Comparative Antiinflammatory Activity Studies of Four Species of *Sariva*

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In the present study, the roots of *Sariva* (*Decalepis hamiltonii, Cryptolepis buchananii, Ichnocarpus frutescens* and *Hemidesmus indicus*) were investigated for antiinflammatory activity in carrageenan-induced rat paw oedema. The ethanol extracts of roots of various species of *Sariva* exhibited significant antiinflammatory activity at a dose of 350 mg/kg (p.o.) when compared to control group. The activity is compared with standard phenylbutazone. *Cryptolepis buchananii* was found to exhibit significantly more antiinflammatory activity when compared to the other three, *Decalepis hamiltonii, Ichnocarpus frutescens* and *Hemidesmus indicus.*

Sariva is an important ayurvedic drug. The different parts of the plant are used either singly or as an ingredient in the Ayurvedic preparations like *amrithamalaka taila, drakshadichurna, shatavari rasayana* and *yestimadhu taila,* claimed to be useful in the treatment of cough, menorrhagia, fever, inflammation, gout and skin infections[1]. The accepted botanical source of sariva is *Hemidesmus indicus*. However, the Ayurvedic practioners use four different plants, *Decalepis hamiltonii, Cryptolepis buchananii, Ichnocarpus frutescens* and *Hemidesmus indicus* as *Sariva*. The dosage prescribed also remains the same irrespective of the species employed[2]. Literature survey has revealed that no comparative antiinflammatory activity has been carried on these four species of *Sariva*. In the present study, antiinflammatory activity of these four species has been investigated. The plants have been graded based on antiinflammatory activity, which would help to monitor dose better during their therapeutic application.

The roots of *Decalepis hamiltonii, Cryptolepis buchananii* and *Ichnocarpus frutescens* were collected from Devarayana Durga forest, Tumkur district, Karnataka, while roots of *Hemidesmus indicus* from Madikeri, Coorg district, Karnataka. These were authenticated at the Regional Research Institute (RRCBI), Bangalore. A voucher specimen has been deposited in the institute. The shade-dried roots were powdered to particle size No. 40 and subjected to Soxhlet extraction with ethanol (70%). The extracts were concentrated by rotary vaccum flash evaporator and the residue was collected. A suspension was prepared in gum acacia (2%).

Antiinflammatory activity was evaluated using carrageenan-induced rat hind paw oedema method[3]. The experimental protocol was approved by institutional animal ethics committee (IAEC, Reg. No. 220/CPCSEA). Wistar rats of either sex, weighing between 150-200 g were divided into six groups of six animals each and were given the following treatments. Group I, served as control, received 2 ml of gum acacia (2%) orally. Group II, served as standard, received 150 mg/kg phenylbutazone, Group III, IV, V and VI, received ethanol extracts (350 mg/kg, p.o.) of *Decalepis hamiltonii, Cryptolepis buchananii, Ichnocarpus frutescens* and *Hemidesmus indicus*, respectively.

After 1 h, rats were administered with subcutaneous injections of 0.05 ml of w/v solution of carrageenan into the subplantar side of left hind paw. The paw was marked with ink at the level of lateral malleolus and immersed up to this mark. The paw volume was measured plethismographically immediately after injection (0 h) and followed by every hour

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till 6 h after injection of carrageenan to each group. The difference between the initial and subsequent readings gave actual oedema volume.

Percent of inhibition of inflammation was calculated using the formula % inhibtion=100 (1-Vt/Vc), where Vc represents oedema volume in control and Vt is oedema volume in group treated with test compounds. The data were analyzed using student't' test and the level of significance was set at $p<0.001$. The results represented as % inhibition of inflammation are presented in fig. 1.

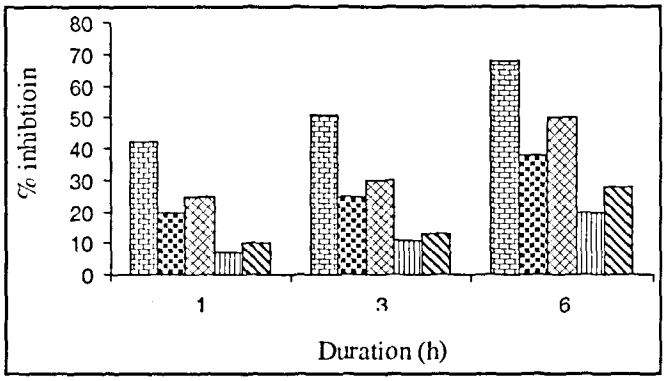

Fig. 1: Percent inhibition of carrageenan-induced rat paw oedema

Phenyl butazone, Decalepis hamiltonii, Cryptolepis buchananii, Hemidesmus indicus and Ichanocarpus frutescens

Carrageenan-induced inflammation is a biphasic phenomenon[4]. The first phase of oedema is attributed to the release of histamine and 5-hydroxytryptamine. Plateau phase is maintained by kinin like substances and second accelerating phase of swelling is attributed to prostaglandin like substances[5]. The knowledge of these mediators involved in different phases is important for interpreting mode of drug action. In carrageenan-induced rat paw oedema test, it was found that there was a significant reduction in the oedema in the groups treated with 70% ethanol extracts of *Cryptolepis buchananii*, followed by *Decalepis hamiltonii, Ichnocarpus frutescens* and *Hemidesmus indicus* when compared to control. Thus it can be concluded that ethanol extract of *Cryptolepis buchnanii* possess significant antiinflammatory activity. This study may be useful for monitoring the dosage with reference to botanical species and percentage of biological activity for deriving prescribed therapeutic efficacy.

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New Spectrophotometric Method for Estimation of Ciprofloxacin Hydrochloride in Tablets

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A simple and sensitive spectrophotometric method for the determination of ciprofloxacin hydrochloride in tablets is proposed. The solution of drug has been found to give a light reddish orange

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