A new Mayo Clinic study found that apathy and depression significantly predict an individual's progression from mild cognitive impairment (MCI), a disorder of the brain that affects nerve cells involved in thinking abilities, to dementia, including Alzheimer's disease and Lewy body dementia. The study was presented at the International Conference on Alzheimer's Disease in Honolulu on July 11, 2010.

"An important area of study is the identification of biomarkers and clinical predictors for the progression from normal cognition to mild cognitive impairment and mild cognitive impairment to dementia," says Yonas E. Geda, M.D., a Mayo Clinic neuropsychiatrist and the study's lead investigator. "We knew from previous smaller studies that neuropsychiatric symptoms like depression, apathy and agitation seem to predict progression from mild cognitive impairment to dementia, so we set out to look at this hypothesis in a population-based setting with a larger sample size."

Depression and apathy are neuropsychiatric symptoms that are often difficult to distinguish, according to Dr. Geda. Depression causes changes in mood, thinking, physical well-being and behavior, while apathy is loss of motivation without associated feelings of being depressed or blue.

As part of the Mayo Clinic Study of Aging, Dr. Geda and a team of Mayo Clinic researchers identified 358 individuals with mild cognitive impairment and used a questionnaire to collect data on depression and apathy. Then, they prospectively followed individuals to the outcome of dementia (a median of 2.8 years). Among 87 individuals with depression, 30 (34.5 percent) developed dementia. Of the 271 individuals without depression, 59 (21.8 percent) developed dementia. Among 60 individuals with apathy, 22 (36.7 percent) developed dementia. Of the 298 individuals without apathy, 67 (22.5 percent) developed dementia.

After adjusting for age, gender and education, the researchers found that the individuals with mild cognitive impairment and depression had a 66 percent increased risk of developing dementia than those individuals with mild cognitive impairment without depression. Likewise, the individuals with mild cognitive impairment and apathy had a 99 percent increased risk of developing dementia than those individuals with mild cognitive impairment without apathy.

"These findings highlight the importance of thoroughly evaluating newly-diagnosed patients with mild cognitive impairment for neuropsychiatric symptoms. The next step is to conduct a study to find out if treatment of depression or apathy in MCI may delay the onset of dementia," says Dr. Geda. "This delay could have a huge impact on the quality of life for individual patients and their families, not to mention the broad public health implications of delaying the societal and economic burden of dementia. In fact, a previous biostatistics study from our colleagues at Johns Hopkins indicated that delaying dementia by a mere one year could reduce the prevalence of Alzheimer's disease by nearly 800,000 million fewer cases in 2050."

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