

A Recent Review Regarding the Use of Statins in Elderly People

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Abstract

There is insufficient evidence regarding safety and benefits of lipid-lowering drugs in individuals ≥ 75 years old. As the population ages, cardiovascular disease and major adverse coronary events became more prevalent. This is a quick review of the most important and latest studies concerning the use of statins in primary and secondary prevention in elderly. Population aging brings the discussion about benefit of cardiovascular preventive measures in elderly specially in primary prevention setting. Previous studies showed a direct relationship between blood cholesterol levels and ischemic heart disease mortality [1]. However, age seems to substantially attenuate the proportional relation of CVD with cholesterol, suggesting that the impact of blood cholesterol treatment in reducing CVD events could be lower in elderly subjects. In this brief review we discuss some aspects of lipid lowering in older population

Mini Review

PROSPER trial included elderly subjects aged 70-82 years with a history of vascular disease or risk factors to pravastatin or placebo. Primary endpoint was reduced in 15% in statin group. Risk reduction seemed more pronounced in secondary than in primary prevention. However, testing for interaction revealed no significant differences between these subgroups [2]. Using high-sensitivity C-reactive protein $\geq 2\text{mg/L}$ to predict cardiovascular events, the JUPITER trial revealed a significant reduction in MACE, stroke, revascularization in ≥ 65 years old population with high-intensity statin as a primary prevention therapy [3]. A metaanalysis from HOPE-3 and JUPITER trials demonstrated a 26% relative risk reduction for the end point of nonfatal MI, nonfatal stroke or cardiovascular death in people ≥ 70 years using statins in primary prevention [4].

Cholesterol Treatment Trialists' Collaboration metaanalysis from 28 randomized controlled trials showed 13% reduction (HR 0.87, CI95% 0.77-0.99) in major vascular events in subjects >75 years comparing statin or more intensive treatment versus control or less intensive. Interestingly that among subjects with vascular disease the reduction in major vascular events were similar between younger and older subjects. In the other hand, among those with no history of vascular disease, there was a trend towards smaller proportional risk reductions with increasing age [5]. This metaanalysis reported beneficial effects in secondary prevention, but it is less clear the benefits for primary prevention.

A recently published post hoc analysis of the ASPREE trial showed that the use of statins in individuals ≥ 70 years with no evidence of CVD, dementia or physical disability, significantly reduced MACE, risk for persistent physical disability, MI and stroke. The outcomes began to be seen in the first year of follow-up [6]. These findings may give strength to use statins in primary prevention and also alleviate the concerns about safety of statins in older people. EWTOPIA 75 trial revealed a significant reduction in coronary revascularization in patients ≥ 75 years with no CVD using a moderate-intensity cholesterol treatment with addition of ezetimibe 10 mg. However, there was no difference in MI or stroke [7]. Orkaby et al. [8] in a retrospective cohort study showed significant reduction in all-cause mortality and cardiovascular death within 2 to 5 years of follow-up in ≥ 75 years old patients free of atherosclerotic cardiovascular disease at baseline, even in people ≥ 90 years old [8].

Prior studies found that statins were not associated with impaired quality of life, frailty or increased risk of myopathy, but regardless, physicians need to be very careful when prescribing new drugs in elderly people, since they are more susceptible and less tolerant to side effects. Life expectancy, comorbidities, drug interaction and quality of life must also be taken into account. As the population ages due to the increase in life expectancy, a necessity to understand the real benefits and safety of lipid-lowering drugs in older population is needed. Cholesterol blood management guidelines usually recommend evaluating CVD risk and start statin in patients considered high risk or intermediate risk with risk enhancers [9]. Elderly subjects usually are at least intermediate to high risk only due to chronological age. In this way, decision about cholesterol treatment in this population should also include biomarkers of subclinical atherosclerosis and life expectancy since their benefit starts after a mean of 2 years of follow-up. The benefit of statin in reducing new cardiovascular events are robust in secondary prevention, especially in coronary artery disease and stroke, so its use should be encouraged, even in older population. Further randomized clinical trials are needed to determine the role of statin therapy in primary prevention elderly subjects specially those >75 years old.

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