Original Paper

Effect of hexanic and hydroalcoholic extract of Cannabis sativa flowers on inflammatory paw edema in Rats

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Abstract

Background and Objective: Cyclooxygenase 1 and 2 activities on arachidonic fatty acids of cell membrane produces prostaglandins which involved in inflammatory processes. This study was done to evaluate the effect of hexanic and hydroalcoholic extract of Cannabis sativa flowers on inflammatory paw edema in rats.

Methods: In this experimental study, 56 male Wistar rats were allocated into the control, sham, sodium salicylate (300mg/kg/bw) and hydroalcoholic extract of heated flowers in 1, 10 and 50 mg/kg/bw, hydroalcoholic extract of unheated flowers in 50mg/kg/bw and hexanic extract of heated flower in 50mg/kg/bw, intraperitonally. 30 minutes after injection, inflammatory edema volume due to sub plantar injection of formalin (0.05 ml, 2.5%) measeared using plethysmometric method.

Results: Intraperitonally injection of 50mg/kg/bw, of hydroalcoholic and hexanic extracts of heated flowers significantly reduced in inflammatory paw edema induced by formalin (P<0.05). Also, 50mg/kg/bw, hydroalcoholic extract of unheated flowers reduced the inflammatory paw edema in comparison with heated extracts (P<0.05).

Conclusion: Hydroalcoholic extract of heated flowers decreased inflammation-induced paw edema in dose-dependent manner. The extract of unheated flowers, leads to more reduction of the inflammatory paw edema in comparison to heated flower extract, it can be due to carboxylated cannabinoid present in the hydroalcoholic extract of unheated flowers.

Keywords: Cannabis sativa, Edema, Lower limb, Rat

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