

Editorial

Dyslipidaemia in Geriatric Patients

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Defining geriatric population

Definition of geriatric is mostly stated as the population of 65 years and more from the chronological view point. In addition to chronological age, other factors- functional status and frailty - must be considered in order to define the elderly patients.¹

Impact of dyslipidaemia in geriatric population

The risk for ASCVD increases dramatically with age. Age is one of the main non-modifiable risk factors for ASCVD. Efficacy of statin therapy in the very elderly, however, is well documented in secondary prevention trials. The PROSPER (Pravastatin in elderly individuals at risk of vascular disease) trial,² for example, specifically assessed the benefit of statins (pravastatin 40 mg for 3 years) in elderly individuals and demonstrated improved outcomes among elderly with known vascular diseases. Extrapolation of efficacy and safety data from those <75 years of age to those >75 years of age should be done cautiously, considering comorbidity, poly-pharmacy, potential side effects, and limited life expectancy. Initiation of statin therapy should always be preceded by a careful weighing of potential harms and benefits. RCT data indicate that statins are safe and well tolerated in elderly individuals >65 years of age, with the caveats that limited data exist for the very old and that the elderly people enrolled in RCTs may be more robust than are those individuals routinely seen in clinical practice. Based on data from primary prevention statin trials and a meta-analysis

showed that, muscle discomfort and pain reported in RCTs appear to be unrelated to age. The modestly increased risk for statin-induced diabetes is possibly age related and occurs almost exclusively among individuals with components of the metabolic syndrome who are already predisposed to develop diabetes. As recently reviewed, current evidence does not support a previous suspicion that statin therapy might cause memory loss, cognitive impairment, or dementia. Important to consider before initiating statin therapy in the elderly is poly-pharmacy and the associated risk for drug-drug interactions.³

Management of dyslipidaemia in geriatric population

For the secondary prevention of ASCVD, use of statins is recommended through all the age groups by all the guidelines

Though use of statins in primary prevention of ASCVD in younger population (< 65 years) are widely recommended and guidelines suggest initiation and intensity depending on the risk-assessment scores, but for the geriatric population the recommendation is based on many considerations.⁴

For direct evaluation of use of statins in elderly group - 3 major trials are underway: STAREE trial (Atorvastatin 40 mg vs placebo in persons aged 70 years or more, 18000 participants);⁵ PREVENTABLE trial (Mortality and Economic Impact of Stopping Statins in People Aged of 75 and over, estimated enrolment: 20,000, Randomized 1:1 atorvastatin 40mg vs. placebo,

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follow up to estimated median of 3.8 years; December 31, 2026) and SITE (Statins in elderly; trial number of recruited patient 1239; statins will be stopped with follow-up of 36 months.

Ridker PM et al critically analysed the participants of elderly age group >65 years who were enrolled in JUPITAR (2008) and HOPE3 (2016) trials, both being primary prevention trials.⁷ In formal meta-analysis, a 26% relative risk reduction was observed for those >70 years for the end point of nonfatal myocardial infarction, nonfatal stroke, or cardiovascular death (HR, 0.74; 95% CI, 0.61–0.91; P=0.0048; Outcome data from JUPITER and HOPE-3 provide a starting point for discussions about statin use in primary prevention among the elderly. Available data from existing trials support the use of statins in primary prevention among those ≥70 years of age. Uncertainties remain with regard to hemorrhagic stroke, cognitive function, drug interactions, adherence, quality of life, and cost-effectiveness.

The EWTOPIA 75⁸ is the first RCT demonstrating that LDL-C-lowering therapy with ezetimibe prevented cardiovascular events in older individuals aged ≥75 years with elevated LDL. Low-density lipoprotein cholesterol-lowering therapy with ezetimibe prevented cardiovascular events in individuals aged ≥75 years with elevated low-density lipoprotein cholesterol, supporting the importance of primary prevention for patients aged ≥75 years. Analyses of secondary outcomes showed that ezetimibe reduced composite cardiac events, but not stroke. 3796 patients were enrolled between May 2009 and December 2014, and 1898 each were randomly assigned to ezetimibe versus control. Patients were without ASCVD and LDL level 140 mg or more. Median follow-up was 4.1 years The primary outcome was a composite of sudden cardiac death, myocardial infarction, coronary revascularization, or stroke which was reduced. But there was no difference in the incidence of stroke, all cause mortality, or adverse events between trial groups. LDL-C-lowering therapy with ezetimibe prevented cardiovascular events, suggesting the importance of LDL-C lowering for primary prevention in individuals aged ≥75 years with elevated LDL-C. No significant heterogeneity of treatment effect was found in the prespecified age subgroups (<85

years/≥85 years) These results support lipid-lowering therapy for the primary prevention for older individuals aged ≥75 years with ezetimibe. LDL-C-lowering therapy with ezetimibe prevented cardiovascular events in older individuals aged ≥75 years, suggesting the importance of LDL-C lowering for primary prevention in individuals aged ≥75 years with elevated LDL-C. The IMPROVE-IT (Improved Reduction of Outcomes: Vytorin Efficacy International Trial)⁹ showed that the combination of ezetimibe and simvastatin improved cardiovascular outcomes compared with simvastatin monotherapy. The subanalysis showed that patients aged ≥75 years had a 20% relative reduction in the primary outcome.

The SAGE (Study Assessing Goals in the Elderly), (10) in which a total of 893 ambulatory CAD patients 65 to 85 years of age were randomized to receive atorvastatin 80 mg/d or pravastatin 40 mg/d and were followed up for 12 months, showed that intensive statin therapy was beneficial for the primary prevention of CAD events.

In one study,¹¹ 2667 adults, aged 75 years or older (59% female), free of ASCVD; median age was 78 years, with median LDL-C of 117 mg/dL were analysed. In both unadjusted and adjusted analyses, there was no association between LDL-C and ASCVD (adjusted hazard ratio = 1.022; 95% confidence interval = 0.998-1.046; P= .07) Among a well-characterized cohort, LDL-C was not associated with CVD risk among adults aged 75 years or older, even in the presence of other risk factors,

In a recently published cohort study,¹² a total of 5619 Caucasian patients with a first manifestation of CV disease with age of 65 years or older. The risk of ST-segment elevation myocardial infarction was much lower in statin users than in non-users in both patients groups (65-75 years and >76 years).It was also found that there was remarkable reduction in the risk of 30 day mortality from STEMI with statin therapy in both age groups. Benefits were less pronounced in women

In conclusion, we may assert that evidence is in favor of managing dyslipidaemia in the elderly (> 65years) and in very elderly (>75-80 years) both

for secondary as well as primary prevention. Initiation and intensity of statin therapy need to be individualised.

Conflict of Interest - None.

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