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ANTI-INFLAMMATORY ACTIVITY OF CASSIA *AURICULATA*

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ABSTRACT

Cassia auriculata is widely distributed even in poor soil in Sri Lanka, India, Burma and cultivated in tropics. Based on Physical and Chemical methods, the flower of C. auriculata was found to contain a flavonol glycoside 5-O-methylquercetin 7-O-glucoside. The 50% acetone extract of the flower of C. auriculata showed marked anti-inflammatory activity (56%) in carrageenin induced oedema in rats.

INTRODUCTION

Cassia auriculata belonging to caesalpiniaceae is a tall branched shrub. The flowers are used in urinary discharge, nocturnal emission., diabetes and throat trouble(1)

MATERIALS AND METHODS

Plant material

The fresh yellow flowers of *C.auriculata* were collected in the month of May in and around Tiruchirappalli. It was confirmed for official monographic specification by the herbarium, Department of Botany, Bishop Heber College, Tiruchirapplli.

Preparation of Extract

Shade dried material (1Kg) was extracted with 50% acetone in a Soxhlet. The extract was evaporated until a solid residue was obtained. The percentage yield was found to be 0.5.

Animals

Male albino (Swiss) weighing 80-100g bred in King Institute Guindy, Chennai were selected for studies. The anti-inflammatory activity was studied by carrageenin induced rat hind paw oedema. The animals were kept in Microlon boxes and had access to water *ad libitum*.

Carrageenin induced rat paw oedema

The rats were divided into a groups, each consisting of six animals. One group served as control (received normal saline only), the second group served as positive control (received Ketorolac tromethamine 10 mg/kg) while other group received the various doses of extracts suspended in 5% acacia solution intraperitoneally.

Anti- inflammatory activity

Oedema was produced by the method described by Winter et.al (2). The paw

volume was measured 0hr and 3hr after the injection of carrageena (0.1ml of 1% solution injected in the subplantar region). The apparatus used for the measurement of rat paw volume was that of Buttle et. Al 1996 and modified by singh and Gosh(3). This method is able to detect a minimal change of paw volume of 0.02 ml. Drug pretreatment was given 1hr before the injection of carrageenin. The values are shown in Table1.

Statistical Analysis

The results were analysed by Analysis of Variance(4). The significance of the difference between groups was determined by their P-values calculated by student "t" test.

RESULTS AND DISCUSSION

Carrageenin induced rat paw oedema was taken as a protype of exudative phase of inflammation. The development of oedema has been described as biphasic(5). The initial phase is attributable to the release of histamine, serotonin and kinin in the first hour after injection of carrageenin. A more pronounced second phase is related to the release of prostaglandin like substances in 1-2 hours. The anti-inflammatory activity of *C. auriculata* seems to be related to its histamine, kinin and prostaglandin inhibitory activity (6) and it showed 56% activity.

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Table 1

Effect of Extract on Carrageenin induced rat paw oedema

Group	**Dose Mg/Kg BW**	**Paw volume**		**Increase in Paw volume**	**% Activity**
Control	-	0.62[a] (±0.01)	1.19[a] (±0.02)	0.57	-
C. auriculata	50	0.67[a] (±0.01)	1.12[a] (±0.02)	0.45	33
	100	0.68[a] (±0.01)	1.01[b] (±0.02)	0.33	56
Ketorolac tromethamine	10	0.67[a] (±0.01)	0.88[a] (±0.01)	0.21	68

Values are mean ± SE of 6 animals
Statistically different from control group, where
a $P<0.001$
b $P<0.05$