AQUEOUS EXTRACT OF TAMARIND, IN LOW DOSES, ATTENUATE WEIGHT GAIN IN MICE FED WITH HIGH FAT DIET: MODULATION OF BIOCHEMICAL AND OXIDATIVE STRESS MARKERS

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INTRODUCTION: The accumulation of body fat is associated with oxidative stress and inflammation in several studies using animal model. In obesity, excessive amount of adipose tissue is related with greater secretion of adipokines. **AIMS:** Therefore, this study aimed to evaluate the effects of an aqueous extract of tamarind on markers of oxidative stress in C57BL/6J mice fed with high fat diet (HFD) for 10 weeks. **METHODOLOGY:** The effects of the aqueous extract of tamarind, incorporated into a high fat diet at concentrations of 0.2 and 1%, it was evaluated in animals by biochemical parameters (Oral Glucose Tolerance Test – OGTT; triglycerides, total cholesterol, HDL cholesterol, glucose) in serum. Some hormones (leptin, adiponectin and insulin) and markers of oxidative stress: activity of the antioxidant enzymes superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx), TBARS and ORAC, and triglycerides in hepatic tissue. For the statistical treatment of the data the analysis of variance was used, followed by Tukey post-test, using the Prism 5.0 software with $p<0.05$. **RESULTS:** The results of this study showed that the aqueous extract of tamarind, in low doses, 0.2% reduced weight gain and fat accumulation in adipose tissues, and modulates the parameters of glucose tolerance, insulin and leptin in serum when compared to HFD control group. In liver, the extract reduced the concentrations of the triglycerides and lipid peroxidation, and increased GPx activity, allowing these variables to reach values similar to the normolipid control group. **CONCLUSION:** This study showed the effects of aqueous extract of tamarind in biochemical and oxidative stress markers of the animals fed with high fat diet, revealing possible hepatoprotective effects and weight gain.

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