Exposure to statins in early old age but not in late old age may be associated with a lower risk of developing Alzheimer’s disease

**QUESTION**

**Question:** Do statins reduce the risk of Alzheimer’s disease (AD), and is this influenced by age or presence of apolipoprotein E (APOE) ε4 allele?

**Population:** 3392 members of a health maintenance organisation, aged 65 or older and without dementia.

**Setting:** Community based (Seattle-area, USA).

**Prognostic factors:** Statin use (simvastatin, lovastatin, pravastatin and atorvastatin); duration of statin use (from date of first statin prescription to date of last); APOE genotype.

**Outcomes:** Probable AD assessed every 2 years (screening on Cognitive Abilities Screening Instrument). Those screen positive at assessment underwent diagnostic interview using National Institute on Neurological and Communicative Disorders and Stroke - Alzheimer Disease and Related Disorders Association criteria for AD dementia. Participants who had other types of dementia were censored in analyses at the time of estimated onset.

**METHODS**

**Design:** Prospective cohort study.

**Follow-up period:** Average of 6.1 years.

**MAIN RESULTS**

Of the 3392 enrolled participants, 3099 had at least one follow-up examination and were included in the analysis. 711 had taken statins for an average of 5.4 (±3.6) years. Self-reported comorbid vascular conditions, cigarette smoking, higher serum total cholesterol, lower high-density lipoprotein cholesterol and higher body mass index were more common in those exposed to statins. During follow-up, 263 participants developed probable AD; mean age of onset was 82.9 (±5.1) years. Overall, statin use reduced the risk of probable AD (HR 0.62, 95% CI 0.40 to 0.97); this analysis was adjusted for demographic characteristics and vascular risk factors. When stratified by age, the effects of statins were significant only in patients aged 65-80 years (HR 0.44, 95% CI 0.25 to 0.78) and not in those older than 80 years (HR 1.22, 95% CI 0.61 to 2.42). In those who had genotype data available, statin use reduced risk of AD in those with an ε4 allele but not in those without (HR 0.42, 95% CI 0.20 to 0.91 vs 0.77, 95% CI 0.42 to 1.40).

**CONCLUSIONS**

Statin use in people aged 65-80 years appears to reduce the risk of AD; however, this association between statin use and AD was not observed in statin users who were older than 80 at study entry.

**REFERENCES**

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