Artichoke leaf extract reduces oxidative stress and lipoprotein dyshomeostasis in rats fed on high cholesterol diet.

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Abstract
Hypercholesterolemia and lipid peroxidation play complementary role in atherosclerosis. Artichoke leaf extract (ALE) is rich in natural antioxidants and has a cholesterol-reducing effect. However, there is no study investigating the effect of ALE on lipid levels and lipid peroxidation in experimental hypercholesterolemic conditions. Rats were fed on 4% (w/w) cholesterol and 1% (w/w) cholic acid supplemented diet for 1 month. ALE (1.5 g/kg/day) was given by gavage during the last 2 weeks. Serum lipid composition, malondialdehyde (MDA) and diene conjugate (DC) levels and plasma antioxidant activity (AOA) were measured. In addition, endogenous DC and copper-induced MDA levels were determined in apo B-containing lipoproteins (LDL+VLDL fraction). Serum cholesterol and triglyceride levels and the ratio of cholesterol to HDL-cholesterol decreased due to ALE treatment in rats fed on HC diet. Significant decreases in serum MDA and DC levels and increases in plasma AOA were detected in serum in ALE-treated hypercholesterolemic rats. Endogenous DC and copper-induced MDA levels were also lower in LDL+VLDL fraction due to ALE-treatment in hypercholesterolemic rats. Our results indicate that ALE may be useful for the prevention of hypercholesterolemia-induced pro-oxidant state in LDL+VLDL fraction and the reduction of increased serum cholesterol and triglyceride levels.

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PMID: 19777605 [PubMed - indexed for MEDLINE]