

Effect of ethanol extract of *Sida acuta* Burm F. leaves on egg albumin-induced inflammation

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Abstract

Objective: To evaluate the ameliorating effect of ethanol extract of *Sida acuta* Burm F. leaves on inflammatory disorder and some of its anti-oxidants activity.

Methods: It was conducted using 25 adult wistar albino rats. They were divided into five groups of five rats each. Group 1 administered 5 ml/kg of normal saline (control group). Group 2, 3 and 4 administered 100, 200 and 400 mg/kg of ethanol extract of *Sida acuta* leaves while group 5 were administered 200 mg/kg of phenylbutazone (vehicle control). Paw oedema was induced using 0.1 ml of undiluted fresh albumin egg (phlogistic agent) into the subplantar surface of the right hind paw of the rats. Superoxide dismutase activity, Catalase activity, Vitamine E concentration and Malondialdehyde level were assessed.

Results: The extract at doses of 100, 200 and 400 mg/kg and phenylbutazone 200 mg/kg were administered intraperitoneally to respective groups of the rats. Control group received 5 ml/kg of normal saline. Doses of the extract 100, 200 and 400 mg/kg significantly ($p < 0.05$) reduced the fresh egg albumin induced rat paw oedema compared to control administered 5 ml/kg normal saline. The oedema reductions were more than that obtained for phenylbutazone; the standard anti-inflammatory agent. Non-significant ($p > 0.05$) reductions were observed in the activity of superoxide dismutase in the sera of the test groups administered 100, 200 and 400 mg/kg extract and 200 mg/kg phenylbutazone respectively compared to the control. Significant ($p < 0.05$) increase was observed in the concentration of vitamin E and catalase activity in rats administered 400 mg/kg of the extract and 200 mg/kg phenylbutazone in groups 4 and 5 respectively compared to the control.

Conclusion: It was observed that the ethanol extract of *Sida acuta* leaves posses anti-inflammatory and anti-oxidants properties which reduced paw oedema induced- inflammation to some extent.

Keywords: Catalase; Inflammation; LD50; Malondialdehyde; SOD; Vitamin E.