



LITERATURE REVIEW

Charles H. Taylor, MD – March, 2007



Should Everyone Be on a Statin?

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Summary and Viewpoint

Statins have become some of the most popular medications prescribed in primary care offices, and for good reason. **In a meta-analysis involving 25 studies enrolling 69,511 individuals with a history of coronary heart disease, statin therapy reduced the rate of coronary heart disease mortality or nonfatal myocardial infarction by 25% and reduced all-cause mortality by 16%.**^[1] The beneficial effects of statins in this meta-analysis were evident in both sexes and among older adults, and statins improved outcomes regardless of baseline levels of low-density lipoprotein (LDL) cholesterol.

The record of cholesterol-lowering therapy in improving outcomes among patients without a prior history of cardiovascular disease is less strong. A previous meta-analysis examining all cholesterol-lowering medications in the primary prevention of cardiovascular events and death found a reduction in the rate of coronary heart disease events of 30%.^[2] However, the mortality rate was unaffected by the use of cholesterol-lowering medications, and when the authors examined trials of statins alone, these medications failed to reduce rates of coronary heart disease or mortality.

The current meta-analysis focused exclusively on statin therapy, although its results were similar to the research discussed above. It only looked at studies that reported at least 100 cardiovascular disease outcomes, and at least 80% of patients in every included study did not have a known history of cardiovascular disease. All included studies were of high methodologic quality, although the rate of crossover from usual care to statin therapy was 26% in one large study. The mean LDL-cholesterol level for all trials was 147 mg/dL, and the mean reduction of LDL cholesterol was 26.1%.

The main finding of the meta-analysis was that statins reduced the risk for coronary events, cerebrovascular events, and revascularization procedures, but they did not affect mortality rates. Patients with a higher risk for cardiovascular disease derived more benefit from statin therapy, as did women vs men. Subjects with the greatest reduction in LDL cholesterol had

the lowest rates of cardiovascular events. However, as in previous studies, patients derived benefits from statins regardless of baseline LDL-cholesterol levels.

On the basis of their results, the authors **estimated that 60 patients without cardiovascular disease would need to receive treatment with statins for 4.3 years (the average duration of study follow-up in the meta-analysis) in order to prevent 1 major coronary event. If all American adults at intermediate risk for cardiovascular disease were treated with statins, up to 383,000 major coronary events and 85,800 cerebrovascular events could be prevented over a period of 4.3 years. However, the cost of such a program would be between \$40 and \$155 billion in terms of medication costs alone.**

Patients without contraindications should be considered for treatment with statins if their risk for cardiovascular events exceeds 20% over a 10-year period.^[3] Patients with a 10-year risk for cardiovascular events under 10% probably will not benefit from statin treatment. The art of medicine applies to the large group of patients who fall between a 10% and 20% risk for events over 10 years. The current study suggests that a significant reduction in morbidity may be achieved in these patients, but if a reduction in mortality associated with statin therapy in this population exists, many patients will require statin therapy over significant time periods to achieve a benefit.

Family physicians are in a unique and privileged position in being able to guide patients at moderate cardiovascular risk in the decision of whether to undertake statin therapy. This decision is based on many factors, including the willingness of the patient to take a medication on a regular basis and both the patient's and physician's attitude toward health risk. The current study should help physicians counsel patients as they weigh their choices

References

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“Chance Favors the Prepared Mind”

- Louis Pasteur