

Anti– Inflammatory Effect of Hydro Alcoholic Extract of *Ciraka Curanam*

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An inflammation plays an essential role in the development and progression of atherosclerosis and also the significant partakers in the pathophysiology of hypertension and cardiovascular disease. Anti-inflammatory treatment has beneficial effects on vascular function and make an impact on cardiovascular homeostasis. This study was conducted to evaluate the anti-inflammatory activity of hydro alcoholic extract of *Ciraka cūraṇam* (CC) in carrageenan induced wistar albino rats. It was an Observational *in-vivo* animal study carried at the Animal bred house, Dept. of Pharmacology, Arulmigu Kalasalingam College of Pharmacy, Krishnankoil, Srivilliputtur, Tamil Nadu, India. After the approval was taken from IEAC, inducing paw edema for acute and cotton pellet granuloma method for chronic inflammation. The rats were divided into four groups allowing six rats in each group. For acute effects, 0.1ml (1.0%) carrageenan in normal saline (0.9% w/v NaCl) was injected to the sub plantar region of right hind paw and the paw volume was measured. The trial drug CC was administered to the rats one hour before carrageenan inoculation and observed the inhibition of edema in 1h, 2h, 3h and 4h by Plethysmograph. For chronic effects, the reference drug indomethacin (10mg/kg) was used as a positive control and the other negative control group received saline solution. Sterilized Cotton pellets 50 mg were implanted under light ether anesthesia in the axilla and groin region of each rat by making a small incision. The standard and trial drugs were administrated orally to four groups once daily for 7 consecutive days from the day of cotton pellet implantation. The 8th day, the animals were sacrificed and cotton pellets were detached, dried out in an oven at 600°C for 24 hours then weighed. The granuloma formation was intended as a measure of increment in the dry weight of the pellet. The percentage of inhibition of granuloma was intended using the standard formula.

In acute state, the percentage of oedema inhibition was 83.12 % and 86.75 % for 200mg and 400mg of *CC* respectively. In the same condition Indomethacin 10mg /kg has a percentage of inhibition of 97.20%. In chronic, the percentage of inhibition of *CC* 200 mg and *CC* 400 mg were 45.66% and 49.21% respectively which indicated the dose dependent activity of *CC* 400mg exhibited percentage of inhibition more than *CC* 200 mg and slightly less than the reference drug Indomethacin (10mg/kg) which produced 58.40% of inhibition. The results of present study revealed that the trial drug *CC* possesses strong anti-inflammatory effects in acute and chronic inflammatory conditions in a dose dependent manner.

Keyword: Acute inflammation, Chronic inflammation, Anti-inflammatory activity, *Ciraka Cūraṇam*, Wistar albino rats, Paw edema