

ANTI-OBESITY ACTIVITY OF BACUPARI EXTRACT ON HIGH FAT DIET-INDUCED OBESE RATS

Moreira, M.E.C., Gomes, D.N.¹, Toledo, R.C.L.¹, Medina, N.¹, Ribeiro, S.R.M.¹,
 Martino, H.S.D.¹, Suarez, L.², Demuner, A.J.², dos Santos, M.H.²

¹Department of Nutrition and Health. ²Department of Chemistry. Federal University of Viçosa, PH Rolfs Avenue, s/n, Viçosa, Minas Gerais, Brazil; marcelo_hs@yahoo.com.br

Abstract: A variety of natural products, including crude extracts and isolated compounds from plants, have been widely used traditionally to treat obesity. The Brazilian specie *Garcinia brasiliensis* (Mart), popularly known as bacupari, bacuri, porocó and bacuripari [1], was the aim of this study. It was determined the effect of ethanol extract of bacupari peel (BEE) in the adiposity and inflammation modulation in obese Wistar rats. The total flavonoids and chromatographic analysis of the extract were analyzed. The biometry and biochemical parameters were evaluated in three experimental groups: negative control (AIN-93M), positive control (HFD) and group with obese rats plus extract bacupari (BHFD). Also PPAR- γ , LPL and FAS expression, pro and anti-inflammatory cytokines, TNF- α and IL-10, as well as histomorphology of the epididymal adipose tissue were determined. The BEE presented high content of the 7-epi and morelloflavone. HFD promoted the highest weigh gain per gram of intake diet due caloric density and group BHFD reversed the high fat diet effect, become the weight gain (Figure 1A), visceral fat, body mass index and adiposity similar to AIN-93M. The group treated of BEE + high fat diet showed antioxidant and anti-inflammatory effect increasing PPAR- γ and IL-10 and decreasing blood glucose (Figure 1B), ALT, LPL, FAS and TNF- α . In addition, the epididymal adipose tissue histology confirmed the BEE effect to reduce the adipocytes hypertrophy. In conclusion, based on biometrical, biochemical, histological and molecular analyzes we demonstrate that ethanolic extract of *G. brasiliensis* peel has potent anti-obesity activities.

B

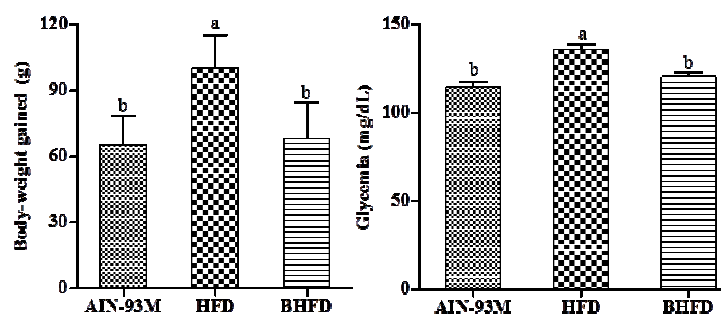


Figure 1: Body-weight gained (A) and fasting serum glucose (B) of rats treated with standard diet (AIN-93M), high fat diet (HFD), high fat diet + bacupari peel extract (BHFD).

Acknowledgments

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References:

[1] Castro, A.P., De Mattos, A.C., Pereira, N.A., Anchieta, N.F., Silva, M.S., Dias, D.F., Silva, C.A., Barros, G.V., Souza, R.L., Dos Santos, M.H., & Marques, M.J. 2015. Potent Schistosomicidal Constituents from *Garcinia brasiliensis*. *Planta Medica*. Germany. 81:733-741.