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Parkinson's Gene Mutation Found in Patients of Ashkenazi Jewish Descent

Researchers have identified an important cause of familial and sporadic PD in patients of Ashkenazi Jewish descent. 120 persons with PD and 317 controls participated in the study. The gene mutation, G2019S in the leucine-rich repeat kinase 2 gene (LRRK2 gene), was detected in 18.3% with PD and in 1.3% of the control group. The mutation was found in 29.7% of the participants who had at least one affected first, second, or third degree relative with PD and in 13.3% with no family history of PD. There was no evidence in the literature that prevalence or familial aggregation of Parkinson's disease is increased in the Ashkenazi Jewish population as compared with non-Ashkenazi subjects; therefore, further study of this population is warranted. *N Engl J Med.* 2006 Jan 26;354(4):424-5.

<http://content.nejm.org/cgi/content/extract/354/4/424>

Deep Brain Stimulation Follow-Up Report

A large group of patients (n=100) who had received the subthalamic nucleus deep brain stimulation (STN DBS) demonstrated clinical improvement without any increase in mortality or morbidity. A subset of patients showed a 30 percent reduction in motor scores after STN DBS, a 69% reduction in daily wearing-off episodes, a 60% reduction in dyskinesias, and a 30% decline in medication requirements. The most common challenge was battery failure that occurred in 16 patients. A practical rechargeable battery may be available in the next few years. *J. Neurol. Neurosurg. Psychiatry, Jan 2006; 77: 12-17*

<http://jnnp.bmjournals.com/cgi/content/abstract/77/1/12?maxtoshow=&HITS=10&hits=10&RESULTFOR MAT=&fulltext=Parkinson%27s+disease&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortsp ec=relevance&volume=77&firstpage=12&resourcetype=HWCIT>

Rehabilitation and Neurologic Repair in Parkinson's Disease

A special issue of Neurorehabilitation is dedicated to research in Parkinson's disease encompassing topics describing the Parkinson's Disease Research, Education, and Clinical Centers (PADRECCs), a multidisciplinary treatment program, falling risk factors, gait and step training to reduce falls, neuropsychological protocols, speech difficulties/interventions, deep brain stimulation, and cell reparative effects. Most of the authors are affiliated with the PADRECCs. *Neurorehabilitation, 20 (3), 2005, pp. 151-242.*

[http://iospress.metapress.com/\(sxkm2i550oitln55qqxdx455\)/app/home/issue.asp](http://iospress.metapress.com/(sxkm2i550oitln55qqxdx455)/app/home/issue.asp)

Comorbid Conditions and Parkinson's Disease

Comorbidity and PD were studied in Olmstead County, MN for 197 patients with PD plus sex and age matched unaffected peers from 5 years before to 15 years following the diagnosis (PD patients) and the same years for referent subjects. Findings revealed that PD is accompanied by significant comorbidity and that the extent and type of morbidity is a function of PD duration and age at symptom onset. In the 5 years preceding the onset of PD symptoms, the levels of comorbidity were similar between the 2 groups.

Significant differences in the two groups in the 15 years following PD onset were related to the classic features of PD or PD complications such as musculoskeletal problems, mental disorders, other nervous system problems, pneumonia, fractures, urinary, and digestive changes. The authors suggest that interventions be directed at preventing or postponing PD so as to reduce the excess morbidity and disability.

Movement Disorders, published online Sept. 13, 2005.

<http://www3.interscience.wiley.com/cgi-bin/fulltext/112092429/HTMLSTART>

Telemedicine and Health Care in Parkinson's Disease

Telemedicine has been used for three years at the Seattle/Portland Parkinson's Disease Research, Education, and Clinical Center (PADRECC) to provide 100 follow-up visits to 34 patients with PD. Savings amounted to approximately 1500 travel hours, 62,000 travel miles and \$37,000 in travel and lodging costs. The patients receiving the telemedicine visits were those for whom traveling to the medical center was a challenge in distance or disease severity. Electronic records were available. The quality of the videoconferences was adequate for gross motor, gait and balance assessment, and assessment of marked tremors and dyskinesias improved with new equipment. The health-care provider present with the patient reported rigidity and retropulsion findings. Telemedicine proved to be cost-effective and clinically acceptable in this study and may have usefulness in other settings. Dr. A. Samii, first author, is a neurologist at the VA Puget Sound Health Care System in Seattle, part of the Portland/Seattle (Northwest) PADRECC. *Journal of Telemedicine and Telecare; 12,1;p.16-18.* <http://www.rsmppress.co.uk/jtt.htm>

Treatment of Levodopa Induced Dyskinesias with Donepezil

An exploratory study involving ten male patients with PD and Levodopa Induced Dyskinesias (LID), who received stable doses of antiparkinson medication at least 1 month prior to enrollment, were administered an 8-week open-label trial of donepezil 5-10 mg. 4 weeks on each dose. Motor responses were recorded in diaries during the baseline, low and high dose phases of the study, and by investigators completing the AIMS rating scale and the UPDRS after L-dopa challenge at bi-weekly visits. The trial was terminated after five patients were enrolled due to patient reports of worsening Parkinsonism. Although no significant changes were found on the UPDRS Section III, the patients reported increased rigidity and bradykinesia. There continues to be a need to explore cholinergic mechanisms underlying LID. Collaborating authors Rebecca Martine, Drs. Kleiner-Fisman, Stern, and Duda are all members of the Philadelphia PADRECC. *Parkinsonism & Related disorders-Letter to the Editor, Published Online Dec. 20, 2005.*

