Letter to the Editor and Authors’ Response

STATIN TREATMENT IS ASSOCIATED WITH CLEARLY REDUCED MORTALITY RISK OF CARDIOVASCULAR PATIENTS AGED 75 YEARS AND OLDER

To the Editor:

The meta-analysis of Roberts and colleagues (1) recently showed that statin treatment reduced all-cause mortality by 15% in older adults. Because the meta-analysis already included individuals from 60 years of age, and, on the other hand, recent concerns have been expressed about the benefits of lipid-lowering specifically in elderly people (2), we would like to present our prospective mortality data from a population with an average age of 80 years at baseline.

In our DEBATE [Drugs and Evidence Based Medicine in the Elderly] study (3), we have followed up a group of home-dwelling elderly patients \((n = 400, \text{average age 80 years, range 75 to 90 years, } 65\% \text{ women})\) for 6 years. At baseline in the year 2000, the medical history, functional status, and current drug use were carefully examined, and a wide array of clinical and laboratory variables, including serum lipids, were measured. From baseline data we calculated the Dutch risk score, which includes age, sex, body mass index, pulse rate, systolic blood pressure, smoking, hypertension, diabetes, and history of myocardial infarction, and which has been shown to predict mortality in population-based study also involving elderly people (4). Comorbidity was measured with the Charlson comorbidity index (5); cognitive function and health-related quality of life (HRQoL) were assessed as described earlier (3). Total mortality from baseline up to July 31, 2006, was ascertained from the National Population Information System, which keeps a registry of all Finnish citizens. Cox regression was used to assess independent mortality predictors.

At baseline, average age was 80 years (range 75 to 90 years), and 65.3\% \((n = 261)\) were women. Of the patients, 80.8\% \((n = 323)\), 36.5\% \((n = 146)\), and 13.8\% \((n = 55)\) had a history of coronary heart disease, cerebrovascular disorders, or peripheral artery disease, respectively. In addition, a substantial proportion of patients had a history of malignant, thyroid, pulmonary, or gastrointestinal diseases, mean Charlson index was 2.5 \((SD \text{ standard deviation} 1.5)\). Median Mini-Mental State Examination (MMSE) score was 27 \((\text{interquartile range 25–28})\), and 60 individuals had a score below 24 points. At baseline, 83 patients \(20.8\%\) were using statins. During the 6-year follow-up, 129 \(32.3\%\) individuals died. Unadjusted survival curves according to statin treatment at baseline are shown in Figure 1. Statin use was associated with a 46% reduced total mortality risk \((RR \text{ risk ratio} 0.54, 95\% 0.32–0.91)\) after adjustment for baseline risk score, cognitive function, Charlson index, and HRQoL.

We conclude that in this age 75+ population with comorbidities, statin treatment was associated with a clearly reduced 6-year mortality risk. In general, the relationship between cholesterol and mortality and morbidity is not straightforward in old age, as is also reflected in studies published in this Journal during recent years (6,7). The relationship is complicated by the fact that an underlying pathologic condition may both lower cholesterol level and increase mortality risk. Therefore higher cholesterol may paradoxically reflect better prognosis in epidemiological studies. Our result is in accordance with the results from randomized trials of therapeutically lowered cholesterol (1). It also concurs with earlier observational data of cardiovascular disease reduction in older patients treated with statins (8,9), and suggests that benefits may be even higher in real life than in clinical trials. We agree with Roberts and colleagues that older patients at cardiovascular risk should not have statin therapy withheld.

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REFERENCES


