NIA Genetics of Alzheimer's Disease Data Storage Site (NIAGADS)

Li-San Wang

Assistant Professor, Department of Pathology and Laboratory Medicine
University of Pennsylvania Perelman School of Medicine
Penn Center for Bioinformatics, 1424 Blockley Hall, 423 Guardian Drive
Philadelphia, PA, 19104 USA
Tel: +1-215-746-7015, Fax: +1-215-573-3111
Email: lswang@mail.med.upenn.edu

ABSTRACT

Alzheimer's disease (AD) is the most common type of dementia. AD is characterized by gradual but extensive brain atrophy. Patients gradually lose cognitive functions over years and become incapacitated and completely dependent upon caregivers. AD affects 3-5 million people in the United States and costs $24.6 billion/year for health care and an additional $36.5 billion/year for lost productivity.

For the more common late-onset AD (LOAD, age at onset > 65y), the Apolipoprotein E (APOE) gene was discovered in early 1990s to be a susceptibility locus, and is recently shown to be involved in the metabolism of beta amyloid, the main constituent of the senile plaque that is a molecular hallmark found in the brains of Alzheimer's patients. Little is known about other genes until genome-wide association (GWA) studies become available since 2005. The number of susceptibility loci for LOAD has increased to nine when a series of high profile, large-scale GWA studies were published between 2009 and 2011.

This talk is an overview of the National Institute on Aging Genetics of Alzheimer's Disease Data Storage Site (NIAGADS). Established by NIA and currently managed by the University of Pennsylvania, NIAGADS is a data repository to facilitate access by qualified investigators to genotypic data in order to promote the study of the genetics of LOAD. The mission of NIAGADS is to serve as a one-stop access portal for research in AD genetics and genomics and support the research community to address challenges in sharing data and integrating knowledge. The NIAGADS website is at www.niagads.org.

BIOGRAPHY

Li-San Wang received his B.S. (1994) and M.S. (1996) in Electrical Engineering from the National Taiwan University. He received his M.S. (2000) and Ph.D. (2003) from the University of Texas at Austin, both in Computer Sciences, and was a postdoctoral fellow at the University of Pennsylvania between 2003 and 2006. Currently he is an Assistant Professor of Pathology and Laboratory Medicine, a faculty member of Penn Center for Bioinfomatics, and a fellow of Institute on Aging and Penn Genome Frontiers Institute, University of Pennsylvania. Dr. Wang's research integrates bioinformatics, genomics, and genetics to study neurodegeneration and psychiatric disorders. He has authored sixty peer-reviewed book chapters and journals on these topics and served on the program and organizing committees of various international workshops and conferences. He is the Principal Investigator of the National Institute on Aging Genetics of Alzheimer's Disease Data Storage Site (NIAGADS) and a Co-PI of the Alzheimer's Disease Genetics Consortium (ADGC).