Format: Abstract

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Antiatherosclerotic effects of licorice extract supplementation on hypercholesterolemic patients: increased resistance of LDL to atherogenic modifications, reduced plasma lipid levels, and decreased systolic blood pressure.

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Abstract

OBJECTIVE: We previously demonstrated the beneficial effects of dietary flavonoids derived from the ethanolic extract of licorice root against atherosclerotic lesion development in association with inhibition of low-density lipoprotein (LDL) oxidation in atherosclerotic mice. Administration of licorice extract to normolipidemic subjects also inhibited LDL oxidation. In the present study, we extended our investigation to analyze the antiatherogenic effects of licorice-root extract consumption in moderately hypercholesterolemic patients.

METHODS: Supplementation of licorice root extract (0.1 g/d) to patients for 1 mo was followed by an additional 1 mo of placebo consumption.

RESULTS: Licorice consumption 1) reduced patients' plasma susceptibility to oxidation (by 19%); 2) increased resistance of plasma LDL against three major atherogenic modifications: oxidation (by 55%), aggregation (by 28%), and retention, estimated as chondroitin sulfate binding ability (by 25%); 3) reduced plasma cholesterol levels (by 5%), which was due to a 9% reduction in plasma LDL cholesterol levels; and 4) reduced (by 14%) plasma triacylglycerol levels. After the 1 mo of placebo consumption, these parameters reversed toward baseline levels. Licorice extract supplementation also reduced systolic blood pressure by 10%, which was sustained during the placebo consumption.

CONCLUSIONS: Dietary consumption of licorice-root extract by hypercholesterolemic patients may act as a moderate hypocholesterolemic nutrient and a potent antioxidant agent and, hence against cardiovascular disease.

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