

Researchers identify genes associated with onset age of Parkinson's disease

October 7 2009

Researchers from Boston University School of Medicine (BUSM) have identified genes which may influence the onset age of Parkinson's Disease (PD). The findings, which currently appear on-line in *BMC Medical Genetics*, are the first to identify genes contributing to the variation in onset age and may help identify mechanisms and therapeutic targets capable of delaying symptoms.

PD is the second most common [neurodegenerative disorder](#) usually occurring late in life. It is characterized by debilitating symptoms of tremor, rigidity, and slowed ability to start and continue movements. PD incidence increases with age from 1.7 /10,000 person-years between ages 50 to 59 to 9.3/10,000 person-years between ages 70 to 79 and has a prevalence of approximately 1.8 percent among people over the age of 65. While the average age of onset of PD is approximately 60 years, there is wide variation, with some individuals experiencing onset before age 20 and others not until after age 90.

The BUSM researchers performed analyses using genotypes generated with the Illumina HumanCNV370Duo array in a sample of 857 unrelated, familial PD cases. Subsequently, a meta-analysis of imputed Single [Nucleotide polymorphisms](#) (SNPs) was performed combining the familial PD data with that from a previous genome-wide associated study (GWAS) of 440 idiopathic PD cases. The researchers identified the 15q26.2 region as well as the gene AAK1 related to the previously observed PD susceptibility gene, GAK as areas that would benefit from further examination.

"Important distinctions can be made between those genes that influence susceptibility for developing disease, and the genetic modifiers that influence onset age," said joint lead author Jeanne C. Latourelle, DSc, from the department of neurology at BUSM

According to Latourelle, identifying these areas as associated with both PD onset age and susceptibility highlights the importance of continuing the study of onset age of PD may provide insight into the disease mechanisms and processes for delaying onset with implications for novel treatments.

Source: Boston University

Citation: Researchers identify genes associated with onset age of Parkinson's disease (2009, October 7) retrieved 23 April 2024 from <https://medicalxpress.com/news/2009-10-genes-onset-age-parkinson-disease.html>

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