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Structural brain changes in people at risk for Alzheimer's disease

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People at risk of developing Alzheimer's disease exhibit a specific structural change in the brain that can be visualized by brain imaging, according to new research presented at Neuroscience 2010, the annual meeting of the Society for Neuroscience and the world's largest source of emerging news about brain science and health. The findings may help identify those who would most benefit from early intervention.

"Our findings support the notion that structural imaging techniques can be used to identify people at risk for developing Alzheimer's disease," said Sarah George, a graduate student who co-authored the study with Leyla deToledo-Morrell, PhD, of Rush University Medical Center.

The researchers followed people with mild cognitive impairment, a condition that may be a precursor to Alzheimer's disease and other forms of dementia. Some of the participants went on to develop Alzheimer's disease, others did not.

The researchers used magnetic resonance imaging (MRI) to look for structural changes in the substantia innominata (SI), a region deep within the brain that sends chemical signals to the cerebral cortex, the brain's outer layer that is largely responsible for reasoning, memory and other "higher function" tasks. Although no structural changes were found in the SI, the MRI showed a thinning of the cortical areas that receive input from the SI in those who went on to develop Alzheimer's disease.

"MRI screening appears to be a strong candidate for an early biomarker

of Alzheimer's disease," George said.

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Provided by Society for Neuroscience

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