

### **LEVETIRACETAM SHOWN TO REDUCE SEIZURE FREQUENCY WHILE IMPROVING QUALITY OF LIFE**

A study conducted by physicians at the University of California, Davis Medical Center's Comprehensive Epilepsy Program. It was published in the October issue of *Epilepsy and Behavior* is the first to report that levetiracetam (LEV), an antiepileptic drug usually prescribed as an adjunctive treatment, may be just as effective as a single drug.

In the study's first group, which was comprised of 37 patients who had epilepsy for more than 12 years, LEV was the first source of treatment for nine patients. Among these nine patients, seven continued the treatment for the full 6-month study period; three patients reduced seizures by at least 75% while four became seizure free.

Almost 80% of the 28 individuals (all with refractory seizures) who switched to LEV reduced seizure frequency by at least 50%. One third (9.3%) of the 28 patients were seizure free by the study's conclusion.

According to nurse practitioner and co-author Katy Thieman, LEV-treated patients reported fewer adverse effects. But those that were reported included, grogginess, poor cognition and memory loss. Lead author Taoufik M. Alsaadi, MD, assistant professor of neurology and codirector of the UC Davis Comprehensive Epilepsy Program, notes that monotherapy is usually more successful because patients can better adhere to the treatment course when compared with combination therapies. He also stresses the need for a larger, double-blind study to confirm his findings.

### **STROKE SYMPTOMS DIFFER FROM SEX TO SEX**

When attempting to diagnose and treat stroke, emergency response personnel and emergency department physicians often use a patient's description and the traditional symptom catalogue. However, female stroke symptoms may be overlooked during triage, which can possibly lead to long-term complications and morbidity.

Researchers at the University of Michigan Health System, in Ann Arbor and the University of Texas at Houston have published a report whose data marks how stroke symptoms between the sexes and the subsequent treatment differ. The study, published in the November issue of the *Annals of Emergency Medicine* and co-authored by Lewis Morgenstern, MD, concluded that women were 62% more likely than men to describe sensations not included in stroke symptom criteria.

Morgenstern and colleagues' TLL Temple Foundation Stroke Project is a prospective observational study of acute stroke management (phase I and II) that included 1,189 stroke victims in 20 hospitals across East Texas between February 1998 and March 2000. Interview data for 94% (1,125 [467 men, 658 women]) of the subjects were available, and a blinded-to-sex physician categorized the reported symptoms into the traditional (sudden changes in motor function, speech, vision, etc.) and nontraditional (headache, face and limb pain, hiccups, nausea, etc.).

The methods and instruments used to gather and analyze

data included computed tomography, discharge *International Classification of Diseases, Ninth Edition*, codes (430–438), active screening of all emergency department and hospital admission logs with published stroke-screening terms, Breslow-Day and Mantel-Haenszel tests, and  $\chi^2$  tests.

The results, according to lead author Lise Labiche, MD, a stroke fellow at the UT Health Science Center in Houston, indicated that 28% of women reported nontraditional symptoms versus 19% of men. The symptoms more frequently reported by females included chest pains, shortness of breath, headache, and change in consciousness. However, there was no sex differences in speech problems, vertigo, facial muscle problems, etc. Women's symptoms were not only less traditional but also less specific, states Morgenstern, which inhibits a clear-cut diagnosis to maximize treatment.

Labiche and colleagues hope for a prospective study designed to investigate the stroke symptoms in both sexes, which could possibly lead to amending the list of stroke symptoms.

### **DIETARY INTAKE OF VITAMIN E MAY LEAD TO RISK REDUCTION OF PARKINSON'S DISEASE**

Citing cell degradation associated with the development of Parkinson's disease, researchers from three Boston medical centers have published the results of a study linking dietary intake of vitamin E with reduced risk of the disorder. The paper appeared in the October 22 issue of *Neurology*.

Shumin Zhang, MD, ScD, and colleagues from the Harvard School of Public Health, Brigham and Women's Hospital, and Harvard Medical School culled repeated and validated dietary assessments from two large, long-term studies. From the Nurses' Health Study (76,890 women) and Professionals Follow-Up Study (47,331 men), the researchers compiled 371 cases of Parkinson's disease (161 women, 210 men). In the former investigation, subjects were followed for 14 years; in the latter, for 12 years.

