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Statins not effective in reducing osteoporotic fractures

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Keywords

Osteoporosis, pravastatin

Context

Recent observational studies have suggested that statins could reduce the risk of osteoporotic fractures. This randomized, controlled Long-term Intervention with Pravastatin in Ischaemic Disease (LIPID) trial tested that hypothesis.

Significant findings

At follow-up, the team reported that 101 patients in the placebo group had been admitted to hospital for fracture compared with 107 from the pravastatin group (hazard ratio 1.05 [95% confidence interval {CI} 0.80-1.37]). Total number of fractures were 183 in the placebo group and 175 in the pravastatin group (0.94[0.77-1.16]). The authors carried out separate analyses of the groups at high risk for fracture - women and those over 65 - but similar results were reported. The authors note that the analysis showed no evidence of reduced frequency of fracture in patients treated with pravastatin. Fracture risks were similar in both treatment groups across all classifications.

Comments

The authors stressed that the 95% CI around the relative risk of fracture show that a small effect cannot be completely ruled out, but this agent is unlikely to have clinically significant efficacy against fractures. They emphasize that the effect of statins is certainly not equal to that of therapies currently used in the management of osteoporosis, namely bisphospates and hormone replacement therapy, which

lower fracture risk by about 50%. The authors warned against using these agents for osteoporosis, particularly if it means patients are not being treated with therapies of proven efficacy. The authors call for further randomized controlled trials to study the effects of various statins on bone density, biochemical indices of bone cell activity, and fracture incidence "before their role in the management of skeletal disease can be adequately assessed".

Methods

The authors calculated the frequency of fractures from the adverse events that were reported in 9014 patients enrolled in the LIPID trial. They point out that the patients in the trial were not at high risk of osteoporotic fractures, and were not recruited on the basis of a history of fracture. The cohort was randomly assigned to receive pravastatin 40 mg daily or placebo over a 6 year period.

Additional information

References

1. Reid IR, Hague W, Emberson J, Baker J, Tonkin A, Hunt D, MacMahon S, Sharpe N, on behalf of the LIPID Study Group : Effect of pravastatin on frequency of fracture in the LIPID study: secondary analysis of a randomised controlled trial. Lancet. 2001, 357: 509-512.