

Statins and cognition: a systematic review and meta-analysis of short- and long-term cognitive effects

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OBJECTIVE

To evaluate the effect of statins on short-term cognitive function and the long-term incidence of dementia.

PATIENTS AND METHODS

A systematic search was performed of MEDLINE, EMBASE, and the Cochrane Central Register from their inception to April 25, 2013. Adults with no history of cognitive dysfunction treated with statins were included from high-quality randomized controlled trials and prospective cohort studies after formal bias assessment.

RESULTS

Sixteen studies were included in qualitative synthesis and 11 in quantitative synthesis. Short-term trials did not show a consistent effect of statin therapy on cognitive end points. Digit Symbol Substitution Testing (a well-validated measure of cognitive function) was the most common short-term end point, with no significant differences in the mean change from baseline to follow-up between the statin and placebo groups (mean change, 1.65; 95% CI, -0.03 to 3.32; 296 total exposures in 3 trials). Long-term cognition studies included 23,443 patients with a mean exposure duration of 3 to 24.9 years. Three studies found no association between statin use and incident dementia, and 5 found a favorable effect. Pooled results revealed a 29% reduction in incident dementia in statin-treated patients (hazard ratio, 0.71; 95% CI, 0.61-0.82).

CONCLUSION

In patients without baseline cognitive dysfunction, short-term data are most compatible with no adverse effect of statins on cognition, and long-term data may support a beneficial role for statins in the prevention of dementia.