MODULATORY EFFECT OF THE AMAZONIAN FRUIT *Solanum sessiliflorum* ON OXIDATIVE MARKERS IN A *Drosophila melanogaster* MODEL

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INTRODUCTION: Cubiu (*Solanum sessiliflorum*) is a fruit native to the Amazon region, notable for its rich composition of bioactive compounds such as carotenoids, flavonoids, and alkaloids. These compounds are recognized for their antioxidant and anti-inflammatory properties, playing a key role in the neutralization of reactive oxygen species (ROS). Given the relevance of oxidative stress as a mechanism involved in cellular toxicity, Cubiu emerges as a potential natural therapeutic agent, drawing interest for its possible application as an adjuvant in the treatment of chronic diseases, including neurodegenerative disorders. OBJECTIVE: To evaluate whether Cubiu has a modulatory effect on ROS production using *Drosophila melanogaster* as an experimental toxicology model. MATERIALS AND METHODS: Male and female flies, aged between one and two days, were divided into six groups of 50 flies each: control, 1%, 2.5%, 5%, 7.5%, and 10% Cubiu. The control group received only standard diet supplementation, while the other groups were fed diets supplemented with proportionate amounts of fruit, not exceeding 10 grams of total diet. After 7 days of exposure, lipid peroxidation was quantified through thiobarbituric acid reactive substances (TBARS) analysis, alongside measurements of ROS levels and mortality rates. RESULTS AND CONCLUSION: No increase in mortality was observed in any of the groups. The concentrations of 1%, 2.5%, and 5% significantly reduced TBARS and ROS levels compared to the control ($p < 0.05$). In contrast, the 7.5% and 10% concentrations led to increased lipid peroxidation ($p = 0.0002$ and $p < 0.0001$, respectively) and ROS levels ($p = 0.0035$ and $p < 0.0001$, respectively), relative to the control group. These findings demonstrate that Cubiu, at moderate concentrations (1%, 2.5%, and 5%), exerts a significant antioxidant effect, supporting its potential as a modulator of oxidative stress. The results underscore the importance of dose-dependent evaluation in the characterization of natural substances and highlight Cubiu as a promising candidate for studies in natural product toxicology, with potential applications as an antioxidant or therapeutic adjuvant.

Keywords: Oxidative stress; *Drosophila melanogaster*; Antioxidants.
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