It's not just amyloid: White matter hyperintensities and Alzheimer's disease

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(Medical Xpress)—New findings by Columbia researchers suggest that along with amyloid deposits, white matter hyperintensities (WMHs) may be a second necessary factor for the development of Alzheimer's disease.

Most current approaches to Alzheimer's disease focus on the accumulation of amyloid plaque in the brain. The researchers at the Taub Institute for Research on Alzheimer's Disease and the Aging Brain, led by Adam M. Brickman, PhD, assistant professor of neuropsychology, examined the additional contribution of small-vessel cerebrovascular disease, which they visualized as white matter hyperintensities (WMHs).

The study included 20 subjects with clinically defined Alzheimer's disease, 59 subjects with mild cognitive impairment, and 21 normal control subjects. Using data from the Alzheimer's Disease Neuroimaging Initiative public database, the researchers found that amyloid and WHMs were equally associated with an Alzheimer's diagnosis. Amyloid and WMHs were also equally predictive of which subjects with mildcognitive impairment would go on to develop Alzheimer's. Among those with significant amyloid, WMHs were more prevalent in those with Alzheimer's than in normal control subjects.

Because the risk factors for WMHs—which are mainly vascular—can be controlled, the findings suggest potential ways to prevent the development of Alzheimer's in those with amyloid deposits.

"White Matter Hyperintensities and Cerebral Amyloidosis" was published online today in *JAMA Neurology*.

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