ACETONIC EXTRACT OF *Myrciaria cauliflora* FRUIT PEEL IMPROVES METABOLIC ALTERATIONS AND PANCREAS MORPHOLOGY INJURIES CAUSED BY DIABETES MELLITUS AND HYPERURICEMIA

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Diabetes is a major global metabolic disorder of current century and hyperuricemia has been shown to be associated with impaired glucose metabolism. Fruits represent a vast source of potentially useful dietary suplementations for improving hyperglycemia and hyperuricemia and preventing long-term complications, but most of fruit peels are not used although they are rich in secondary products of pharmacological interest. Thus, the aim of the present study was to investigate whether acetone extract of *Myrciaria cauliflora* fruit peel is able to ameliorate diabetes and hyperuricemia. The acetone extract of *M. cauliflora* fruit peel (MCAE) was obtained, and orally administered to a diabetic animal model, alloxan-induced diabetic mice, and to potassium oxonate-hyperuricemic mice at doses of 200 mg/Kg/day and 400 mg/Kg/day during 14 days. Evaluations of glucose, uric acid, lipids profile, renal and hepatic functions were performed, by biochemical enzymatic determinations; and histological analysis of pancreas also was made. The results demonstrated that fasting blood glucose levels were significantly reduced by 39% and 58% after the treatment with 200 mg/Kg/day and 400 mg/Kg/day, respectively. Similarly, serum levels of triglycerides, urea, creatinine, aspartate aminotransferase and alanine aminotransferase were also significantly reduced by the treatment with both doses of MCAE; besides serum levels of HDL-cholesterol were significantly increased. Histological analysis of pancreas revealed an improvement in the tissue morphology of the diabetic mice with MCAE. Furthermore, uric acid levels were significantly reduced by 39.7% and 49.1%, respectively, after treatment with MCAE in 200mg/Kg/day and 400mg/Kg/day. Therefore, this study demonstrated for the first time that *M. cauliflora* fruit peel (acetonic extract) may be a promising therapeutic source for the treatment of diabetes with natural products, and could ameliorate metabolic alterations, such as liver and kidney dysfunctions, and pancreas morphology injuries, caused by diabetes mellitus and hyperuricemia in mice.

Keywords: *Myrciaria cauliflora*, Antidiabetic, Anti-Hyperuricemic.

Supported by: CNPq, CAPES, and FACEPE.