Should we identify and treat hyperlipidemia in the advanced elderly?

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EVIDENCE-BASED ANSWER

No randomized controlled trials exist that identify and treat hyperlipidemia for advanced elderly patients (age >80 years). Expert and consensus guidelines state that hyperlipidemia found in any patient with coronary artery disease (CAD), or at risk of CAD, should be treated irrespective of age; however, evidence is limited to support lowering lipids for advanced elderly patients with and without known CAD (strength of recommendation: **C**, based on expert and consensus guidelines).[1]

CLINICAL COMMENTARY

When prescribing lipid-lowering therapy for older adults, assess competing risks as a function of age

Many of my patients are over age 82, and these are precisely the ones for whom additional data on the benefits of lipid-lowering would be helpful. Unfortunately, there are no data on lipid-lowering therapy in this population. Polypharmacy is a concern when caring for elderly patients, as are the practical difficulties of medication expense and taking drugs properly. Additionally, because older patients have many competing risks for death, the absolute effect of treating any one problem is relatively small. When prescribing lipid-lowering therapy for older adults, as is often the case with geriatrics, one must assess the "competing risks" as a function of age and, for now, base the treatment decision on these risks rather than evidence-based medicine for the evidence is not yet available.

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Evidence summary

CAD is the leading cause of death in the United States and is a significant cause of mortality and morbidity for those aged 65 years and older. Multiple studies have demonstrated the value of lipid-lowering therapy for the primary and secondary prevention of CAD. Most of these studies have not been specifically oriented toward the elderly; however, substantial data from subgroup analyses of older subjects from major lipid treatment trials has consistently demonstrated the beneficial effects of statin therapy in reducing all cardiovascular events for patients with known CAD who are 65 and older.[2–7]

Unfortunately, randomized trials of hyperlipidemia treatment with statins have enrolled few people aged 80 and above. Hence, it is unclear whether the benefit of statins on cardiovascular mortality extends to advanced elderly patients. These people comprise the fastest-growing segment of the population, increasing by about 3% per year. They tend to experience concomitant chronic illness, shorter life expectancy, and physical frailty, leading to quality-of-life and end-of-life issues. Is it beneficial and cost-effective to treat these very elderly patients for hyperlipidemia?

The first prospective, randomized trial[8] of the use of statins among the elderly examined the impact of pravastatin therapy on primary and secondary prevention of cardiovascular and cerebrovascular events for men and women (age 70–82 years), with a history of vascular disease or with risk factors for vascular disease. The

sample of 5804 participants was randomized to receive pravastatin 40 mg or placebo, followed for an average of 3.2 years, and monitored for the combined endpoint of myocardial infarction (MI), stroke, and CAD death. The study showed 19% (95% confidence interval [CI], 6–31; *P*=.006) proportional reduction in the rate of coronary death or nonfatal MI. The absolute risk reduction for coronary death or nonfatal myocardial infarction or nonfatal stroke was significant (2.2%, number needed to treat [NNT]=45). Rates of adverse drug events were similar in the intervention and control groups.[8]

Serum cholesterol normally declines with age; so the benefit of lowering lipids with medication in this age group is unclear. Furthermore, a meta-analysis[9] showed an inverse relationship between total serum cholesterol and all-cause mortality for people aged 80 and above, raising the possibility that lowering cholesterol may be detrimental in this age group. Two other cohort studies[10,11] found that low cholesterol was related to all-cause mortality, even when adjusted for health status and indicators of frailty. The reasons for this relationship are not clear, but some postulated mechanisms exist. It is possible that lower cholesterol levels can increase the risk of a variety of nonatherosclerotic diseases since cholesterol may play a direct role in immune response. Alternatively, preclinical diseases, chronic inflammation, or malnutrition may suppress cholesterol levels.[4]

Recommendations from others

National Cholesterol Education Program Adult Treatment Panel III guidelines[1] outline risk identification and management of hyperlipidemia in all age groups with no exceptions noted for the very elderly. A recent scientific statement from the American Heart Association[12] outlined the data on the implementation of all primary and secondary prevention guidelines for the elderly and emphasized that the latest cholesterol treatment recommendations should be applied to all eligible adults, with no exceptions for the very elderly.

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FAST TRACK

It is unclear whether the benefits of statins extend to the advanced elderly (aged 80 years and older)