

Occasional memory loss tied to lower brain volume

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People who occasionally forget an appointment or a friend's name may have a loss of brain volume, even though they don't have memory deficits on regular tests of memory or dementia, according to a study published in the October 7, 2008, issue of *Neurology*, the medical journal of the American Academy of Neurology.

The study involved 500 people age 50 to 85 with no dementia who lived in the Netherlands. Participants were asked about occasional memory problems such as having trouble thinking of the right word or forgetting things that happened in the last day or two, or thinking problems such as having trouble concentrating or thinking more slowly than they used to.

Participant's brains were scanned to measure the size of the hippocampus, an area of the brain important for memory and one of the first areas damaged by Alzheimer's disease.

Of the 500 people, 453 reported that they had occasional memory or thinking problems, which are also called subjective memory problems, because they would not show up on regular tests of memory and thinking skills.

The study found that in people with occasional subjective memory problems, the hippocampus was smaller than in people who had no memory problems. On average, the hippocampus had a volume of 6.7 milliliters in those with occasional subjective memory problems, compared to 7.1 milliliters in people with no memory problems.

"These occasional, subjective memory complaints could be the earliest sign of problems with memory and thinking skills and we were able to discover that these subjective memory complaints were linked to smaller brain volumes. Because occasional memory lapses were so common, though, much more work needs to be done to use such complaints diagnostically," said study author Frank-Erik de Leeuw, MD, neurologist and clinical epidemiologist, of Radboud University Nijmegen Medical Centre, Netherlands.

All of the participants also had white matter lesions in their brains, or small areas of brain damage. The researchers measured the amount of white matter lesions, and found that the amount of lesions was not tied to occasional memory problems. The participants had all visited a neurology outpatient clinic not because of memory complaints but for reasons such as falls, vertigo, chronic head pain, or mild traumatic brain injury.

"To further strengthen the possible connection between the subjective memory complaints, size of hippocampus and the development of Alzheimer's disease in all of the participants will be investigated again within the coming years," said de Leeuw.

Source: American Academy of Neurology

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