Pravastatin reduced nonfatal MI without increasing noncardiovascular death in men with hypercholesterolemia

Objective
To evaluate the effectiveness of pravastatin in preventing coronary events in men with moderate hypercholesterolemia and no history of myocardial infarction (MI).

Design
Randomized, double-blind, placebo-controlled trial with a mean 4.9-year follow-up.

Setting
Coronary screening clinics throughout the West of Scotland.

Patients
6595 men (mean age 55 y) with a fasting low-density lipoprotein (LDL) cholesterol level ≥ 4.0 mmol/L during the second and third baseline visits, with at least 1 value ≥ 4.5 mmol/L and 1 value ≤ 6.0 mmol/L; no serious electrocardiogram abnormalities; and no history of MI or other serious illnesses.

Intervention

Main Outcome Measures
Nonfatal MI or death from coronary heart disease (CHD), cardiovascular and total mortality, revascularization procedures, and changes in plasma cholesterol and LDL cholesterol levels.

Main Results
Analysis was by intention to treat. Pravastatin decreased plasma cholesterol levels by 20% and LDL cholesterol levels by 26% in patients who took their medication. No changes occurred with placebo. Pravastatin led to fewer definite nonfatal MIs and deaths from CHD at a mean follow-up of 4.9 years than did placebo (6% vs 8%, P < 0.001). (This absolute risk reduction of 2% means that 42 patients would need to be treated (NNT) for a mean of 4.9 years to prevent 1 nonfatal MI or 1 death from CHD, 95% CI 28 to 94; the relative risk reduction (RRR) was 31%, CI 17% to 43%.)* When this combined outcome was separated, pravastatin led to fewer definite MIs than did placebo (5% vs 7%, P < 0.001) [ARR 2%; NNT 53, CI 33 to 130; RRR 31%, CI 15% to 45%]* but not to fewer deaths definitely from CHD (1.2% vs 1.7%, P = 0.13). The rate of death from all cardiovascular causes was lower in the pravastatin group than in the placebo group (1.6% vs 2.3%, P = 0.03). No difference in noncardiovascular deaths was observed (P = 0.54). Total mortality was 3.2% in the pravastatin group and 4.1% for placebo (P = 0.051). At year 5, cumulative rates of withdrawal from treatment in the placebo and pravastatin groups were 31% and 30%, respectively.

Conclusion
In men with moderate hypercholesterolemia and no history of myocardial infarction, pravastatin when compared with placebo reduced the incidence of either nonfatal myocardial infarction or death from coronary heart disease and did not increase the risk for death from noncardiovascular causes.

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