

Analgesic and Antipyretic activity of extracts of *Asclepias currasavica* Linn

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Abstract: The present study is concerned with the study of *asclepias currasavica* Linn for its analgesic and antipyretic activity. The main objective of this work is to develop anti-pyretic and analgesic agents having no or less side effects from this indigenous plant for the therapeutic management. Alcoholic and aqueous of stem of the plant have been made and their analgesic and antipyretic activity have been observed on mice taking paracetamol as standard.

Key words: Analgesic, Antipyretic, *Asclepias currasavica* Linn.

Introduction

Ayurvedic drugs are making a dent in international markets, which are look forward for alternate medicine for the cure of ailments to which even modern medicine has no answer¹. The plant kingdom still holds many species of plants containing substances of medicinal value, which are yet to be discovered². Herbal preparation are preferred nowadays due to their efficacy, low cost, easy availability and less side effects³. They are prepared from a single plant or combination of more than one plant. Given study deals with phytochemical and pharmacological evaluation of stem of *Asclepias curassavica* Linn⁴. With special reference to anti-pyretic and analgesic activity in animal models^{5, 6, 7}.

Collection and Authentication of Crude drug

The stem of plant of *Asclepias curassavica* Linn was collected from the hill of yercaude at Salem, Tamilnadu. The plant was then authenticated by a botanist Dr. Mohd. Sharif M.Sc., Ph.D, scientist of Botanical survey of India, Salem district. (T.N.)

Pharmacological Studies

Swiss albino mice (20- 25 gm) and Wister rats (150 – 200gm) of either sex and of approximate same age were taken for the study. The animals received the standard and test drugs by oral gavage tube and subcutaneous route wherever applicable.

Antipyretic activity

Pyrexia was induced by injecting, subcutaneously, 20% suspension of dried yeast in carboxymethyl cellulose at a dose of 20 ml/kg of body weight. After 18 h of yeast injection, rats which showed a rise in temperature of at least 1°F (0.6°C) were taken for the study. In all the cases the rectal temperature in ° F was measured at 1 hr, 2 hrs and 3 hrs. The results were recorded and computed in table 1.

Analgesic activity

The mice were divided into 4 groups of 6 animals in each. The plant extracts were injected and the reaction time at 5, 15, 30 and 60 min were noted. The result were recorded and computed in table 2.

Table 1- Antipyretic activity of *Asclepias currasavica*

TREATMENT	DOSE	NORMAL RECTAL TEMPRATURE MEAN±SEM	RECTAL TEMPRATURE AFTER DOSE ADMINISTRATION AT 0 MIN	RECTAL TEMPRATURE AFTER 1HRS	AFTER 2HRS	AFTER 3 HRS
Control	Saline	99.175±0.139	100.69±0.130	101.391±0.0878	101.536±0.105	101.60±0.105
Paracetamol	100mg/kg	99.08±0.40	101.26 ±0.095	101.18±0.12	100.178 ±0.084	98.578 ±0.105
Alcoholic extract	200 mg/kg	99.22±0.086	101.045±0.0183	100.416±0.130	100.076 ±0.418	99.25 ±0.137
Aqueous extract	200 mg/kg	99.196±0.129	100.64 ±0.218	100.24±0.22	99.820 ±0.188	99.631 ±0.180

Values are expressed as Mean ± SEM for 6 animals. *P value < 0.001 Data was analyzed by ANOVA.

Table 2- Analgesic activity of extracts of stem of *Asclepias curassavica* Linn

GROUP	TREATMENT	DOSE	BASAL REACTION TIME IN SEC.				
			5 min.	15 min.	30 min.	0min.	120 min.
I	Control	5mg/kg	2.33±0.192	2.66 ±0.305	2.60 ±0.193	2.63 ±0.175	2.67 ±0.193
II	Paracetamol	100 mg/kg	2.50±0.204	3.50 ±0.204	4.83 ±0.281	6.67 ±0.305	7.33 ±0.193
III	Alcoholic Extract	200 mg/kg	2.66 ±0.193	3.30 ±0.193	4.75 ±0.295	5.67 ±0.386	6.167 ±0.367
IV	Aqueous extract	200 mg/kg	2.50 ±0.204	3.60 ±0.195	5.00 ±0.236	6.16 ±0.281	6.83 ±0.281

Each value is represent ± SEM of six observation. P < 0.001 Data was analyses by ANOVA followed by DUNEET'S test

Summary and Conclusion

The LD₅₀ of the aqueous and alcoholic extracts of stem of *Asclepias curassavica* Linn. was found to be 2000 mg/kg. Therefore ED₅₀ was calculated as 200 mg/kg. In the pharmacological studies, the aqueous and alcoholic extracts of stem of *Asclepias curassavica* Linn showed significant Anti-pyretic and Analgesic activity. Anti-pyretic activity was evaluated by Brewers yeast induced pyrexia in rats and analgesic activity was evaluated by tail flick method on mice Hence

this work gives some scientific proof for medicinal value of the selected plant.

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