Abstract

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The effect of nicotinic acid and acipimox on lipoprotein(a) concentration and turnover.

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OBJECTIVE: This study examines the effect of nicotinic acid (1 g t.d.s.) on serum Lp(a) concentration in a group of patients with type II hyperlipidaemia selected on the basis of a plasma Lp(a) concentration greater than 30 mg/dl.

METHODS AND RESULTS: Reductions in total cholesterol, triglyceride, LDL-cholesterol and Lp(a) were 16.3%, 25.5%, 23.7% and 36.4%, respectively, with an increase in HDL cholesterol of 37.3%. The reduction in Lp(a) concentration did not correlate with any other lipoprotein changes. In order to establish the mechanism of the fall in Lp(a) concentration, in vivo turnover of autologous Lp(a) was studied in three subjects before and whilst taking nicotinic acid. The fractional catabolic rate in Lp(a) was unaltered in the subjects on therapy, indicating that nicotinic acid did not increase catabolism of Lp(a) but decreased the synthetic rate. Since nicotinic acid was poorly tolerated we examined the effect of acipimox, an analogue of nicotinic acid on lipoproteins using a placebo controlled double-blind crossover design in a group of hyperlipidaemic patients again selected with plasma Lp(a) concentration greater than 30 mg/dl.

CONCLUSION: Acipimox was better tolerated than nicotinic acid but the percentage changes in lipoprotein concentrations were smaller.

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