**Statins Not Tied to Cognitive Impairment in Seniors**

A large Australian study conducted over 6 years by researchers at the Garvan Institute of Medical Research and the Centre for Healthy Brain Ageing (CHeBA) at the University of New South Wales in Sydney showed that the overall rate of cognitive decline among 70- to 90-year-olds did not differ as a function of statin use. They found a reduction in the rate of global cognitive decline, but this was not significant after correcting for multiple comparisons.

Exploratory analyses revealed that starting statins significantly attenuated decline in a memory-domain test. They also observed a decreased rate of cognitive decline in normotensive persons with statin use, especially continuous use. *APOE*-4 carriers at higher risk for cognitive decline also had their rate of decline slowed by statin use. Looking at a subsample who underwent MRI, which was repeated again after only 2 years, researchers did not observe the emergence of important effects on brain volumes that could be linked to using statins.

The Mini Mental State Examination ([MMSE](https://www.ncbi.nlm.nih.gov/projects/gap/cgi-bin/GetPdf.cgi?id=phd001525.1)) was used to screen participants and exclude people with a score <24. In this analysis, researchers followed 1,037 people with an average age of 79, including 395 statin never-users and 642 ever-users (including 99 people who started statins during the study period), to follow changes in memory and global cognition over 6 years. Complete data were available for 573 participants (55%) over the study period. In a subgroup of 526 people, the researchers also looked at brain volume on MRI scans.

To measure memory, the researchers developed a comprehensive assessment that incorporated a battery of tests evaluating new learning, short- and long-term recall, and visual and verbal retention. To measure global cognition, the researchers incorporated memory tests and assessments of processing speed, language, visuospatial ability, and executive function. Over the 6-year follow-up period, psychologists and nurses conducted neuropsychological testing every 2 years.

The average duration of statin use was 9.1 years at baseline and 68% of statin users were continuous users. Statin users were slightly younger, had higher BMI, more vascular disease, and more cardiovascular risk factors.

Results: global cognition or the rate of memory decline did not differ significantly between statin ever-users and never-users. In the 99 people who started statins during the study period, statin initiation was associated with a lessening in the rate of decline of memory (B=0.066, *P*=0.038), at the test-wise significance level.

Researchers observed an association between statin initiation and blunting in the rate of decline in memory after at least 2 years. They attributed the finding to a benefit of starting statin therapy in an elderly population or possibly selection or prescription biases.

Exploratory analyses of specific memory tests showed that statin initiation was associated with attenuation in the rate of decline of long-delayed recall over subsequent measures (B=0.092; *P*=0.002) compared with never-users. Results from other analyses showed that ever-user patients with heart disease displayed a slower rate of decline on a learning memory test than never-users. Similarly, ever-users who carried the *APOE*-4 genotype showed a slower rate of decline in long-delayed recall performance (B=0.157, *P*=0.005).

Study limitations, according to the authors, included the observational design, possibilities of selection and survivor biases, and the fact that no conclusions could be made for those with more advanced cognitive impairment.

**Source References:** [*Journal of the American College of Cardiology*](http://www.onlinejacc.org/content/74/21/2554) 2019; DOI: 10.1016/j.jacc.2019.09.041