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EDITORIALS

Primary prevention with statins for older adults

Patient preference remains the guiding principle while we wait for better evidence

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The overall prevalence, incidence, and mortality from cardiovascular disease (CVD) has decreased over the past 10 years in the developed world.[1] But primary prevention remains important, particularly for adults aged more than 65 years, who experience substantial morbidity after an initial cardiovascular event—up to one third have a further event (stroke, myocardial infarction) or die within three years.[2]

Over the past decade, statin prescriptions for primary prevention of CVD—usually either simvastatin or atorvastatin—have increased for those aged between 60 and 80 years.[3] A recent change in UK guidance means that all men aged more than 60 and women aged more than 75 are now eligible for statin treatment.[4] Are statins beneficial for primary prevention of CVD in adults aged 75 or older and what are the risks?

The evidence

In a linked large retrospective cohort study of patients aged 75 or more, Ramos and colleagues (doi:10.1136/bmj.k3359) found no reduction in CVD (a composite of coronary heart disease and stroke) in those without diabetes using statin treatment for primary prevention.[5] However, there was a lower risk of CVD in those aged 75 or more with diabetes, at least up to age 85, after which the effects of statins on primary prevention of CVD attenuated.

The authors did not find an increased risk of myopathy, liver toxicity, or type 2 diabetes mellitus associated with statin use in older adults. Previous research had suggested an increased risk of myopathy in this age group compared with younger adults; however, these participants were taking high intensity statins,[6] which in Ramos and colleagues' cohort were the minority (<20%).

Concerns about statins and cognition have previously been expressed[7] but were not recorded in this study. Current evidence from trial data does not support a link between statins and cognitive dysfunction.[7] However, concerns remain about the vulnerability of this age group to adverse effects from polypharmacy and the general lack of evidence to guide the prevention of CVD.[8] A recent review of primary prevention studies of randomised controlled trials found no evidence of a reduction in CVD mortality in those older than 75, and it concluded that follow-up was too limited to exclude important adverse events from lipid lowering drugs.[9] Evidence, however, supports a reduction in a composite outcome of myocardial infarction, stroke, and revascularisation. The exact number needed to treat to prevent one CVD event in this age group remains unclear as only one randomised trial reported the percentage of participants aged more than 75.[10]

In the study by Ramos and colleagues, any protective effect of statins was limited to participants with type 2 diabetes aged between 75 and 84, with no effect in those without diabetes. These observational findings are exploratory however and should be tested further in randomised trials—to rule out any confounding and to study the effect of statins on CVD death, which were not recorded in the database used for this study.

The guidelines

Current guidance on lipid management in older adults is inconsistent: the National Institute for Health and Care Excellence recommends statins for primary prevention up to age 84, the European Society of Cardiology recommends treatment to age 65, and the American Heart Association up to age 75.[11-13] Both the American Heart Association and NICE recognise that trial evidence for those aged more than 75 is limited, yet NICE continues to recommend statins up to the age of 84 consistent with the upper age limit of the QRISK2 CVD risk calculator.[11 12] For those with type 2 diabetes, NICE recommends statin prescription guided by a CVD risk calculation, whereas the American Heart Association recommends statins without risk calculation.[11 12]

Since age alone for those aged more than 75 is enough to cross the CVD risk threshold for primary prevention, the biggest challenge for clinicians is how to stratify risk among those aged more than 75 to inform shared decision making.[8]

The ongoing STAREE (Statins for Reducing Events in the Elderly) trial is an Australian trial of primary prevention based

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in general practice comparing atorvastatin 40 mg with placebo in adults aged more than 70.[14] The investigators hope to recruit 18 000 participants and aim to report findings in 2022. The primary outcome is time to death, or incident dementia, or time to a fatal or non-fatal cardiovascular event.[11] The challenge for investigators will be whether they can run the trial long enough to evaluate slowly progressive conditions such as cognitive impairment.

Decision time

Observational data have shown that researchers and patients having differing views on the relative importance of morbidity and mortality.[15] Patients aged 65 or older prioritised reductions in myocardial infarction and stroke over avoiding death, in contrast with researchers and those younger than 65. Therefore, if in the process of shared decision making, older patients express a preference for extending longevity, then current evidence supporting statins for primary prevention remains limited. A patient preference for reduction in myocardial infarction or stroke, however, might help to tilt the balance in favour of statin prescription but the absolute risk reduction, number needed to treat to prevent a CVD event in older patients remains uncertain.[9]

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