



Serving Persons
Affected by Epilepsy

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hotline

Concern with Valproate Use as First-Line Therapy in Women of Childbearing Age

In utero exposure to the antiepileptic drug (AED) valproate poses a much higher risk of fetal death and serious birth defects than the 3 other most commonly used AEDs, a new study has found. This most recent study, published in the August 8 issue of *Neurology*, adds to a rapidly growing body of knowledge that valproate has a much higher rate of major congenital abnormalities, fetal death, and possibly even cognitive and behavioral defects, causing the study authors to caution physicians when prescribing the drug in women of child-bearing potential.

The study's principal investigator, Kimford Meador, MD, from the University of Florida in Gainesville suggests that valproate should not be used as a first-line choice in women of childbearing age. However, he noted, this does not mean valproate, which is a highly efficacious medication for both generalized and partial seizures, should never be used in this patient population. Rather, he said, physicians must balance the risk of AED teratogenesis against potentially grave risks posed by seizures to both the mother and the child. "If other drugs aren't controlling the seizures, valproate may be the best choice. But I don't think using it first makes much sense when you consider all of the evidence. It's pretty clear that valproate has an increased risk above and beyond any of the other AEDs," said Dr. Meador. Furthermore, he said, because valproate's in utero effect is dose dependent, the dose should be limited if possible. "There is less risk with lower doses. When you reach 1000 mg or more the risk really escalates."

The Neurodevelopmental Effects of Antiepileptic Drugs (NEAD) study was originally designed to assess whether monotherapy with valproate, carbamazepine, lamotrigine, or phenytoin was associated with long-term cognitive and behavioral neurodevelopmental effects. However, as researchers began to track fetal outcomes, it became clear there was a high rate of serious adverse events, including major congenital abnormalities and fetal death associated with in utero exposure to valproate.

The NEAD study is an ongoing prospective observational study that includes 25 epilepsy centers in the U.S. and the U.K.. From October 1999 to February 2004, pregnant women with epilepsy who were on monotherapy with 1 of the 4 agents were enrolled. A total of 323 women and 333 children were included in the final analysis of the current report. The Via Christi Comprehensive Epilepsy Center in Wichita, Kansas is one of the research centers involved in this study.

The researchers found that 1 in 5 children whose mothers were taking valproate had serious adverse outcomes. Marc Nuwer, MD, PhD, from the Reed Neurological Center at UCLA, who was not involved in the study, said he found the 20% serious adverse-event rate for valproate reported by the NEAD study surprising and concerning.

These rates were scary because not only were they more numerous, they were also the most severe types — including cardiac, and pulmonary defects. No one else has reported rates so high. Even the phenytoin and carbamazepine rates were higher than expected based on other, previous reports. In addition to serious anatomical defects, said Dr. Meador, there have been 3 studies that have also suggested valproate carries a greater risk of cognitive deficits than other AEDs.

Continued on back: see **Valproate**

ERC Family Camp Day

ERC's 2006 Family Camp Day was held Sunday, August 6th at Camp Hiawatha in Wichita. 46 campers, including 24 children, attended. Camp offers families the chance to meet other families and build support networks. When they were not visiting, the families enjoyed swimming, games, horseback riding and playing in moonwalks.

Keith Trevolt, ARNP of the Via Christi Epilepsy Center kicked off the afternoon with a great presentation on epilepsy and concluded with time to answer questions. We appreciate Keith for volunteering his time to help our families.



Two of the families in attendance (the Atkesons & Pattons) were celebrating August wedding anniversaries, prompting Dana Patton to bring a cake for all to enjoy.

Bob and Nancy Templin of the Burning Sage Ranch, brought their horses out for campers to ride. Many indicated that the horses were their favorite part of the day. Thank you Bob & Nancy!

Thanks to our other volunteers that made the day possible: Marty Rothwell (of The Arc) and Anita Ragahavan. Dan Atkeson, a firefighter, brought out a miniature fire engine to give our kids rides. Thanks Dan! A BBQ Cookout concluded the afternoon. Each child attending was able to take home a new school supply prize. Special thanks to the **Wichita Southeast Optimist Club** for their financial sponsorship of camp. Their support keeps our camp affordable for our families and allowed us to provide the kids' school supplies.



Wichita SE
Optimist Club

- 1 Keith Trevolt consulting with campers.
- 2 Kids enjoying the moonwalk and slide.



Drug Compliance Tips

Ask your doctor to review your dosing schedule. Try to revise it to the simplest regimen with the fewest number of doses to remember. Then you will have fewer opportunities to forget a dose.

Organize your medication in a box that you can fill once a week. This is the simplest, most effective, least expensive way to manage your medicines independently. If the pills are still in the box, you forgot to take them. You learn your lesson immediately and privately (no lectures from family).

Teach yourself some cues that will help you remember dose times. These could be clock times (for instance, 7 AM and 7 PM), meal times, or daily rituals like shaving or fixing your hair. Change the cues if they don't work. Take extra precautions when your schedule changes (such as on weekends, vacations, and special events) so you don't miss doses. ↵



Exercise May Have Neuroprotective Effect

Exercise helps maintain brain structure and function with aging and may delay onset of Alzheimer's disease and other dementias, according to a review presented at the 114th annual convention of the American Psychological Association.

