

Plaque build-up in your brain may be more harmful than having Alzheimer's gene

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A new study shows that having a high amount of beta amyloid or "plaques" in the brain associated with Alzheimer's disease may cause steeper memory decline in mentally healthy older people than does having the APOE ϵ 4 allele, also associated with the disease. The study is published in the October 16, 2012, print issue of *Neurology*, the medical journal of the American Academy of Neurology.

"Our results show that plaques may be a more important factor in determining which people are at greater risk for cognitive impairment or other memory diseases such as Alzheimer's disease," said study author Yen Ying Lim, MPsych, with the University of Melbourne in Victoria, Australia. "Unfortunately, testing for the [APOE genotype](#) is easier and much less costly than conducting amyloid imaging."

For the study, 141 people with an average age of 76 who were free of any problems in memory and thinking underwent PET [brain scans](#) and were tested for the [APOE gene](#). Their memory and thinking was then tracked over the following year and a half, using a set of computer-based cognitive assessments that were based on playing card games and remembering word lists.

The study found that after a year and a half, people who had more brain plaques at the start of the study had up to 20 percent greater decline on the computer based assessments of memory than did those who had fewer [brain plaques](#). The study also found that while carriers of the APOE ϵ 4 allele also showed greater decline on the memory assessments

than those who did not have the allele, carrying the $\epsilon 4$ allele did not change the decline in memory related to the plaques.

"Our finding that brain plaque-related [memory decline](#) can occur while people still have normal memory and thinking shows that these plaque-related brain changes can be detected and measured while older people are still healthy. This provides an enormous opportunity for understanding the development of early Alzheimer's disease and even a sound basis for the assessment of plaque-targeting therapies," said Lim.

Provided by American Academy of Neurology

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