

Effect of Açaí (*Euterpe oleracea* Mart.) on Liver and Antioxidant Enzyme Changes Caused by Fructose-Rich Diet Model

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INTRODUCTION: Nonalcoholic fatty liver disease (NAFLD) is characterized by fat accumulation in the liver of patients without history of excessive alcohol consumption. The excessive consumption of fructose can cause liver damage, characteristic of NAFLD associated with changes in lipid metabolism and antioxidant defenses, both implicated in the progression of the disease. It has been shown that acai, fruit of *Euterpe oleracea* Mart. palm tree affects the lipid metabolism and may therefore have protective effects on hepatic steatosis, besides anti-inflammatory and antioxidant effect. **OBJECTIVES:** Evaluate the benefits of açaí supplementation on the liver damage caused by fructose-rich diet in *Fischer* rats. **METHODS:** 30 rats (males) divided into 2 groups: Group C (control group) received standard diet AIN-93M (10 animals) and F group (fructose group) received a diet containing 60% of fructose (20 animals). After eight weeks, 10 animals of the fructose group received the same, but now containing 2% freeze dried acai, FA group (fructose + açaí). The rats were fed these diets ad libitum for more 10 weeks. Data were analyzed by one-way ANOVA followed by Tukey post-test. Differences were significant at $p < 0.05$. **RESULTS:** The results show that fructose-rich diet increases the levels of triacylglycerol on serum, liver and feces. Hepatic steatosis was confirmed by histological analysis. The fructose-rich diet has also increased the activity of antioxidant enzyme paraoxonase. The treatment with acai reduced the degree of microvesicular and macrovesicular steatosis and also reduced partially the paraoxonase activity. **CONCLUSION:** The intake of fructose-rich diet was effective in promoting hepatic steatosis and supplementation with acai reduced the degree of steatosis and reversed the change in antioxidant enzyme.

Key Words: *Euterpe oleracea* Mart.; Fructose-rich diet; Liver; NAFLD / DHGNA; Oxidative stress.

Financial Support: FAPEMIG, CNPq e UFOP.