Clearing up Myths about Statins for Healthcare Providers

Should statins be used in elderly patients?

It depends. Most elderly patients are at high risk for cardiovascular disease (CVD) due to their age alone, and would benefit more from statin therapy than younger patients. Statins should be considered regardless of age in secondary prevention. However, data are very limited for primary prevention in patients over age 75. There are some concerns around pravastatin and cancer in those over age 65, so other statins should be considered in this age group. (1)

Elderly patients are at a slightly higher risk for adverse effects (such as myalgias), but should still be treated. In the PROSPER study, the incidence of serious adverse events was similar between groups with no cases of rhabdomyolysis in either group. In general, if you believe your patient has a life expectancy of at least three to five years, and is at high risk for CVD, then a statin could be considered.

If a patient's CK is elevated, should the statin be stopped?

Not always. First, rule out other causes such as exercise, trauma or infection. A recent Canadian Cardiovascular Society (CCS) working group consensus statement recommends that if the CK is elevated (in the absence of other causes) but is less than or equal to five times the upper normal limit (UNL), the statin can be continued. (2)

The CK should be repeated in 6 to 12 weeks or if the patient develops symptoms. If the patient has symptoms, hold the statin until other causes are ruled out. Once the CK is equal to or less than the UNL and the patient has no symptoms, the statin can be restarted (if the case was mild), switched or the dose lowered.

If a patient has myalgias without CK elevation, should the statin be stopped?

This is debatable. If the pain is tolerable, you can take a watch-and-wait approach. The symptoms may resolve on their own, as there are other reasons for muscles aches. In this case, if the statin is held and the muscle aches improve (which is often the case) the patient may feel that the statin caused the muscle pain. If the pain isn't tolerable, the CCS consensus statement suggests holding the statin and restarting, switching or lowering the dose once the patient's pain is gone. (2)

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If a patient has a documented statin-related myopathy, can they be changed to another statin?

Most patients with true statin-related myopathy (with the exception of rhabdomyolysis) will tolerate another statin. Therefore, it's suggested to switch statins, start at a low dose, and titrate slowly. For patients with multiple statin intolerances, there is even evidence to support intermittent dosing strategies (every-other-day or once-weekly dosing) with rosuvastatin (Crestor®). Whenever possible, patients should be encouraged to try several types of statins before switching to an alternate lipid-lowering agent. There are many studies that support the benefit of statins at reducing cardiovascular events and little to no benefit with other lipid-lowering therapies. A patient who has rhabdomyolysis should never take a statin again.

If a patient is not at their LDL-C target with a statin, is adding a fibrate a good adjunct therapy?

In most cases no, due to lack of benefit and risk of harm. Avoid the statin-fibrate combination whenever possible. The combination of statin-fibrate (specifically gemfibrozil) has been shown to cause an almost six-fold increase in the risk of rhabdomyolysis. (3) Thus, the combination of gemfibrozil with a statin is contraindicated.

The ACCORD-Lipid trial, which investigated simvastatin plus fenofibrate or placebo in patients with type 2 diabetes mellitus, did not show any difference in the incidence of myopathy between groups, including rhabdomyolysis. However, there was no difference in major fatal or non-fatal CV events between groups.

Does high-dose statin therapy, as compared to low dose, increase the risk of myopathy?

There is a general consensus that high-dose statin therapy, compared to low-dose, carries a higher risk of myopathy. However, there is limited evidence to support this statement. Case reports show that higher circulating serum levels of statins secondary to drug interactions may lead to myopathies (including rhabdomyolysis). Large clinical trials that compared high-dose to moderate or low-dose statin therapy have not consistently shown a higher risk of myopathy with high-dose therapy. (4–6) The one exception is simvastatin.

The SEARCH study, which compared 80 mg to 20 mg of simvastatin daily, showed 53 cases of definite myopathy with 80 mg (0.9 per cent) compared to two with 20 mg (0.03 per cent) with no additional reduction in major CV events. (7) Therefore, simvastatin 80 mg daily is no longer recommended unless a patient has been taking it chronically with no muscle problems.

Do statins cause diabetes?

Recent meta-analyses have shown that statins are associated with a small incremental increase in the risk of incident diabetes with a number needed to harm of about 255 for statin versus placebo and 125 for high-dose versus moderate-dose statin over 4 years, which are much higher than the number needed to treat to prevent one CV event. (8, 9) There was also a positive association for patients with pre-existing risk factors for diabetes, such as high fasting blood glucose and body mass index. The higher number of risk factors corresponded to a higher risk of diabetes. Overall, the benefit of statins at reducing CV events far exceeds the small risk of diabetes.

Do statins cause cognitive impairment?

Five systematic reviews report on the cognitive impact of statins. (10–14) The highest level evidence (a systematic review of randomized controlled trials (RCTs)) with over 25,000 patients showed no increase in dementia or cognitive impairment in patients without cognitive impairment. Lower level evidence shows no impact or a reduction in dementia or cognitive impairment (likely due to a healthy user effect rather than real benefit). For those with cognitive impairment or dementia, results from up to 18 RCTs show no indication that statins worsen cognition or dementia. Although some patients may have an idiosyncratic reaction of "fuzzy" thinking, there is no reliable data to support statins impact cognition.

Do statins cause cancer?

The evidence is mixed—some evidence supports a reduction in risk while other studies show a higher risk. However, the best available evidence doesn't support an increase in the risk of cancer with statin therapy. A recent meta-analysis of RCTs, which included over 100,000 patients, showed that statins have a neutral effect on the incidence of cancer compared to control. (15) This is further supported by another meta-analysis of over 70,000 patients without CVD that didn't find an increased risk of cancer with statins. (16) In older patients, a meta-regression found the risk of cancer was increased with pravastatin. For this reason, it may be best to avoid pravastatin, but not others statins, in the elderly.

Does the dose of statin matter in primary prevention?

It depends. In appropriately selected patients (based on the patient's risk for CVD, as well as their values and preferences), statin therapy could be initiated and titrated to the targets specified in the CCS guidelines for the treatment of dyslipidemia. (17) In most cases, this is either an LDL-C less than or equal to 2 mmol/L or a 50 per cent reduction of LDL-C from baseline.

If LDL-C targets are preferred for monitoring statins, a good approach is to start with the lowest available statin dose and titrate every 6 to 8 weeks until the LDL-C target is reached. The starting dose of a statin gives the greatest relative reduction in LDL-C (20% to 40%). Doubling the dose usually only gives another 6 per cent to 7 per cent reduction in LDL-C. Therefore, a patient may be able to reach their LDL-C target with either a low or high dose of statin.

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