EFFECT OF PEQUI PULP (CARYOCAR BRASILIENSE CAMBESS) ON LIPID METABOLISM IN RATS FED HIGH-FAT DIET

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Introduction: The pequi is a typical Cerrado fruit known for its role in income generation and the large quantity of fat, fiber, carotenoids and antioxidant potential. Studies have shown that carotenoids can attenuate the development of obesity due to its anti-adiposity action. Carotenoids are associated with increased oxidative metabolism, energy consumption, anti-inflammatory action and decreased expression and activity of PPARγ in adipose tissue deposits. Objective: Evaluate the pequi pulp (Pq) effect on biometric aspects and lipid metabolism in rats fed a standard diet and high-fat diet. Material and methods: Rats Fischer (n = 40) were divided into groups and fed for eight weeks with the respective diets: a standard diet (P), a standard diet added with 2.4% of Pq (PPq), high-fat diet with 25% soybean oil and 2% cholesterol (H) and high-fat diet added with 2.4% of Pq (HPq). At the end of the experiment, the faeces, blood, liver and mesenteric (TAM), abdominal (TAA) and brown (TAB) adipose tissues were collected. Results: High-fat diet showed higher body mass gain. Interestingly the mass of TAM and TAA were lower on HPq, while the TAB was reduced in PPq and HPq groups. High-fat diet also caused increased cholesterol and decreased triglycerides and HDL-cholesterol in the serum; as well as it increased in lipid percentage, cholesterol and triglycerides in the liver. The fecal lipid percentage of HPq was highest, but the H group had higher cholesterol excretion than the other groups. H and HPq groups showed macrovesicular and microvesicular steatosis, but the HPq group partially decreased the number of inflammatory cells in the liver when related to H group. Conclusion: The pequi pulp can interfere with the body fat and adipose tissue ability to store and oxidize lipids, and consequently reducing inflammatory parameters. These effects could be attributed to carotenoids constituents of pequi pulp.

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