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Development of a Novel Screening Approach for MCI/Early Alzheimer's Disease

2009 New Investigator Research Grant

To be useful, all diagnostic tests must be sensitive (able to detect disease in affected person) and specific (rule out disease in unaffected persons). Unfortunately, currently available methods for diagnosing Alzheimer's disease do not provide the sensitivity and specificity to allow detection of the disease in its early stages, or detection of preceding conditions such as mild cognitive impairment (MCI). Effective treatment that minimizes cognitive impairment requires early detection of disease, as well as the ability to distinguish different neurodegenerative diseases.

Cheryl A. Luis, Ph.D. and colleagues are studying ways to improve the early detection of Alzheimer's disease and MCI. They have measured three biochemical markers in blood and found that certain levels of these markers provide a highly specific indication of Alzheimer's disease. The researchers now plan to combine that blood analysis with a cognitive test that has been shown to be highly sensitive for detection of MCI. Dr. Luis and team have proposed to perform a detailed analysis of each component of the blood test and the cognitive test. The goal of this work is to determine the best combination of tests, and the best cutoff values for each measurement that provide optimal sensitivity and specificity for detection of MCI and early Alzheimer's disease. This work could greatly improve the early diagnosis of these conditions, and provide better opportunities to administer therapies to prevent or slow significant cognitive decline.