Eggplant (Solanum melongena) Extract Does Not Alter Serum Lipid Levels

Juliana Marchiori Praça, Andréa Thomaz, Bruno Caramelli

São Paulo, SP - Brazil

Objective - To compare the effect of eggplant extract on serum lipid levels with that of lovastatin.

Methods - The study included 21 individuals of both sexes, with total cholesterol (TC) levels > 200 mg/dL, no diabetes, no contraindication for the use of statins, and no use of cholesterol-lowering drugs, divided into the following 3 groups: 1) the eggplant group (B), in which the patients drank 1 glass of eggplant extract with orange juice before breakfast each morning; 2) the statin group (E), in which the patients received 20 mg of lovastatin in the evening after dinner; 3) control group (C), in which the patients received no treatment. Total cholesterol and fractions (HDL, LDL), and triglycerides were measured 3 times at 3-week intervals.

Results - The baseline lipid levels were similar in the 3 groups. After 6 weeks, a significant reduction in TC levels (from 245.29 ± 41.69 to 205.71 ± 46.45; P=0.02) and in LDL-cholesterol levels (from 170.83 ± 41.76 to 121.29 ± 44.90; P=0.008) was observed in group E. In group B, total cholesterol (from 230.60 ± 19.30 to 240.20 ± 16.22; P=0.27) and LDL-cholesterol (from 139.60 ± 21.49 to 154.40 ± 9.66; P=0.06) showed no statistically significant variation, as in group C. No significant variation was observed in the HDL-cholesterol and triglyceride levels in the 3 groups throughout the study.

Conclusion - The eggplant extract with orange juice is not to be considered an alternative to statins in reducing serum levels of cholesterol.

Keywords: ischemic heart disease, dyslipidemia, eggplant

Cardiovascular diseases are the first cause of death in Brazil. This classification includes cerebrovascular disease and ischemic heart disease, which have arterial atherosclerosis in common as a pathophysiological basis. These diseases, most of the time, have an abrupt onset, requiring the development of strategies for primary and secondary prevention. The prevention of cardiovascular diseases involves the recognition of their risk factors, which if controlled, decreases the incidence of these diseases. A 1% reduction in cholesterol level was shown to correspond to a 2% reduction in the probability of cardiovascular events.

The treatment of hypercholesterolemia requires a reduction in the intake of food with a high content of saturated fat (of animal origin), rich in cholesterol. Medications are the second step in the treatment. Some studies have shown that statins reduce cholesterol levels in approximately 20% and the incidence of cardiovascular events and mortality in up to 22%. The treatment with statins, however, has a very high cost, hindering the use of those drugs in the general population, which explains the constant search for more economic alternatives. Especially in Brazil, the high cost of this treatment may be responsible for the low index of use of statins observed in clinical practice.

The objective of this study was to check the efficacy of eggplant (Solanum melongena) extract combined with orange juice in acting as a reducer of serum lipid levels compared to the efficacy of lovastatin.

Methods

Twenty-one individuals of both sexes with total cholesterol above 200 mg/dL were selected. Individuals with contraindications to the use of fibers, diabetic individuals, and those using cholesterol-lowering drugs were excluded from the study.

The number of individuals in each group was based on the mean value of total cholesterol reduction with lovastatin of 20%, and the standard deviation estimated for each group of 0.10, because they were homogeneous groups, meeting the following 2 inclusion criteria: baseline total cholesterol level > 200 mg/dL and the absence of treatment. Individuals with total cholesterol much greater than that value...