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## Molecular Genetics of Lewy Body Dementia

2009 New Investigator Research Grant

Lewy body dementia (LBD) is neurodegenerative disorder characterized by the presence of pathologic features known as Lewy bodies. These features are also observed in some individuals with Alzheimer's disease, and in most individuals with Parkinson's disease. Indeed, some researchers have suggested that LBD and Parkinson's disease may be the same or closely related conditions.

The causes of LBD are not well understood, but there are known to be genetic and environmental risk factors. Jessie Theuns, Ph.D. and colleagues are studying the genetics of LBD and have identified a family with a genetic history of LBD and Parkinson-like disease. Using molecular techniques, they have identified a region of DNA in the family's genes that is associated with these neurodegenerative disorders.

Dr. Theuns and colleagues plan to perform more detailed studies of the DNA from this family to identify the specific genes, and the gene mutations, that are responsible for LBD and Parkinson-like dementia. The researchers will sequence the region of DNA they have identified to search for mutations, and use other molecular techniques to search for extra gene copies. Once they identify the genetic mutation involved, the researchers will be able to study the role of that gene in other neurodegenerative disorders. These studies could be the first to identify a specific genetic defect linked to LBD.