Protective Activity of Leaves Extract of Syzygium cumini on Paracetamol-induced Liver Damage in Mice

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INTRODUCTION: Syzygium cumini is a plant originated from India and adapted in Brazil, popularly known as black plum, jambolan and jamun. It has many pharmacological actions such as anti-inflammatory, antioxidant, antidiabetic, gastroprotective and antimicrobial. The aim of this work was to evaluate the protective activity of ethanolic extract of S. cumini leaves (EE) on paracetamol induced liver damage in mice. MATERIAL AND METHODS: Doses of the EE (150, 300 and 600 mg/kg weight) were administered by gavage for 7 consecutive days before treatment with single dose of paracetamol (500 mg/kg, orally) and its hepatoprotective effect was studied by monitoring alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP) activities and lipid peroxidation. The activities of ALT, AST and ALP were determined using assay kits (Lab Test) and the lipid peroxidation was measured in terms of malondialdehyde (MDA) following the thiobarbituric acid method. RESULTS AND DISCUSSION: The pretreatment with EE (600 mg/kg) presented hepatoprotective effect that was evidenced by the decrease (p < 0.05) in the activities of ALT (56.94%), AST (30.14%) and ALP (32.68%) in the serum of animals of the EE600+ P group compared to the paracetamol group. Furthermore, in liver tissue, there was a decrease (p < 0.05) of 25.68%, 31.67% and 31.97% of the MDA levels in EE150+ P, EE300+ P and EE600+ P groups, respectively, when compared with the paracetamol group. CONCLUSIONS: In the present conditions, the ethanolic leaves extract of Syzygium cumini revealed hepatoprotection against stress by paracetamol.

Keywords: Enzymes activities, Hepatoprotection, Lipid peroxidation, Paracetamol, Syzygium cumini.

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