

Evaluation of potential Analgesic effect of Aqueous Extract of *Ficus racemosa* Linn and *cissus quadrangularis* Linn in mice

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Abstract

In the world wide context, people use a variety of treatments to alleviate pain; among them, medicinal plant products have become more well-liked due to their many applications and little adverse effects in this method five group albino mice either sex were placed on Eddy's hotplate which was kept at temperature of $55 \pm 0.5^\circ$ c. the amount of time it took for the animals to leap or lick their paws was noted and regarded as a nociceptive reaction. We measured the reaction at ,30,60 and 90 minutes. According to the current study, a considerable analgesic effect has been demonstrated for *Cissus quadrangularis* Linn and the effect was smiliar as that of standard drug diclofenac.

Key words: cissus quadrangulars, analgesic albino mice, *Ficus racemosa*, analgesic.

INTRODUCTION

Cissus Quadrangularis Lin& *Ficus Racemosa* is type of plants that belongs to the Vitaceae & Moraceae family. It is often found in India, especially in hot areas of the country. It can grow in flat coastal areas, forests and dry lands up to 500 meters above the sea level. The plant has different chemicals in it like triterpenes, β -sitosterol, Ketosteroids, Phenols, Tannins, Carotene, Vitamin- C.

These chemicals were found in the methanol extract of *Cissus quadrangularis* Linn. Their chemical composition determines the therapeutic effect. Additionally, seven alicyclic lipid components from *Cissus quadrangularis* have been discovered. Because *Cissus quadrangularis* extract contains β -carotene, it has strong antioxidant and free radical scavenging action both in vitro and in vivo¹. Oral administration of extract in mice and rats does not have any harmful effects. *Cissus quadrangularis* is used as a treatment for a number of ailments including scurvy,¹⁰ irregular menstruation, asthma, anthelminthic, dyspeptic, digestive tonic and bone fractures.

METHODS

Selection of dose

In experimental animals doses

Selection is crucial since it might occasionally raise the mortality rate of mice. Therefore, established scientific procedures were followed. Using the following formula, the dose for mice was determined by extrapolating the human therapeutic dose (HTD): Mice dosage/200 g body weight equals HDT $\times$ 0.018 (HDT = 5gm Bd). Mice dose = Human Dose $\times$ 0.018 for 200 gm mice weight. For example, 5 gm $\times$ 0.018 = 0.09 gm or 90 mg, this is converted to a dose/Kg body weight which is $90 \times 5 = 0.2$ gm/Kg

Preparation of drug administration

Each tested drug's 10 grams was combined with 100 millilitres of water, left overnight and filtered the following morning. Each mice receives 2 ml (200 mg) of an aqueous solution derived from the filter.

Animals

Experimental animal mice (male) measuring 150 - 200 grams at 2 - 3 months of age were randomly chosen and split into groups for the trial medication and the control. Before the study began, the animals were housed in their cages for five days to give them time to acclimate to experimental room having controlled humidity level of 55 ± 5 °C and ambient temperature of 23 ± 2 °C and 12 hours light and dark cycle. Three animals at most per polypropylene cage were used to house the creatures. Water was provided freely to the mice along with the conventional diet pellets.

In compliance with the CPCSEA criteria the experiment was conducted in the Department of pharmacology, following approval from the institutional animal Ethical Committee.

Eddy's Hot Plate Method

Three groups each consisting of six mice were formed. Before receiving treatment and measuring their reaction times, each animal was placed in a hot plate that was carefully adjusted to a temperature

of 50 ± 0.5 °C¹⁵. Every mouse in each of the groups received the medication under the test. The animal's responses were then recorded by placing each one on the Eddy's hot plate at a control temperature. The behavior that was seen as the hot plate latency was for paw licking or jumping on the hot plate surface. Once the standard and the test medicines were taken orally re-determine reaction time after 0, 30, 60 and 90 minutes. The reaction time was recorded using the stopwatch.

Animal experimental groups

Group I: Normal saline 10ml(control) orally.

Group II: Treatment of Diclofenac 25mg/ml orally (standard).

Group III: Treatment of *Cissus Quadrangularis* Linn. In a dose of 200/Kg orally.

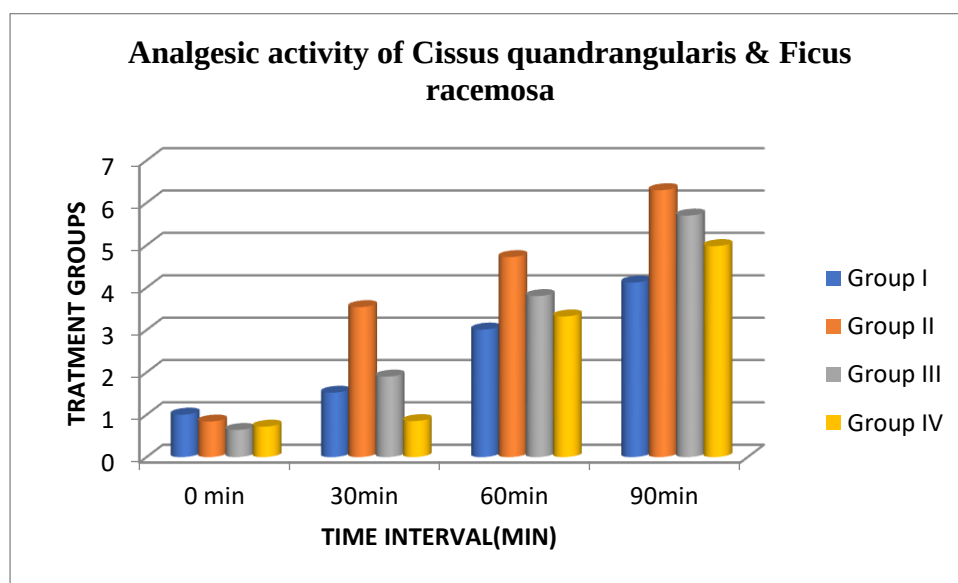
Group IV: Treatment of *ficus racemosa* linn. In a dose of 200/Kg orally

RESULTS

Table 1: Analgesic activity by Eddy's hot plate method

Post drug reaction time (mints)

Group	0 min	30min	60min	90min
Group I	1.002	1.52	3.01	4.12
Group II	0.84	3.54	4.72	6.3
Group III	0.64	1.9	3.8	5.7
Group IV	0.72	0.85	3.32	4.98

Figure:1

DISCUSSION

Cissus Quadrangularis & *Ficus Racemosa* significantly reduced the production of superoxide radicals, lipid peroxide and DPPH free radicals. Controlled oxygen defence enzymes and liver enzymes in experimental animals' popular plant *cissus quadrangularis* is frequently used in Ayurveda to cure stomach ulcers. A methanolic extract of *Cissus quadrangularis* had an anti-ulcer effect similar to sucralfate. It also clears that *Cissus quadrangular* & *Ficus Racemosa* is inhibit the cyclooxygenase and lipoxygenase pathways of arachidonic acid metabolism.

CONCLUSION

The results of this study demonstrate the considerable analysis activity of *Cissus Quadrangularis* Linn& *Ficus Racemosa* similar as that of standard drug Diclofenac.

Ethical approval: The study was approved by Institutional Ethics Committee, Sir C. R. Reddy College of Pharmaceutical Sciences, Eluru.

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Sir C. R. Reddy College of Pharmaceutical Sciences, Eluru Page 53

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