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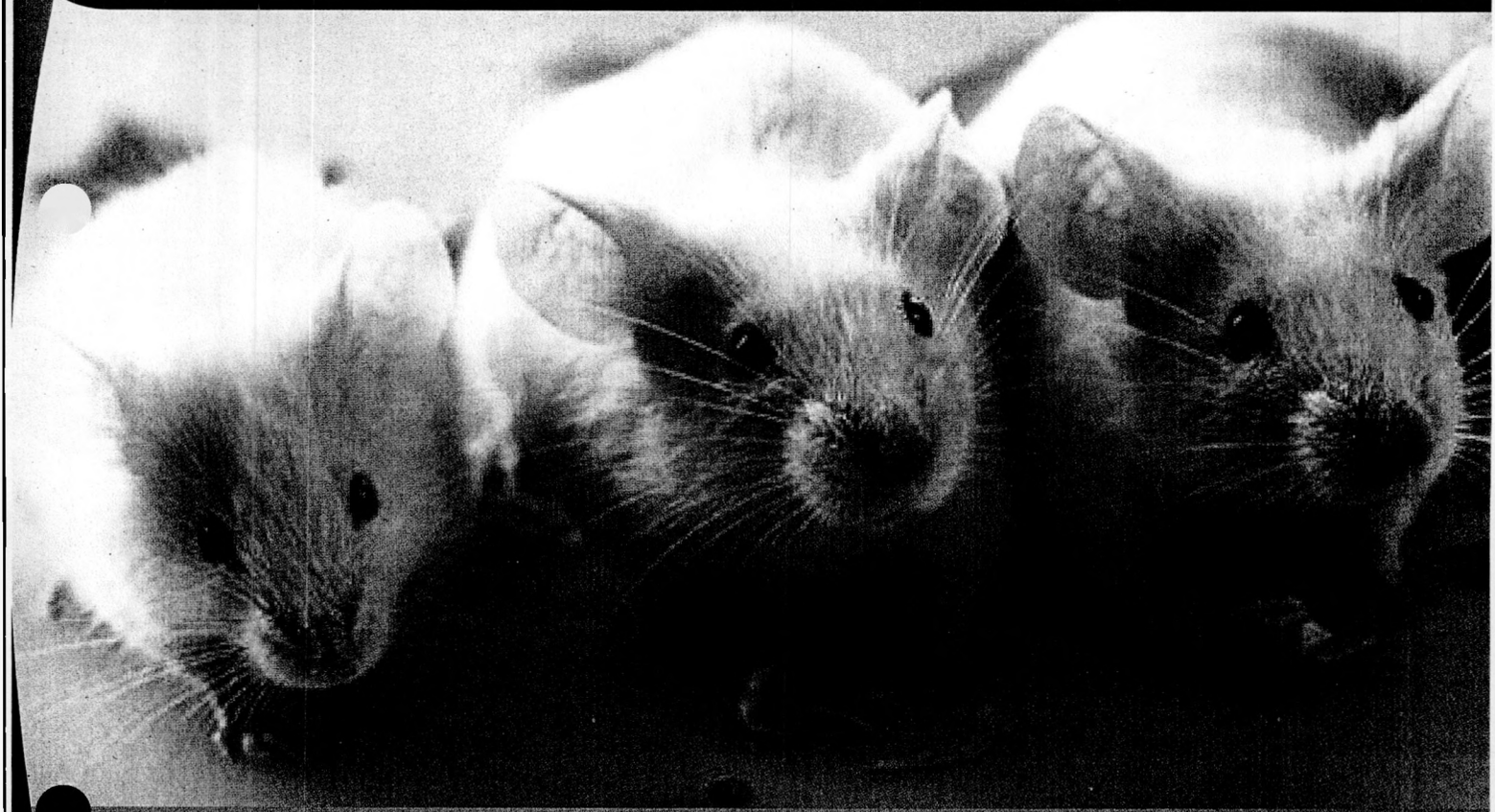

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OP 5 - ANTI-INFLAMMATORY ACTIVITY OF AQUEOUS EXTRACT OF *Psychotria sarmentosa* ON ACUTE AND CHRONIC INFLAMMATORY ANIMAL (WISTAR RAT) MODELS

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Introduction and Objectives: Adverse effects of existing allopathic anti-inflammatory drugs warrant the search for alternative therapeutics. Consequently, the investigations of the efficacy of plant based drugs used in traditional medicine attract attention. According to World Health Organization (WHO), about 80% of the world population still relies mainly on plant based drugs. *Psychotria sarmentosa* Blume (Rubiaceae), "Gonica" in Sinhala, is a small shrub of which aqueous extract of fresh leaves are used in folk medicine for individuals who have been physically assaulted. This indicates that it may possess potent analgesic/anti-inflammatory activity. Only a very few scientific studies have been carried out to investigate the claimed activities of these leaves. Hence, in the present study an attempt has been made to evaluate the anti-inflammatory activity of aqueous extract of *P. sarmentosa* leaves (AEPSL) on both acute and chronic inflammation models. The protocol was approved by the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka (No.30/14, 35/15).

Methodology: Carrageenan and formaldehyde induced rat paw oedema models were used to evaluate the acute and chronic anti-inflammatory effects respectively. Prior to one hour of induction of oedema, doses of 50, 100, 150 and 200 mg/kg each of AEPSL were orally administered to male Wistar rats (n=6/group) in comparison with distilled water and indomethacin (5 mg/kg) which served as the negative and positive controls respectively. Paw volumes were measured hourly for 5 consecutive hours in carrageenan induced models, and daily for 7 consecutive days in formaldehyde induced model. Data analysis was carried out using one-way analysis variance (ANOVA). Results with $p < 0.05$ were considered as statistically significant.

Results and Discussion: The results showed that the treatment with 100, 150 and 200 mg/kg of AEPSL significantly reduced ($p < 0.05$) paw oedema in both models when compared to negative control, but, the differences among these treatments were insignificant. Hence, the dose of 100 mg/kg of AEPSL was selected as an effective dose. The maximum percentage inhibitions of rat paw oedema were found to be 55.6% at 3rd hour and 35.4 % on 7th day for 100 mg/kg AEPSL on carrageenan and formaldehyde induced rat paw oedema models respectively, while it was 62.2 % and 60.4% for indomethacin.
Conclusion: In conclusion, these preliminary observations provided evidence for the anti-inflammatory properties of leaves of *P. sarmentosa* as claimed in folk medicine. Further studies will be undertaken to uncover some of the possible mechanisms of these actions.

Key words: anti-inflammatory, carrageenan, formaldehyde, paw oedema, *Psychotria sarmentosa*