

Welcome to this issue of the PADRECC eCommunique from the Michael E. DeBakey VA Medical Center in Houston, Texas. This is our way of communicating with you about recent findings in the science, care and treatment for Parkinson's disease.

**PADRECC March 2004 - In This Issue:**

*Links to Genes and Toxins*  
*B-Toxin for Sialorrhea*  
*Pallidotomy vs. STN*  
*The Pull Test*  
*Tai Chi and Balance Training*  
*Onset and Progression of PD*  
*PD and the Expressive Mask*  
*Dr. Yahr Dies*  
*Brain Awareness Week*  
*Meet the Houston PADRECC Veterans*  
*DBS Ongoing Enrollment*

#### **PD Research Focuses on Links to Toxins and Genes**

Researchers have known that the loss of dopamine in the substantia nigra caused PD symptoms and that the chemical, MPTP, also caused rigidity and slowness and was toxic to mitochondria in the cell. Two pesticide and herbicide agents, rotenone and paraquat, were found to cause mitochondria malfunctions in rats. These mitochondria "power failures" expose free radicals that can corrode proteins in the cell and damage DNA. Two genes appear to affect protein management, one is involved in creating a protein called alpha-synuclein and the other in tidying up excess or damaged copies of genes. Mutations to alpha-synuclein misfile protein so that it clumps in the cell, changes the disposal system, and may lead to cell death. Damage by toxins to alpha-synuclein looks quite similar to certain genetic mutations and may provide important information for understanding neuronal death and the links between genetic and environmental causes for PD. [Carroll, *New York Times*, Feb.12,2004]

#### **Botulinum Toxin B for Sialorrhea in PD**

There is reason to suspect that Botulinum Toxin B may improve sialorrhea. Sixteen PD patients with sialorrhea were randomized to receive either botulinum toxin B injected into the parotid and submandibular glands or a pH-matched placebo using only anatomic landmarks. Compared with placebo, those receiving the drug reported improvement on two assessments of drooling plus the Visual Analogue Scale and global impressions of change. No change was noted in the UPDRS and head posture. Adverse events were mild and dysphagia was not compromised. [Ondo et al. *NEJM*, Jan. 13, 2004;62(1): 37-40].

### **Unilateral Pallidotomy vs. Bilateral STN Stimulation**

Thirty-four patients in the Netherlands with advanced PD were randomly assigned to have unilateral pallidotomy or bilateral subthalamic nucleus stimulation (STN). The primary outcome was the change in baseline to 6 months in the motor UPDRS in the off phase. Secondary outcomes included symptoms in the on phase, dyskinesias, functional status, PD Quality of Life, changes in drug treatment, and adverse effects. Results indicated that the bilateral STN stimulation was more effective than unilateral pallidotomy in reducing symptoms in patients with advanced PD. [Esselink et al. *Neurology* 2004;62:201-207].

### **The Pull Test Technique in Assessing Postural Stability in PD**

Variability in pull test (PT) performance can lead to inadequate evaluation of postural instability in patients with PD. Assessing 66 PTs by 25 examiners (videotaped recordings), at least two of four raters agreed that specific items were performed incorrectly: stance (27%), strength and briskness of pull (85%), examiner's response (36%), and technique issues (9%). This study is important for personnel participating in clinical trials particularly when monitoring progression of disease or therapies having an impact on axial symptoms. [Munhoz et al. *Neurology* 2004; 62:125-127].

### **Tai Chi and Computerized Balance Training in the Older Adult**

A randomized, controlled trial looked at the effects of tai chi (TC), computerized balanced training, and education in 200 subjects over the age of 70. Based on psychosocial and biomedical indices of frailty, a moderate TC intervention impacted favorably on fear of falling and actual falling episodes even after controlling for fall risk factors. TC warrants further study as an exercise treatment for older adults.

[Wolf et al. *J Am Geriatrics Society*, Dec., 2003; 51(12): 1794-803].

### **Onset and Progression of PD in Familial and Sporadic Cases**

A recent study in Israel suggests that the course of PD patients with and without genetic background might be different (n=240). Patients with young onset who reported another PD family member were tested for parkin mutations. For patients with a family history of PD, the age of onset of PD was younger but motor and mental change had a less steep decline. [Inzelberg et al., *Am J Med Genet*, Jan 30, 2004, 124A(3): 255-8].

### **PD and the Expressive Mask**

Novice practitioners, as compared with experienced professionals, appeared to be overly sensitive to the expressive mask in PD when forming impressions about a patient's character. Novices incorrectly perceived patients with more masking as being less extraverted and more neurotic; both groups perceived the patients as less agreeable. Clinicians need to exert extra caution in drawing inferences about the personality of PD persons. [Tinkle-Degnen & Lyons, *Social Science & Medicine*, 2004, 58: 603-614].

### **Dr. Melvin D. Yahr, Expert in Treatment of PD, Dies**

Dr. Yahr, whose groundbreaking study of the amino acid L-dopa in the late 60's helped establish it as a leading treatment for PD, died in Jan. 1 at the age of 86. Dr. Yahr helped devise the Hoehn-Yahr Scale, which breaks PD into five stages and is now routinely used by doctors to determine the severity of a case. He also documented the natural progression of PD in untreated patients. [O'Connor, *New York Times*, Jan. 9, 2004].

### **Brain Awareness Week is Approaching**

Across the world, members of the Society for Neuroscience (SfN) are preparing for Brain Awareness Week (BAW), Mar. 15-21, 2004, to educate the public about neuroscience. Visit <http://www.sfn.org/baw> for more information and details on how to order the free BAW Resource kits. SfN members have access to CapWhiz, an online legislation action center. <http://www.sfn.org/legalert> . [Nexus - e-newsletter of the SfN Feb. 2004].

### **Meet the Veterans at the Houston PADRECC**

Since its inception in 2001, the Houston PADRECC has evaluated 650 veterans at the Michael E. DeBakey VA MC. Patients seen include those with Parkinson's disease (58%), parkinsonism (8%), essential tremor (14%), atypical tremor (7%), and other related movement disorders (13%). The PADRECC patient population is approximately 97% male; the ethnic composition is 82% Caucasian, 11% African American, 6% Hispanic/Latino, less than 1% Asian/Pacific Islander, and less than 1% Native American. The mean age at initial visit is 70 years (range: 27-92 yrs). Approximately 96% of PADRECC patients come from within Texas, with the remainder from LA, MS, OK, KS, AL, AR, HI, MN, NM, and NY.

### **DBS Ongoing Enrollment**

The Houston PADRECC screened 30 patients in Protocol CSP #468 for Deep Brain Stimulation (DBS) during this past year. Currently 19 patients are enrolled and 16 have undergone the surgical procedure. Two patients are presently receiving the best medical therapy. Qualified patients are still being considered for the study. For any questions about the study and the suitability of patients, please contact Linda Fincher, RN, PADRECC Asst. Clinical Director at [Linda.fincher@med.va.gov](mailto:Linda.fincher@med.va.gov) or 713.794-7842.

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