Enhancing cardiovascular disease risk reduction: raising high-density lipoprotein levels

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Special Editorial

Cardiovascular disease (CVD) is the number one cause of death worldwide. It has been estimated that 17.5 million people died from cardiovascular disease in 2005, which equates to 30% of all deaths worldwide. Of these deaths, 7.6 million were due to heart attacks and 5.7 million due to stroke. By 2015 an estimated 20 million people will die from CVD (mainly from heart attacks and strokes). Although, dramatic reductions in CVD risk have been achieved through the effective lowering of low density lipoprotein cholesterol (LDL-C) using 'Statin' therapy (21% reduction in CVD risk for every 1.03mmol/l (40mg/dl) decrease in LDL-C), the residual risk of death and a CVD event in patients with established stable CVD remains at 9% after one year, and those presenting with an acute coronary syndrome it remains at 22% after 2 years treatment, underscoring the need for novel treatment strategies capable of further reducing CVD risk.

In this respect, a low level of high density lipoprotein cholesterol (HDL-C) (<1.03mmol/l or <40mg/dl) is an independent risk factor for CVD, contributing to residual CVD risk. It has been suggested that elevating HDL-C by 0.03 mmol/l (1.0 mg/dl) may reduce CVD risk by 2-4% per year. One third of patients with dyslipidaemia in Europe has low levels of HDL-C, and could benefit from HDL-C raising therapy. This can be achieved by both lifestyle measures (exercise, reducing weight, moderate alcohol intake and dietary changes) and pharmacological treatment strategies, although the choice of drugs currently available for raising HDL-C are rather limited (mainly confined to nicotinic acid or fibrates). However, newer drugs specifically designed to elevate HDL-C are on the horizon (these include cholesteryl ester transfer protein inhibitors, HDL-C mimetics, nuclear liver X and farnesoid X receptor agonists and endothelial lipase). Therefore, in the future we may be able to enhance CVD risk reduction by raising HDL-C levels.

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