"There is a diverse body of evidence from retrospective and prospective clinical studies, as well as from animal research, all of which suggests that exercise has beneficial effects from middle age to old age," according to Arthur F. Kramer, PhD, a neuroscience and psychology professor, University of Illinois.

"Exercise has neuroprotective effects enabling higher levels of cognition and delaying the onset of various forms of dementia such as Alzheimer's disease in prospective epidemiological studies," Dr. Kramer continued. "It also has positive effects on brain structure and function, both from human research with magnetic resonance imaging (MRI), functional MRI, and event-related potentials, and especially from the animal literature showing proliferation of active capillary beds, new dendritic connections, and even new neurons in selective areas such as the hippocampus."

"Clinical data showed people who exercise several times per week show a reduced rate of cognitive decline with age [compared with] those who have low levels of activity," said Carl Cotman, PhD, director of the Institute for Brain Aging at the University of California, Irvine. "The best evidence, though, comes from animal studies, where it has been established that voluntary running increases neuroprotective molecules in the brain, such as brain-derived neurotrophic factor (BDNF), and also reduces the accumulation of molecules associated with Alzheimer's disease, such as beta-amyloid."

Clinical trials also suggest a relationship between fitness training and improved cognition, more efficient brain function, and prevention of brain atrophy in the elderly. The review showed a significant protective effect of physical activity on cognitive function and on decreased incidence of dementia, with the benefits lasting up to several decades. A few studies showed that exercise lasting at least 15 to 30 minutes, 3 times weekly, reduced the probability of developing Alzheimer's disease, even in subjects who were genetically predisposed.

Aerobic exercise appears to confer more positive effects on brain function with aging than do other forms of exercise, or the need for increased cognitive control. Aerobic exercise also appears to help the brain maintain its plasticity.

Both young and aged animals benefited from exercise, as reflected in increases in nerve growth factor levels that can offset or prevent certain age-related diseases.

Currently seniors are the most rapidly growing population group with epilepsy; it affects about 300,000 seniors nationwide. Epilepsy is as likely to begin in the sixties, seventies and eighties as it is during the first ten years of life. Typical causes of epilepsy in the elderly include Alzheimer's and after-effects of stroke, tumor, or cardiovascular events. Might these new findings on the neuroprotective abilities of exercise help to reverse this trend? Only time will tell.



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Adult Epilepsy Support Group

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

Sept 12th: "Medication Compliance"
Oct. 10th: "Coping with Stigma"

Valproate (Continued from front)

Dr. Meador said preliminary long-term results from the NEAD study of the effects of AEDs on behavior and cognition are expected within the next year.

"What's really overwhelming about this finding is not our single study per se, but the sheer volume of evidence [linking valproate to adverse outcomes in infants], all of which has emerged just in the past 2 years," said Dr. Meador.


This onslaught of research has left many physicians — particularly those in primary care — in the dark about the potential detrimental effects of AEDs in general and valproate in particular among women of childbearing potential.

Since all of this work has been published in specialty journals, so it is unlikely that primary care physicians are getting the message. General practitioners and internists often do a poor job of counseling epileptic patients — not only about teratogenicity but other important issues. This problem is compounded as valproate is used not only to control seizures but also for migraine and some mood disorders. It is widely used. The word needs to get out that the drug has a 10% to 20% risk of birth defects. This is a clinically important piece of evidence that physicians need to know about.

Dr. Meador noted that although this is a very important clinical issue, doctors and their patients must keep in mind that the vast majority of women with epilepsy have no adverse effects.

Dr. Kore Liow, Director of the Via Christi Comprehensive Epilepsy Center (VCCEC) in Wichita said, "Doctors and mothers should know their options when considering taking seizure medications during pregnancy. Women with epilepsy who have become pregnant should never stop taking their seizure medications without speaking with their doctors."

It is important for women to have their seizures under control during pregnancy to protect themselves and their babies. As VCCEC is currently conducting studies on this topic, we will be pleased to work with doctors and mothers with epilepsy to see that they get the best care for their babies during pregnancy."

According to Dr. Meador, "Even when you consider the entire body of evidence related to the potential adverse effects of AEDs, including valproate, the truth is most babies are perfectly normal. All we're trying to do is make sure more of them have favorable outcomes." 



and



host a monthly info session on
VNS Therapy®

11:30 - 12:30

Third Wednesday of the month

Lunch is served. **RSVP is required to attend.**
(316) 268-8562

848 N. St. Francis, Wichita



For more information about the

Via Christi Comprehensive Epilepsy Center:

www.via-christi.org/epilepsy



Attention: Self Advocates, Community Advocates, & Friends

The Advocates in Communities Team (ACT of South Central Kansas) is partnering with the Shooting Star's Self Advocates of Sedgwick County to offer a

Voter Registration and Education Night...

Tuesday, September 12th

7:00 PM @

**Orchard Park Recreation Center
(4800 West 9th Street)**

Election Commissioner Bill Gale will be on hand to explain the voting process and will have a voting machine that you can learn to use. There will also be volunteers assisting with Voter Registration. Whether you're a first time voter or if you're a voting pro, come and find out how changes in 2006 might affect you.

Do you know where to Vote?

Are you registered to vote?

Have you moved and need to up-date your information?

Do you know how to do advanced voting or voting by mail?

Invite friends & family and join us at Orchard Park on September 12th at 7:00 PM

Step Up... Speak Out... and VOTE!