After assessing the data from each study, which included questionnaires covering dietary and supplement intake, medical history, and health-related behaviors, researchers calculated the pooled multivariate relative risk (RR). The RR comparing individuals in the highest quintile with subjects in the lowest quintile was 0.68 (95% CI, 0.49–0.93). Zhang and colleagues also observed that consumption of nuts was also linked with a risk reduction of Parkinson's disease (for  $\geq 5$ /week versus  $< 1$ /month, pooled RR=0.57; 95% CI, 0.34–0.95). However, the use of vitamin supplements was not shown to lower a patient's risk of Parkinson's disease. Zhang also notes that the cohorts from the studies are a self-selected group who may have healthier diets and lifestyles than most Americans.

### **COILS LOWER MORTALITY AND DISABILITY FROM BRAIN ANEURYSMS**

According to an article published in the October 26 issue of *The Lancet*, initial data from a long-term study

suggests that coils placed into burst aneurysms lower the incidence of patient death and disability by 25%.

The International Subarachnoid Aneurysm Trial (ISAT) was led by Kieran Murphy, MD, associate professor of interventional radiology at the Johns Hopkins Medical Institutes. It was “ended ahead of schedule” due to overwhelmingly favorable results.

The ISAT examined 2,143 patients at 44 medical centers in Australia, Europe, and North America whose aneurysms were suitable for surgical clipping or coiling. There were 1,073 randomly chose subjects in the coils group, while 1,070 were placed in the surgical clipping group.

Murphy, who likens aneurysms to ticking tim bombs and coil to miniature slinkies, says that the coils help repair damage by stopping the bleeding. Furthermore, the procedure, which is less invasive than surgical clipping, can prevent aneurysms.

Murphy and colleagues expect follow-up studies of the ISAT cohort in order to establish the long-term efficacy of the coils.

#### **ANTIPILEPTICS MAY INDUCE SEIZURES**

Richard Miles, MD, and colleagues of the Universite Paris VI have published results in the November 15th issue of *Science* that claim some antiepileptic medication may actually cause seizures.

The researchers studied a fingernail-sized slice of the hippocampus of 30 chronically epileptic patients undergoing temporal lobe surgery. When the samples had electrodes placed into the tissue, the cells spontaneously generated electrical activity resembling that seen in the same 30 patients' brain waves, according to Miles. The researchers then examined the inhibitor  $\gamma$ -aminobutyric acid (GABA), which is often a target of antiepileptics. They were surprised to see GABA excite and not inhibit 20% of cells traveling from the hypothalamus. In this regard, says University of Münster in Germany neurobiologist Ruediger Koehling, MD, “one could indeed speculate that GABAergic drugs under certain circumstances might enhance such depolarizing and excitatory actions, and hence support or trigger seizures.” Koehling also cited studies with similar findings, including the Elger and colleagues 1998 report in *Epilepsia* and 1996's Schapel and Chadwick study published in *Seizure*. It should be noted, however, that Miles and colleagues did not test any epileptic drugs for their research. **CNS**

—CNS News is compiled and written by José Ralat

#### **REQUEST FOR APPLICATIONS**

**National Institute of Mental Health (NIMH),  
National Institute of Drug Abuse (NIDA)—**

**Exploratory/Development Translational Grants  
for Borderline Personality Disorder (BPD)**

The NIMH and NIDA are requesting applications for research borderline personality disorder. The institutes have extended their translational research initiatives, inviting exploratory/developmental R21 applications for new, innovative translations of basic science theories, methods and findings to clinical research, the disorder's features, and its relationship to co-occurring disorders (eg, depression, posttraumatic stress disorder, and drug dependence). Research areas include but are not limited to:

- The application of taxonomic science to BPD to explore the possibility of subtypes of BPD and shared and distinct biological, development, clinical, and social factors;
- The use of measurement theory and behavioral science to develop accurate, ongoing measures of one or more of the core features of BPD (eg, instability in concept of self);
- Studies that attempt to find define more precisely the relevant temperament and other biobehavioral dimensions relevant to BPD, specify which combinations of dimensional characteristics may contribute to subtypes, severity, or risks for disorder;
- The use of item-response theory to develop items measuring the latent constructs of BPD that are not influenced by sex, socioeconomic status, and culture/ethnicity; and thus reflect pure expressions;
- The translation of new basic science findings into a new treatment model or procedure, and the development and preliminary testing of this approach. NIDA's focus in the spectrum of areas for such new, science-based treatment models and procedures is on comorbid BPD and drug abuse.

Applications are due by February 12, 2003 and may be submitted by domestic (United States) and foreign institutions, for-profit and nonprofit, public and private. For more detailed information, please visit the NIH on the Internet at: [www.grants1.nih.gov/grants/guide/rfa-files/RFA-MH-03-001.html](http://www.grants1.nih.gov/grants/guide/rfa-files/RFA-MH-03-001.html).