



**SRI LANKA ASSOCIATION FOR LABORATORY
ANIMAL SCIENCE**

"Trends in Laboratory Animal Science"



3rd Annual Scientific Conference

28th & 29th January 2016
University of Sri Jayewardenepura



**NATIONAL
SCIENCE
FOUNDATION**

Programme & Abstract Book

OP 12 - ANTI-INFLAMMATORY EFFECT OF AQUEOUS LEAF EXTRACT OF *Nyctanthes arbor-tristis* (ALENA) IN WISTAR RATS

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Introduction and Objectives: *Nyctanthes arbor-tristis* Linn is one of the most useful traditional medicinal plants in India. It is distributed widely in sub Himalayan regions and Southward to Godavari. Each part of the plant has some medicinal value. The objective of this study was to determine the anti-inflammatory activity of aqueous leaf extract of *Nyctanthes arbor-tristis* (ALENA) in Wistar rats.

Methodology: Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura approved the protocol (Approval No – 682/12). Animals were used in the experiments adhering to the 3R principle. The extract was prepared according to the traditional Ayurveda method as previously described (Hemachandra and Suresh, 2008) and tested for anti-inflammatory activity in a carrageenan induced paw-oedema model. The reductions of paw oedema in rats were compared with the reference drug i.e. Indomethacin. Group 1 (6 per group) was pretreated with distilled water at a dose of 5 ml/kg, Group 2 was pretreated with Indomethacin at a dose of 10 mg/kg and the Group 3 was pretreated with aqueous leaf extract of *Nyctanthes arbor-tristis*, at a dose of 5 ml/kg (Hemachandra and Suresh, 2008), 1 hour prior to the administration of carrageenan. Paw volumes were measured hourly for 5 consecutive hours in carrageenan induced paw oedema models. Several biochemical parameters were tested following administration of the extract for 4 weeks. The values obtained from each group were expressed as Mean \pm Standard deviation, Student's *t*-test was done to compare the statistically significant changes between control, indomethacin treatment and with aqueous leaf extract of *Nyctanthes arbor-tristis* treatment.

Results and Discussion: The standard drug indomethacin and aqueous leaf extract reduced the carrageenan-induced paw oedema by 72.22% and 94.44% respectively. Statistical analysis indicated that the aqueous leaf extract of *Nyctanthes arbor-tristis* Linn, exhibited significantly ($p < 0.05$) higher anti-inflammatory activity than standard drug Indomethacin. Following 1 month administration, the aqueous leaf extract of *Nyctanthes arbor-tristis* Linn, did not exert any adverse effects as all the tested parameters (liver enzymes and Hb) were not altered in the test and control groups.

Conclusion: The aqueous leaf extract of *Nyctanthes arbor-tristis* has potent anti-inflammatory effect in Wistar rats.

Key words: *Nyctanthes arbor-tristis* Linn., anti-inflammatory activity, Wistar rats