An elderly patient on a statin drug

Commentary by **LEON SIMONS** MD, FRACP

Should cholesterol-lowering drug therapy be commenced in a 76-year-old woman who has no pre-existing coronary disease? What about a 76-year-old with pre-existing disease? What should be the duration of such treatment?

Case scenario

I recently saw a patient who has been on simvastatin 20 mg/day for hypercholesterolaemia for the past seven years (since the age of 76). She is now 83 years old and has no history of heart disease, peripheral vascular disease or cerebrovascular disease. Apparently she had a very unfavourable lipid profile and a total cholesterol level above 8.5 mmol/L before she started the medication. However, is it appropriate to continue patients on this medication when they are well into their eighties?

Commentary

This scenario raises two very important questions:

- Should one commence a lipid-lowering drug in a healthy 76-year-old woman who has no clinical evidence of cardiovascular disease?
- What should be the duration of such treatment?

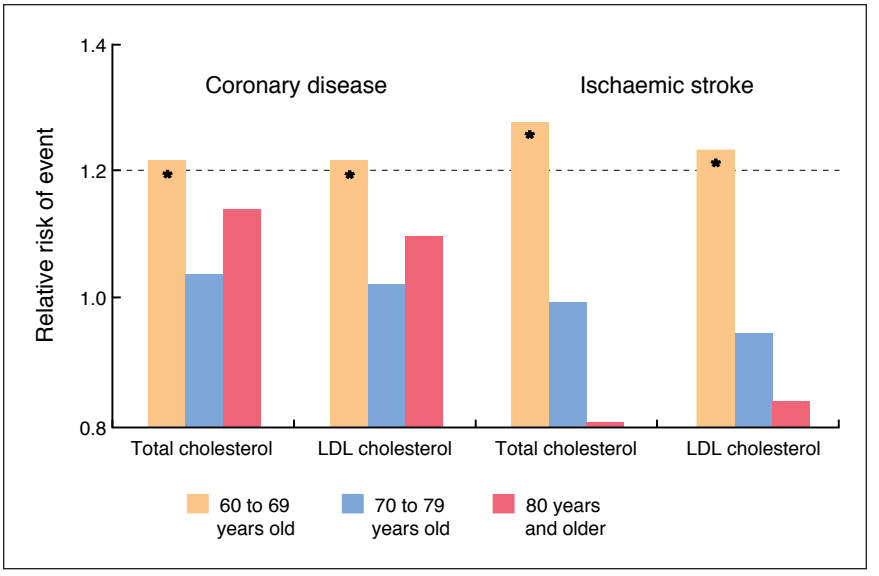

Figure. Relative risk of coronary disease and ischaemic stroke by age group in 2805 subjects over 10 years' follow up in Dubbo, NSW.[2] The relative risk refers to change in risk for each standard deviation change (approximately 1.1 mmol/L) in total or LDL cholesterol. Prediction of coronary disease or stroke was statistically significant only in the group aged 60 to 69 years (*P<0.01).

A patient with pre-existing coronary disease

If faced with a 76-year-old woman who has a total cholesterol level of 8.5 mmol/L, one needs to exclude underlying problems such as hypothyroidism or nephrosis. Such problems would receive specific management.

Assuming this patient has a primary hyperlipidaemia, the critical question is: does she have clinically manifest coronary artery disease? Although they have not included patients above 75 years, randomised placebo-controlled trials with statin drugs in patients with pre-existing coronary disease have demonstrated a 20 to 30% reduction in future coronary and stroke events during five years of treatment.[1] On a purely empirical basis (that is, without clinical proof), most physicians would also start a 76-year-old on statin drugs if clinical heart disease was present, provided the patient had reasonable life expectancy and good quality of life. Drug treatment would be permanent, but only on an empirical basis!

A patient without pre-existing coronary disease

For a 76-year-old hypercholesterolaemic patient with no clinical manifestation of coronary disease, the introduction of cholesterol-lowering drugs is a dilemma that cannot easily be resolved on current scientific evidence. Well informed physicians would give differing answers on the matter of drug introduction and duration of therapy.

The prediction of coronary disease by total and LDL cholesterol actually diminishes with increasing age. Stated more simply, the slope of the risk curve for coronary disease by cholesterol level becomes increasingly flat with advancing age. In the Dubbo Study of the Elderly, we analysed the prediction of coronary

Professor Simons is Associate Professor of Medicine, University of NSW, and Director, Lipid Department, St Vincent's Hospital, Darlinghurst, NSW.

disease and ischaemic stroke in men and women (60 to 69 years, 70 to 79 years, and 80 plus years) followed for more than 10 years.[2] The Figure shows the relative risk of coronary disease or stroke for each standard deviation change in total or LDL cholesterol (standard deviation, approximately 1.1 mmol/L) in a multivariate model. Each standard deviation increase in total or LDL cholesterol was associated with a significant (20% or more) increase in risk of coronary disease and ischaemic stroke in the subgroup aged 60 to 69 years. There was no significant prediction in those older than 69 years.

Some physicians would downplay these relationships because of the increasing incidence of cardiovascular disease with age. I would prefer to suggest that the increased cardiovascular risk in the elderly is actually a manifestation of their advancing age, and not just due to the increased cholesterol levels.

Not only do we lack evidence that cholesterol is a risk factor for a first coronary event in a 76-year-old person, no randomised controlled trial of cholesterol-lowering drugs has yet been completed in subjects over 73 years who were free of clinical coronary disease. Hence, in facing patients aged 76 years or older, we lack evidence (a) that the cholesterol problem is truly detrimental and (b) that cholesterol lowering will be beneficial.

With the present patient, I might not have initiated cholesterol-lowering drug therapy at 76 years. I would have preferred to offer diet and lifestyle advice, on the basis that some treatment was offered. However – to answer the question in the scenario – once drug therapy has been started, there is no logic for cessation at a specific age. MT

References

1. Gould AL, Rossouw JE, Santanello NC, Heyse JF, Furberg CD. Cholesterol reduction yields clinical benefit: impact of statin trials. Circulation 1998; 97: 946-952.
2. Simons LA, Simons J, Friedlander Y, McCallum J. Metabolic risk factors for coronary heart disease [abstract]. Atherosclerosis 2000; 151: 162.

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