Hepatoprotective Activity of Cashew Apple Pulp and Anacardic Acids Against Stress Induced by Paracetamol in Mice

Nunes de Almada, C.¹; Almada, C.N.¹; Assis, A.L.C.¹; Rocha, J.F.¹; Andrade, M.A.F.¹; Silva, A.C.M.²; Miranda, M. R. A.¹; Trevisan, M.T.S.³; Nunes-Pinheiro, D.C.S.⁴; Mota, E.F.⁵; Melo, D.F.¹

¹ Departamento de Bioquímica e Biologia Molecular, Universidade Federal do Ceará. Fortaleza, Brasil.
² Faculdade Católica do Ceará. Fortaleza, Brasil.
³ Departamento de Química Orgânica e Inorgânica, Universidade Federal do Ceará. Fortaleza, Brasil.
⁴ Faculdade de Veterinária, Universidade Estadual do Ceará. Fortaleza, Brasil.
⁵ Departamento de Biologia. Universidade Federal do Ceará. Fortaleza, Brasil.

INTRODUCTION: Anacardium occidentale L. is a tropical plant known for its biological properties related to its antioxidant potential. Its main products are cashew nut, cashew apple (pseudofruit) and cashew nut shell liquid (CNSL) being the CNSL rich in anacardic acids. Many substances have been tested for their ability to protect against paracetamol toxicity and those that possess antioxidant properties have been the ones of major interest. This work aims to evaluate the hepatoprotective effect of cashew apple pulp and anacardic acids (extracted of CNSL) in response to stress induced by paracetamol.

MATERIAL AND METHODS: The evaluation of hepatoprotective effect consisted on intragastric feeding (i.g.) of different groups of males mice for 15 consecutive days with cashew apple pulp or anacardic acids (300 mg/Kg). On 15th day of treatment, animals received or not acute dose of paracetamol (500 mg/Kg). The blood was collected for dosages of enzyme activities, alanine aminotransferase (ALT), aspartate aminotransferase (AST) and alkaline phosphatase (ALP). All animals were sacrificed and the livers were removed to evaluate the lipid peroxidation. The activities of AST, ALT and ALP were determined using assay kits Lab Test. The lipid peroxidation was measured in terms of Malondialdehyde (MDA) following the thiobarbituric acid method. The results were expressed as mean±S.D. and analyzed using Tukey’s test (p<0.05).

RESULTS AND DISCUSSION: Pretreatment with cashew apple pulp and anacardic acids reduced the lipid peroxidation (26.33% and 29.23%) and the activity of the enzymes ALT (34.19% and 56.89%), AST (7.74% and 22.82%) and ALP (12.85% and 24.36%) compared to the paracetamol group.

CONCLUSIONS: The results indicated that the cashew apple pulp and anacardic acids appear to present hepatoprotective activity against stress induced by paracetamol in mice.

Keywords: Anacardic acids, Anacardium occidentale, Paracetamol.

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