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**Effect of Entacapone on Homocysteine Levels in PD**

Elevated plasma homocysteine (Hcy) has been reported in patients with PD who were treated with levodopa (LD) and may also be a risk factor in patients with vascular disease and dementia. Animal studies have revealed that pretreatment with a catechol-O-methyltransferase (COMT) inhibitor, such as entacapone, can block the increase of Hcy when LD is given. This Stalevo (carbidopa/levodopa/entacapone) study examined 33 subjects who had plasma Hcy levels measured at baseline and repeated after entacapone treatment. No correlation was found between plasma Hcy levels and baseline LD dosage or duration of LD therapy. Similarly, no correlation was found when comparing Hcy levels before and after treatment with entacapone. One possible explanation of the differences in the animal studies and that of the Stalevo study is that the animal dosages of LD and entacapone were much higher. *Ostrem et al. in Neurology 2005; 64: 1482.* *Senior author of this study is Jeff Bronstein, MD, PhD, Director of the West Los Angeles (Southwest) PADRECC*

**Neuronal Progenitor Cells Transplanted to the Adult Hippocampus**

Neuronal progenitor cells (NPCs) residing in the adult subependymal zone (SEZ) are a potential source of expandable cells for autologous transplantation to replace neurons lost in multiple types of brain injury. To characterize the capacity of these cells for neuronal differentiation in a mature ectopic environment, NPCs expanded from the SEZ of adult rats were transplanted to the adult dentate gyrus. In grafts of undifferentiated cells, as well as in grafts of cells that were induced to differentiate in vitro with retinoic acid, 35% of the transplanted SEZ-derived cells exhibited immunohistochemical and morphological features characteristic of hippocampal granule cell neurons. These novel results indicate that in vitro expanded adult SEZ NPCs are capable of heterotypic neuronal differentiation in a neurogenic region of the adult brain. *Molecular and Cellular Neuroscience, Vol. 28 (4), April 2005, 674-682.* *Co-authors Kathryn Holloway, MD and Helen Fillmore, MD are physicians at the Richmond (Southeast) PADRECC.*

**Rasagiline as an Adjunctive Treatment for PD Patients**

Once-daily rasagiline reduces daily periods of poor or absent motor function and improves Parkinson's symptoms in patients with motor fluctuations, an effect similar to that of therapy with entacapone. 687 patients were randomized to receive oral rasagiline (1 mg once daily), entacapone (200 mg with every levodopa dose) or placebo for 18 weeks. Eighty-eight patients did

not complete the study. Results indicated that both rasagiline and entacapone reduced periods of poor or absent motor function by more than one hour per day-almost three times more than the reduction seen with placebo-and increased periods of improved motor function, without raising the frequency of troublesome dyskinesia. Researchers also observed that treatment with rasagiline and entacapone was associated with mean improvements in Clinical Global Improvement scores and Unified Parkinson's Disease Rating Scale scores for activities of daily living and motor function when compared with placebo treatment.

*Clarke CE in The Lancet, 2005; 365:914-916; Rascol O, et al. in The Lancet, 2005; 365:947-954.*

<http://www.thelancet.com>

### **Cognitive Changes in PD**

Cognitive impairment in PD is usually described as subcortical-frontal in nature and changes consistent with diffuse cortical disease are also reported. A sample of 63 patients at the Philadelphia PADRECC was evaluated with the Hopkins Verbal Learning Test-Revised. Memory subgroups were unimpaired (n=30), impaired retrieval (n=22), and impaired coding (n=11). A majority of PD patients demonstrated memory impairment, which was categorized as either a primary retrieval or a primary encoding deficit. Further research is needed to determine the diagnostic, prognostic, and therapeutic significance of these findings. *Cogn Behav Neurol. 2004 Dec;17(4):195-200. First author of this study is Dan Weintraub, MD, psychiatrist at the Philadelphia PADRECC.*

[http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list\\_uids=15622014&query\\_hl=1](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15622014&query_hl=1)

### **Parkin Mutations and Early Onset PD**

Researchers from Italy, Turkey, Cuba, and Brazil have completed a multiethnic study of 46 probands with early-onset PD (45 yrs. or younger) to assess the frequency and nature of *parkin*/PARK2 gene mutations and to investigate phenotype-genotype relationships. Mutations were found in 33% of the indexes overall, and in 53% of those with family history compatible with autosomal recessive inheritance. The patients with *parkin* mutations showed significantly earlier onset than those without mutations. The study supports the importance of genetic testing in the diagnosis and evaluation of early onset PD.

