INTRODUCTION: Monounsaturated fatty acids have broad effects on the development of inflammation, preventing and modifying the oxidation of lipoproteins. Oleic acid (Omega-9 fatty acid) has a protective effect against the development of atherosclerotic coronary disease. A diet rich in monounsaturated fatty acids prevents oxidative modification of lipoproteins in a more significant manner than a diet rich in polyunsaturated. The oil present in Bocaiúva shows 66% oleic acid, but has not yet been established its behavior against metabolic syndrome. OBJECTIVES: To evaluate the lipid profile in obese mice undergoing Bocaiúva oil supplementation. MATERIAL AND METHODS: C57BL/6 obese and nonobese patients were supplemented with Bocaiúva oil daily by gavage for 60 days. The biochemical parameters was analyzed for serum total cholesterol, serum triglycerides and plasma glucose. RESULTS: Bocaiúva oil was very efficient (p<0.001) decrease in weight in all groups that received gavage, both between nonobese and among the obese; the obese groups showed significant increase in serum glucose (p <0.001) compared to the control group but no difference in blood glucose between the groups receiving and not receiving Bocaiúva oil. The indices showed significant decrease of total cholesterol in the group that received the oil, as compared to control groups but no change in the obese. The values of triglycerides experienced no change with óleo. CONCLUSION: Bocaiúva oil not alter the glucose or triglyceride values in treated groups, but significantly modifies the values of total cholesterol in lean mice. The oil was able to significantly decrease the values of body mass, much of the lean as obese.

Keyword: metabolic syndrome, monounsaturated fatty acids, Omega-9.
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