arc-sedgwickcounty.org/erc.html

hotline

New Study Into Genetic Problems and Epilepsy in Children

New research has suggested why mutation in a single gene can cause epilepsy in children.

The new study, from the Howard Florey Institute in Australia, suggests that children are more susceptible to seizures because their brains are developing at a rapid rate, making their brain cells 'excitable'. Their neurons are growing and making new connections with other nerve cells, which can disrupt normal brain activity and results in epilepsy.

Children have protective mechanisms in their brains to control this excitability, but now scientists have uncovered that a single gene mutation prevents a specific ion channel (present in membranes around the cells) from functioning correctly, causing excitability which results in epilepsy.

Dr Steven Petrou and his team were aware that this genetic mutation existed, but did not know its impact on brain function or that it may control excitability in children's brains.

According to Dr Petrou, potential new avenues of research may emerge from this study. He said:

"This discovery is helping us to understand how and why this form of epilepsy, known as benign familial neonatal-infantile seizures, appears in these infants.

"Interestingly, we also found that the ion channel which carries the mutation is itself naturally protective as it limits excitability in the child's brain by waiting to fully 'switch on' only in the adult brain. The mutation accelerates this normally delayed development change, leaving the susceptible child brain with an overly excitable channel and epilepsy. If this switch to a more excitable state occurs too early during brain development, it is possible that epilepsy and other neurological disorders develop.

This research was recently published in the journal *Molecular and Cellular Neuroscience*. ✦ EPILEPSY ACTION

Generic Versions of Trileptal Approved



The U.S. FDA approved the first generic versions of the anticonvulsant drug Trileptal (oxcarbazepine) on Oct. 9. This generic is FDA-approved for use alone or in combination with other medications in the treatment of partial seizures in adults and children aged four years and above.

"FDA requires generic drugs to have the same quality, strength, purity and stability as

brand-name drugs," said Gary J. Buehler, director of FDA's Office of Generic Drugs. "The agency ensures that generic drugs are safe and effective, offering alternatives to Americans in choosing their prescription drugs."

Oxcarbazepine tablets in three strengths (150 mg, 300 mg, and 600 mg) are manufactured by Roxane Laboratories Inc., Glenmark Pharmaceuticals Limited, and Sun Pharmaceutical Industries Limited.

The labeling of the generic products may differ from that of Trileptal because parts of the Trileptal labeling are protected by patents and/or exclusivity. ✦ EPILEPSY FOUNDATION

125 Attend Brain Storms Educational Conference

Epilepsy Resource Connection, in partnership with the WSU Center for Community Support & Research, hosted ERC's second annual epilepsy conference "Brain Storms: Bringing Epilepsy Stigma Out of the Shadows" on Saturday, Nov. 10 at WSU's Hughes Metroplex in Wichita. 125 persons—primarily epilepsy patients, caregivers, and family members—as well as health professionals attended the conference. The only educational patient-oriented epilepsy conference held in Kansas during 2007, the day was focused on overcoming the stigma people with epilepsy face on a daily basis because of society's intolerance.

In addition to overcoming stigma, workshops encompassed the important issues of epilepsy and employment, epilepsy in women, childhood epilepsy, support groups, and depression.



BRAIN STORMS:
Bringing Epilepsy Stigma out of the Shadows

"I am an epileptic and I learned more from this seminar than I ever knew." —conference attendee

The conference drew attendees from as far north as Kansas City, and as far west as Moscow, KS.

We were again able to again keep this educational event free for our attendees. This was made possible only through the generosity of our sponsors and supporters, including: UCB Pharma, Wichita State University Center for Community Support & Research, Abbott Labs, Anita Kaufmann Foundation, Via Christi Wichita Health Network, Via Christi Comprehensive Epilepsy Center, VNS Therapy - Cyberonics, Inc., and Marriott's Courtyard at Old Town.

Each story makes a difference. The advocates that shared their stories at the conference are making a difference for the epilepsy community. Do you have a story to tell? Consider being an advocate at our 2008 Brain Storms Conference. If you have been affected by epilepsy as a patient, caregiver, family member or friend.... Then your story needs to be heard by others. If you'd like to be considered for a presenter at our 2008 Brain Storms Conference, complete the Advocacy Reply Form and return it to Epilepsy Resource Connection

The Brain Storms 2008 Committee is forming and we need your help. For more information about helping with our 2008 event, or sponsorship opportunities call Matthew at (316) 943-2453.



