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Laboratory Animal Science**



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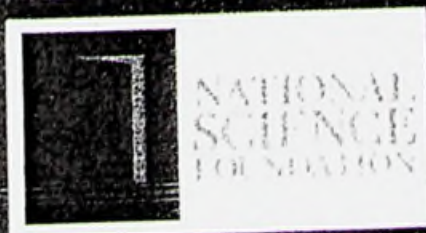
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## FREE PAPER SESSION II - ABSTRACT NO 06

### Acute anti-inflammatory activity of evolitrine isolated from *Acronychia pedunculata* leaves in Wistar rats

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#### Introduction

As a result of the adverse effects caused by existing allopathic anti-inflammatory agents, investigations on the efficacy of plant based drugs have been seen as a fruitful research strategy in the search for new alternatives. *Acronychia pedunculata* ("Ankenda" in Sinhala, Family: Rutaceae) is a medicinal plant which has been used for centuries in traditional/folk medicine in Sri Lanka. Our previous studies have shown that 70% ethanol extract of leaves of this plant has significant anti-inflammatory activity on the carrageenan induced rat hind paw oedema test model.

#### Objective

In the present study, an attempt has been made to evaluate the anti-inflammatory activity of evolitrine which was isolated as a major alkaloid from *A. pedunculata* leaves, by using the same *in-vivo* model.

#### Methodology

The protocol for animal experiments was approved by the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura (No. 35/15). Healthy adult male Wistar rats in negative and positive control groups (n = 6/ group) were orally administered 1.0 mL of 0.5 % carboxymethyl cellulose (CMC) and 5 mg/kg b.w. of indomethacin in 1 mL of 0.5% CMC respectively, 1 hour prior to the induction of oedema. The test groups were administered with 25, 50, 75 and 100 mg/kg b.w. of evolitrine in 1 mL of 0.5% CMC. Paw volumes were measured hourly for 5 consecutive hours and data analysis was carried out using one-way analysis of variance (ANOVA). Results with  $p < 0.05$  were considered as statistically significant.

#### Results and Discussion

The results revealed that all the test doses of evolitrine significantly ( $p < 0.05$ ) reduced paw oedema as compared to the negative control. However, the differences between the doses of 50 mg/kg b.w. and 100 mg/kg b.w. were not significant ( $p > 0.05$ ). Hence,



Dose of 50 mg/kg b.w. of evolitrine was found as the minimum effective dose with maximum inhibition of paw oedema. The maximum inhibition was observed at the 5th hour (89 %) and it was comparable to that of the reference drug, indomethacin which caused an inhibition of 86 %.

### Conclusion

As evolitrine alone has shown an enhancement of anti-inflammatory activity when compared to the initial crude extract, it was identified as a major anti-inflammatory compound present in *A. pedunculata* leaves.

**Keywords:** Anti-inflammatory, *Acronychia pedunculata*, Rutaceae, Evolitrine

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