<http://www3.interscience.wiley.com/cgi-bin/abstract/109855216/ABSTRACT>

### **PD Motor Complications and Quality of Life**

143 patients with PD who were experiencing motor complications were evaluated with the Hoehn and Yahr (H&Y) scale, and the motor part of the Unified Parkinson's Disease Rating Scale (UPDRS). Motor complications were analyzed using the UPDRS (Parts IV<sub>A</sub> and IV<sub>B</sub>) and the Abnormal Involuntary Movement Scale. Quality of Life (QoL) was measured by the Parkinson's Disease Quality of Life Questionnaire (PDQ-39). Motor complications, especially nocturnal akinesia and biphasic dyskinesias, worsened QoL as well as mobility, activities of daily living, stigma and communication. <http://www3.interscience.wiley.com/cgi-bin/abstract/109607126/ABSTRACT>

### **Falls and Injuries Among Patients with PD**

A sample size of 1,092 patients with PD was used to determine survey results asking about falls and injuries within the past 2 years. 56% were men, 12.5% had dementia, and 2.2% had atypical PD. The median age was 74 years and the median disease duration was 7 years. Almost 56% had at least one fall in the past 2 years. 65% had sustained an injury and 33% had sustained a fracture; 75.5% of injuries required health care services. Older age, atypical parkinsonism, longer disease duration, and dementia were risk factors for falling. Women and advancing age were

predictors of fractures. Further studies are needed to relate disease falls and injuries to disease progression and quality of life. <<http://www3.interscience.wiley.com/cgi-bin/abstract/109803310/ABSTRACT>>

### **Brief Notes from American Academy of Neurology (AAN) Annual Meeting**

#### ***Parkinson's disease (PD)***

- a. Men who were on active duty in WWII and Vietnam were twice as likely to develop PD as those who were in the military at the same time but were not deployed overseas.
- b. Taking ibuprofen, but not other nonsteroidal anti-inflammatory drugs (NSAIDs), reduced the risk of PD by about 40 percent in both men and women. The patients in the study were tracked for an average of 8.5 years.
- c. The known genes for PD accounts for a small percentage of cases. The AAN meeting described the gene LRRK2 as being responsible for possibly one percent of PD cases and at least six percent of inherited forms. For more complete LRRK 2 research findings:

*Lancet Neurology, Vol. 4(3), p. 142 and March '05 PADRECC eCommunique.*

#### ***Essential Tremor (ET)***

According to researchers, cognitive difficulties may also occur in ET. The risk for developing dementia was twice as high in people with ET as in those unaffected by the disease. ET has not previously been linked with an increase in dementia. ET affects approximately 10 million Americans.

#### **News... in a Minute**

► The direct link to the Parkinson's Mutation Database has been posted to the NIH/NINDS website page "Genetic Resources." This database, sponsored by Indiana University, plans to organize all mutations and nonpathogenic coding variations in the genes related to PD. Check this website for more information: <<http://mutpd.iu.edu/mutpd/mutpd>>

► *Neurology Now* is a new venture of the AAN who has partnered with Lippincott, Williams & Wilkins to bring high quality patient information about neurological diseases, prevention and treatment, cutting-edge research, and clinical trials. This information is free-of-charge to patients through their physician offices and by direct subscription.

<<http://www.neurologynow.com/pt/re/neuronow/home.htm;jsessionid=CX8qQcPBWC2Zg1rtBb5gBT9RLk7tYIpZydM22ASZ1HUwQ5iK9I2I!-806031158!-949856031!9001!-1>>

► A new computer mouse adapter filters out hand tremors and erratic movements - similar to the image stabilizing systems of some camera lenses. The adaptor plugs between a mouse and the computer and is designed to work with any PC without additional software.

<[http://domino.research.ibm.com/comm/pr.nsf/pages/news.20050314\\_mouseadapter.html](http://domino.research.ibm.com/comm/pr.nsf/pages/news.20050314_mouseadapter.html)>

#### **► Continuing Education Opportunities**

- a. Ethics in Managed Care (Available until 9/30/05). Sponsored by the Employee Education System (Birmingham) and the National Center for Ethics in Health Care. <[http://vaww.sites.lrn.va.gov/vacatalog/cu\\_detail.asp?id=19178](http://vaww.sites.lrn.va.gov/vacatalog/cu_detail.asp?id=19178)>
- b. The Movement Disorders Society (MDS) <<http://www.movementdisorders.org>>
  - 1) Practical Management of Motor Complications in PD.
  - 2) Management of PD: An Evidence-Based Review.
  - 3) Dystonia/Spasticity Workshops co-sponsored by AAN, MDS, and We Move.

► **Upcoming Events**

► **Feb. 22-26, 2006.** The World Parkinson Congress (WPC) will be held in Washington, DC.

The PADRECCs are an organizational sponsor. For more information:  
<<http://www.worldpdcongress.org>>

► **Oct. 29- Nov. 2, 2006.** 10th International Congress of Parkinson's Disease and Movement Disorders [ Kyota, Japan. Offered by The Movement Disorder Society.  
<http://www.movementdisorders.org>

► **June 3-7, 2007.** 11th International Congress of Parkinson's Disease and Movement Disorders Istanbul, Turkey. Offered by The Movement Disorder Society.  
<http://www.movementdisorders.org>

**The National PD Consortium**

**Mission statement:** *...to support the provision of optimal care and education for veteran patients diagnosed with Parkinson's disease and related movement disorders through advocacy, scientific inquiry and enhanced clinical expertise.*

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**Jeff Bronstein, MD, PhD (Co-Chairperson)**  
**Barry Cusack, MD (Co-Chairperson)**  
**Yuri Romaniuk (National Coordinator)**

**Website:** [www.vapdconsortium.org](http://www.vapdconsortium.org) <<http://www.vapdconsortium.org>>

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