

In elderly, hardening of arteries linked to plaques in brain

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Even for elderly people with no signs of dementia, those with hardening of the arteries are more likely to also have the beta-amyloid plaques in the brain that are a hallmark of Alzheimer's disease, according to a study published in the October 16, 2013, online issue of *Neurology*, the medical journal of the American Academy of Neurology.

"This is more evidence that cardiovascular health leads to a healthy brain," said study author Timothy M. Hughes, PhD, of the University of Pittsburgh.

The study involved 91 people with an average age of 87 who did not have dementia. Researchers took scans of the participants' brains to measure any plaques in the brain. The amount of stiffness in the participants' arteries was measured about two years later.

Half of all participants had beta-amyloid plaques. People with beta-amyloid plaques were more likely to have high systolic blood pressure, higher average blood pressure and higher [arterial stiffness](#) as measured with the brachial-ankle method. For every unit increase in brachial-ankle arterial stiffness, people were twice as likely to have beta-amyloid plaques in the brain.

Arterial stiffness was highest in people who had both amyloid plaques and white matter hyperintensities in the brain, or [brain lesions](#).

"These two conditions may be a 'double-hit' that contributes to the

development of dementia," Hughes said. "Compared to people who had low amounts of amyloid plaques and brain lesions, each unit of increase in arterial stiffness was associated with a two- to four-fold increase in the odds of having both amyloid plaques and a high amount of [brain lesions](#)."

Hughes noted that the relationship between arterial stiffness and amyloid [plaque](#) was not changed when regular resting blood pressure was taken into account. "This study adds to growing evidence that hardening of the arteries is associated with cerebrovascular disease that does not show symptoms. Now we can add Alzheimer's type lesions to the list," Hughes said.

Provided by American Academy of Neurology

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