



Diet, cholesterol, heart disease and statin therapy

Fact and fiction

Fact

High LDL cholesterol increases the risk of cardiovascular disease

There is absolutely no doubt that higher levels of cholesterol (particularly the LDL or 'bad' cholesterol) are associated with higher risk of vascular events including heart attack, stroke, blocked arteries in the legs, and the need for bypass surgery and stenting. This has been shown in multiple long term epidemiological studies, including the well known Framingham study from the USA.

Cholesterol is not the only risk factor for vascular disease

Although high cholesterol levels are an important cause of heart disease many other factors contribute to risk. Other diseases such as high blood pressure and diabetes are important, as are many lifestyle factors such as cigarette smoking, lack of exercise, stress and depression, and dietary factors.

Cholesterol lowering therapy with statins reduces cardiovascular disease

Very few treatments in medicine are as well proven as statin therapy. These agents effectively lower LDL cholesterol in the blood. We now have data from over 170,000 people who participated in 27 trials of statin therapy. Each 1 mmol/l reduction in the level of LDL cholesterol reduces the risk of cardiac events by about 21%. Modern statin drugs often lower LDL cholesterol by more than twice this amount, resulting in very large reductions in the risk of heart attack and stroke. Furthermore the degree of reduction in risk with these drugs is just what we would expect from the epidemiology studies.

Not everybody with a high blood cholesterol needs statin therapy

The absolute benefit of statin therapy is greatest in those who are already known to have vascular disease or in those who are at high risk of developing vascular disease. Most patients who have suffered a heart attack or stroke or who have known blockages in their arteries should be on statin therapy. Cardiovascular risk calculators (e.g. www.cvdcheck.org.au) are useful for determining whether a patient is at sufficiently high risk to warrant statin therapy. Sometimes additional tests such as a calcium score on a CT scan can help decide if a statin is required.

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Fiction

Statin therapy might stop me having a heart attack but they won't reduce my risk of death because they increase the risk of other diseases

Statin therapy reduces the risk of death from any cause (by about 9% per 1 mmol/l reduction in LDL cholesterol). This is entirely due to a reduction in death from cardiovascular disease. There is no evidence of a clinically significant increase in deaths from any other cause such as cancer.

Statin therapy does not work in women

There is no evidence that statins work any differently in men than women. When the clinical trials are combined there is clear evidence that the benefit in women is the same as in men.

It is better and safer to rely on natural methods of lowering cholesterol than to rely on statins

When the LDL cholesterol level or risk of heart attack or stroke is borderline, a change to a low fat, Mediterranean style diet can effectively lower the bad cholesterol. However, if the cholesterol level or overall risk is moderate to high, it is better to rely on the proven benefits of statin therapy than to rely on so-called 'natural' methods of lowering cholesterol. These can have a marginal benefit, but the overall benefit of over the counter fish oil, plant sterols or 'superfoods' is weak and nowhere near as effective as a statin.

Fact

Some people experience adverse symptoms with statins

All drugs have 'side effects'. The commonest side effect of statins is muscle and/or joint pain. This was quite uncommon in clinical trials, but more common in 'real world' patients. If you develop symptoms which you think may be due to taking statins we suggest a trial off therapy for about 6 weeks. If the symptoms definitely improve without another explanation it is often worth trying a lower dose of the drug or a different statin drug. Remember that we all suffer aches and pains from time to time, and you should be sure that the statin is the cause of your problems before you stop therapy and lose the substantial benefits.

Some people report 'foggy thinking' on statin therapy. It is controversial whether this is a true side effect (i.e. whether it occurs any more frequently than on a placebo). We suggest that such symptoms be treated in the same way as muscle pain – a period off therapy followed by an attempt to reintroduce a lower dose or different drug depending on the response to cessation of statin therapy. We have good evidence that statins do not cause dementia or other degenerative brain diseases – they are in fact protective against dementia in patients with vascular disease.

Diabetes is more common on statin therapy

There appears to be a small increase in the risk of developing Type 2 diabetes whilst taking statin therapy. We do not understand the mechanism for this. The risk is small (about 1 in 1000 patients per year) and does not negate the overall positive effects of statin therapy.

Saturated fat is bad for you

The relationship between diet, cholesterol, and cardiovascular disease is complicated. Diets high in saturated fat are associated with higher cholesterol levels and higher cardiovascular risk. Current guidelines suggest the use of unsaturated fats (both polyunsaturated and monounsaturated) in place of saturated fat. The 'Mediterranean diet' is a useful basis for healthy eating. Traditional Mediterranean diets emphasise fruit, vegetables and wholegrain cereals and are low in saturated fat and red meat, rich in unsaturated fat, and rich in complex carbohydrate and fibre.

More powerful cholesterol treatments than statins are now available

Recent studies have shown that alternative drugs for lowering cholesterol are effective and these are now available in Australia. Oral ezetimibe is available but is less potent than a statin. Highly potent injectable cholesterol lowering drugs are available but are very expensive. These drugs are usually used when the cholesterol cannot be well controlled with a statin.