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The influence of changes in lipid values induced by cholestyramine and diet on progression of coronary artery disease: results of NHLBI Type II Coronary Intervention Study.

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Abstract

The National Heart, Lung and Blood Institute Type II Coronary Intervention Study, a double-blind, placebo-controlled trial, evaluated the efficacy of reduction in cholesterol levels induced by cholestyramine on progression of coronary artery disease (CAD). The rate of CAD progression in patients treated with cholestyramine plus diet was compared with that of patients treated with placebo plus diet. CAD progression was defined angiographically. Significant decrease in total cholesterol (TC) and low-density lipoprotein cholesterol (LDLc) and increases in high-density lipoprotein cholesterol (HDLc), as well as in HDLc/TC and HDLc/LDLc ratios, were observed with cholestyramine. HDLc change was due to increase in HDL2A and HDL2B. When the relationship between CAD progression and lipid changes was examined independent of specific treatment group, a significant inverse relationship was found between progression at 5 years and the combination of an increase in HDLc and a decrease in LDLc; changes in HDLc/TC and HDLc/LDLc were the best predictors of CAD change. While the testing of these relationships independent of treatment group was not part of the initial study design, the trends were observed in both the placebo-treated and cholestyramine-treated groups. Moreover, with multivariate analysis, the effect of cholestyramine treatment on CAD progression was eliminated by adding changes in HDLc/TC to the regression model. These findings support the hypothesis that increases in HDLc and decreases in TC (or LDLc) can prevent or delay CAD progression.

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