

Evaluation of the Effects of Bixin on the Lipid Profile of Rats fed Two Different Diets

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Bixin, the principal pigment extracted from annatto seeds, has been reported to have hypocholesterolemic power. The aim of this study was to investigate in two different diets, the effects of an oil extract containing 8% of bixin on the lipid profile of rats. Two experiments were conducted, one testing the AOAC diet (13% fiber) and the other the AIN-93 diet (5% fiber). In each experiment, animals were divided into four groups: control (C), hyper (H), control + bixin (CBO), hyper + bixin (HBO). The interaction between hypercholesterolemia and bixin was analyzed, and the results compared by two-way ANOVA. In the AOAC diet, the animals treated with bixin (CBO and HBO) showed lower food intake and lower levels of the total cholesterol when compared with the non-treated animals (C and H). Supplementation with bixin in the hypercholesterolemic diet reduced the non-HDL cholesterol, reduced the atherogenic index and increased the levels of HDL cholesterol of the animals of the HBO group. Inverse effects were found in the AIN-93 diet. Bixin treatment increased food intake and the supplementation with bixin in the hypercholesterolemic diet, promoted increases in total cholesterol, non-HDL cholesterol and in the atherogenic index in the HBO group. The present data demonstrate antagonistic responses in food intake and the effect of bixin in the examined diets, and indicate that the different fiber content of these diets may be interfering with the mechanisms of regulation of cholesterol carried out bixin.

Keywords: bixin, hypercholesterolemia, AOAC diet, AIN-93 diet.

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