**Anita Kaufmann
FOUNDATION**



Epilepsy Genes May "Cancel Each Other"

New research suggests that inheriting two genetic mutations that can individually cause epilepsy might actually reduce the number of seizures.

The study, by researchers from Baylor College of Medicine, has been published in the journal *Nature Neuroscience*.

Lead author Dr Jeffrey Noebels found that if someone has a potassium channel defect, then a drug blocking certain calcium channels might benefit them. The researchers tested this hypothesis by breeding mice with two defective genes that govern ion channels, tiny pores in cells that allow molecules such as potassium and calcium to flow in and out. The genes were known to cause epilepsy when inherited singly within families. They have also been found in a large-scale screening of people with seizure disorders that have not been inherited.

One genetic defect is a mutation in the *Kcna1* gene involved in the channel that allows potassium to flow in and out of the cell. It causes severe seizures affecting the brain's temporal lobe. The other mutation is in a calcium channel gene that causes a specific type of seizure associated with absence epilepsy. When both types of mutation occurred in the same young mouse, that animal had dramatically reduced seizures.

Dr Noebels commented: "Rather than screening for 'bad' genes one at a time, it may be essential to create a complete profile of many or even all genes in order to accurately assess the true genetic risk of any single defect in many common disorders such as epilepsy. Fortunately, this amount of background information will soon become routinely obtainable in individual patients thanks to rapid technological progress in the field of neurogenomics." ✧ EPILEPSY ACTION

Adult Epilepsy Support Group

Meets Second Tuesday of Month,
6:30 PM @ 2919 W. 2nd Street, Wichita

December 11th: *Lights TOUR*

January 8th: *"Advocating For Yourself"*

Epilepsy Quality of Life Study Published

A study of how having epilepsy can affect someone's daily life has been published in the journal *Epilepsia*.

The data for the study came from the 2003 California Health Interview Survey, the largest state health survey in the USA. The study found that almost 300,000 adults in the state (1.2% of the total population) had a self-reported history of epilepsy, while 182,000 (0.7%) were living with active epilepsy - either taking medication or experiencing at least one seizure within the past 3 months.

36% of adults living with active epilepsy reported being physically disabled or unable to work, compared to just five per cent of adults without epilepsy. Adults with recent seizures reported between nine and 12 days in the past month of impaired physical or mental health, or days when their daily activities were limited, compared to only two to four days for those without the condition.

People with epilepsy were more likely to be unemployed, and to live in lower-income households. Among adults with active epilepsy who had had a seizure within the past three months, about one-quarter reported not taking any medication for their disorder.

The authors conclude that as with other chronic diseases, epilepsy takes a toll on physical and mental health, including interfering with daily activities. Because the findings show that people with epilepsy have unmet physical and mental health needs, healthcare providers and policy makers may propose interventions such as improved access to mental health care, job training and self-management programs to improve health outcomes in people with epilepsy. ✧ EPILEPSY ACTION

Support the VA Epilepsy Centers Act

The VA Epilepsy Centers of Excellence Act of 2007, sponsored by Senators Patty Murray (D-WA) and Larry Craig (R-ID), along with its companion in the House, HR 2818, would create a national network of centers that focus specifically on the research, treatment and care of veterans suffering from epilepsy.

The problem is particularly acute given the growing rates of Traumatic Brain Injury (TBI) among military personnel in Iraq and Afghanistan. Past studies from the Vietnam War show that more than 50% of service-related TBI develops into epilepsy within 1-15 years.

You are encouraged to contact Senators Roberts and Brownback to urge them to cosponsor S 2004. Introduced on August 3, the bill currently has three cosponsors; the House companion, HR 2818, has been cosponsored by nearly 100 Representatives.

✧ EPILEPSY FOUNDATION

❄❄❄ ERC'S ❄❄❄

Holiday Lights

TOUR

December 11, 2007

❄ 6:00 pm ❄

We will depart from ERC (2919 W. Second)

Join us for a tour of area Christmas lights.

Registration is required.

To register call (316) 943-2453.



Nov. 30 – Dec. 27

Douglas & St. Paul

Sun - Thurs: 6:00 - 9:00 pm

Fri - Sat: 6:00 - 10:00 pm

Dec. 24: 6:00 - Midnight

The Arc of Sedgwick County
2919 West Second Street
Wichita, Kansas 67203

Visit the

Lights on St. Paul

"Wichita's Best Lights" —Wichita Register

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