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Garlic powder, effect on plasma lipids, postprandial lipemia, low-density lipoprotein particle size, high-density lipoprotein subclass distribution and lipoprotein(a).

Randomized controlled trial

Superko HR, et al. J Am Coll Cardiol. 2000.

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Abstract

OBJECTIVES: To test the hypothesis that a garlic supplement alters plasma lipoproteins, postprandial lipemia, low-density lipoprotein (LDL) size and high-density lipoprotein (HDL) subclass distribution differently in 50 moderately hypercholesterolemic subjects classified as LDL subclass pattern A or B.

BACKGROUND: Garlic has been variably reported to reduce or not affect plasma cholesterol values. Low-density lipoprotein pattern B is a common inherited disorder of lipoprotein metabolism that has been shown to have a significantly greater response to several lipid lowering treatments including low fat diet when compared with LDL pattern A individuals.

METHODS: A double blind, randomized, placebo controlled trial in an outpatient lipid research clinic was performed and included fifty moderately hypercholesterolemic subjects (mean LDL cholesterol = 166 +/- 22

mg/dl) classified as LDL subclass pattern A

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(predominantly large LDL, n = 22) or B (predominantly small LDL, n = 28). Following a two-month stabilization period, subjects were randomly assigned to a placebo or 300 mg three times a day of a standardized garlic tablet for three months.

RESULTS: For all subjects, LDL pattern A and B subjects combined, garlic treatment for three months resulted in no significant change in total cholesterol, LDL cholesterol, HDL cholesterol, HDL subclass distribution, postprandial triglycerides, apolipoprotein B, lipoprotein (a) (Lp[a]), LDL peak particle diameter or LDL subclass distribution. There was no significant difference in response for the same parameters among subjects classified as LDL pattern A or B with the exception of significantly greater (p = 0.01) reduction in mean peak particle diameter in pattern A subjects treated with either garlic or placebo. There was no significant change in LDL subclass distribution.

CONCLUSIONS: This investigation confirms that garlic therapy has no effect on major plasma lipoproteins and further, that it has no impact on HDL subclasses, Lp(a), apolipoprotein B, postprandial triglycerides or LDL subclass distribution. Garlic may have a greater effect on LDL particle diameter in LDL pattern A compared with pattern B subjects. This difference was not reflected in other plasma lipid measurements.

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