



ANTINOCICEPTIVE ACTIVITY OF *Acronychia pedunculata* LEAVES IN WISTAR RATS

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ABSTRACT

As a result of adverse side effects caused by existing allopathic analgesic agent, the investigation on the efficacy of plant based drugs has been seen as a fruitful research strategy in the search of new alternatives. *Acronychia pedunculata* (“Ankenda” in Sinhala, Family: Rutaceae) is a medicinal plant which has been used for centuries in the folk medicine in Sri Lanka. The leaves, stems, roots and fruits of this plant are used for the treatment of various diseases involving the inflammatory processes and this indicates the possibility of this plant having compounds with anti-inflammatory properties. Only a very few scientific studies have been carried out to evaluate the biological activities of this plant and there were no *in-vivo* studies. Our previous studies have shown that 70% ethanol extract of *A. pedunculata* leaves has significant anti-inflammatory activity. The present study was to determine the antinociceptive effect of it by using an acetic acid induced writhing method. Healthy adult male, Wistar rats were used and negative and positive control groups were orally administered 1.0 mL of 0.5 % carboxymethyl cellulose (CMC) and 100 mg/kg b. w. of acetyl salicylic in 1 mL of 0.5% CMC respectively. The test groups were received 200 mg/kg b. w. of the 70% ethanol extract of *A. pedunculata* leaves (EEAP) in 1 ml of 0.5% CMC. The average number of writhes in the EEAP group was 46 ± 3 . It was 61 ± 4 and 29 ± 2 in the negative and positive control groups’ respectively. The test group was significantly inhibited number of writhes by 24.6 % ($p < 0.01$) when compared with the control group. This antinociceptive activity was comparable to that of the reference drug, acetyl salicylic acid which caused an inhibition of 52.5 % ($P < 0.001$). The present study has demonstrated that the *A. pedunculata* leaves has statistically significant anti-nociceptive activity.

Keywords: *Acronychia pedunculata*, Acetic Acid, Ankenda, Anti-Nociceptive Writhing