

Cost-effectiveness of lipid-lowering therapy

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As health care budgets are under pressure, evaluation of cost-effectiveness is of increasing importance to provide arguments to insurance companies to pay for diagnostic procedures or for specific treatments. Methodology for cost-effectiveness analyses has been evolving over the last years but is still complex and based on various assumptions. In their study, Van Nooten et al. evaluated the cost-effectiveness of lipid-lowering therapy in patients with coronary heart disease or type 2 diabetes [1]. The authors conclude that the combination of ezetimibe and simvastatin is cost-effective in primary prevention of vascular events in patients not achieving the advocated low-density lipoprotein cholesterol (LDL-C) goal of 2.5 mmol/l on statin treatment alone. The methodology used in the paper to estimate and calculate costs is common practice in the economic evaluation of health care costs. On the effectivity side of the paper, the authors assume that LDL-C reduction with statin monotherapy compared with combination therapy with ezetimibe and statin is equally effective in reducing the risk of cardiovascular events. However, there is no evidence from randomised clinical trials, with clinical events as endpoints, showing that the results from statin monotherapy trials can be extrapolated to risk reduction by LDL-C reduction as a result of combination therapy. Nevertheless, it is not unrealistic to accept that vascular risk reduction largely depends on LDL-C reduction

irrespective of the pharmacological modality leading to that LDL-C reduction. Clinical endpoint studies using non-statin interventions such as bile acid sequestrants or with ileum bypass [2] show LDL-C reductions associated with a reduction in vascular events. It is most likely that vascular event reduction is indeed caused by LDL-C reduction. The results of large randomised endpoint trials, evaluating the effect of ezetimibe on vascular endpoints, are expected in 2012. As Van Nooten et al. correctly point out, in clinical trials in patients with diabetes, the combination of statin/ezetimibe was associated with lower carotid intima-media thickness compared with statin alone. It should be noted that in familial hypercholesterolaemia patients, the addition of ezetimibe on maximal statin dose did not affect carotid intima-media thickness.

During the last few years, the costs of statin therapy have dropped dramatically due to expiring patent protection. The costs of 1-year statin treatment are about €50–60, including pharmacy costs. Even in the light of these dramatic low costs, the combination treatment of statin/ezetimibe is cost-effective due to a sizeable additional LDL-C reduction on top of statin treatment, compared with small incremental reduction of LDL-C when the statin dose is increased. In the original EASEGO study [3], 67% of patients in the statin/ezetimibe combination arm reached the LDL-C goal of 2.5 mmol/l compared with 26% in the doubling statin dose group. If combination treatment ultimately proves to reduce hard clinical endpoints, the combination of inhibiting cholesterol synthesis and inhibiting cholesterol absorption may become standard, cost-effective, practice in patients not reaching LDL-C goals on statin therapy alone.

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