[http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6TB9-](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6TB9-4HVF13C2&_coverDate=12%2F20%2F2005&_alid=384783611&_rdoc=1&_fmt=&_orig=search&_qd=1&_cdi=5137&_sort=d&_view=c&_acct=C000003838&_version=1&_urlVersion=0&_userid=29261&_md5=0f217c9bd691ea695b9c3ee403ef19ff)

[4HVF13C2&_coverDate=12%2F20%2F2005&_alid=384783611&_rdoc=1&_fmt=&_orig=search&_qd=1&_cdi=5137&_sort=d&_view=c&_acct=C000003838&_version=1&_urlVersion=0&_userid=29261&_md5=0f217c9bd691ea695b9c3ee403ef19ff](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6TB9-4HVF13C2&_coverDate=12%2F20%2F2005&_alid=384783611&_rdoc=1&_fmt=&_orig=search&_qd=1&_cdi=5137&_sort=d&_view=c&_acct=C000003838&_version=1&_urlVersion=0&_userid=29261&_md5=0f217c9bd691ea695b9c3ee403ef19ff)

Highlights from the First World Parkinson Congress

- Dr. Laura Marsh of Johns Hopkins Medical School reported that depressive disorders are the most common psychiatric disturbance in PD and may affect about 50% of patients with anxiety disorders affecting about 25-40% of patients. For depressed patients, they are likely to have worse motor and cognitive deficits. With proper treatment, the quality of life for patients can improve.
- Single mutations in the PINK1 gene are a significant risk factor for the development of later-onset PD as reported by Dr. Abou-Sleiman from London, UK. In a large cohort of patients with PD (n=768), the researchers identified 9 genetic mutations present in later-onset PD. They speculate that PINK1 is not protecting mitochondrial cells from stress and cell death.
- Medical care may improve with increased awareness of the higher occurrence of PD in patients with malignant melanoma (MM). A statistically significant difference was reached when comparing patients with MM and those without MM. The 862 patients with MM were more likely to have a diagnosis of PD than the 862 controls without MM (age and sex-matched).

- Adjunctive therapies are important in providing optimal care for persons with PD reported Dr. Olanow, of Mount Sinai School of Medicine in NY. The safety recommendations for Tolcapone, a COMT inhibitor, have been recently revised by the FDA with suggestions that liver enzymes be monitored every 2-4 weeks for 6 months rather than more frequently. Rasagiline, a monoamine oxidase B inhibitor recently approved in Europe for idiopathic PD, is currently under review by the FDA with hopes that it may be beneficial in controlling levodopa-associated motor complications. A transdermal patch containing Rotigotine, a dopamine agonist, now being reviewed by the FDA, may help to maintain steady concentrations of dopamine in the body. With new findings that the nonmotor symptoms of PD may be treatable, nondopaminergic treatments may have a positive effect in PD -this research is ongoing. Serotonin inhibitors, as demonstrated in a trial of investigation agent, Sarizotan, may help to reduce motor complications seen in patients with levodopa treatment.
- In September 2004, the California Parkinson's Disease Registry Act (AB 2248) was passed that requires all physicians and pharmacists to report cases of PD was reported by Joan Samuelson, President of the Parkinson's Action Network (PAN). The proposed registry pilot project will meet soon to discuss the methods that could be used to create a sustainable model for developing the full-scale registry.

The World Parkinson Congress was held in Washington, D.C., February 2006. **Audioclips of selected presentations are available at: <http://www.worldpdcongress.org/>**

In A Nutshell

.....To obtain a copy of the "WE MOVE Clinician's Guide to Parkinson's Disease," send an email to wemove@wemove.org and request this new self-study CME activity that includes practical suggestions for answers to patient questions and assessment and evaluation tools. To access the online version, visit the Movement Disorder Virtual University website at www.mdvu.org.

.....The National Institute of Neurological Disorders and Strokes (NINDS) Neurodegeneration Group has listed "Brain Banks Across the United States" on the Parkinson's disease research website. The limited listing primarily features those banks containing brains diagnosed with neurodegenerative disease including normal brains. An email address is included for changes or corrections to those listed.
<http://www.ninds.nih.gov/funding/research/parkinsonsweb/brainbanks.htm/>

.....A link to the Rat Genome Databases "Neurological Disease Portal" can now be accessed via the Parkinson's research website. This provides researchers with access to data on genes, strain models, biological pathways etc. related to neurological disease.
http://www.ninds.nih.gov/funding/research/parkinsonsweb/genetic_resources.htm

.....10th International Congress of Movement Disorder Society, October 28-November 2, 2006, Kyoto, Japan.

.....2007 Annual Meeting American Academy of Neurology, April 28-May 5, 2007, Boston, Massachusetts.

.....World Parkinson Congress, June 2009, Paris, France.

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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