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SUB-CHRONIC ANTI-INFLAMMATORY ACTIVITY OF *Acronychia pedunculata* LEAVES ON FORMALDEHYDE INDUCED RAT HIND PAW OEDEMA MODEL

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Chronic inflammatory diseases remain one of the world's major health problems and inflammation is a cause for many diseases. As a result of adverse effects of allopathic anti-inflammatory agents, attention has been focused on the investigation of efficacy of plant based drugs used in the traditional medicine. The leaves, stems, roots and fruits of *Acronychia pedunculata* ("Ankenda" in Sinhala) have been used for centuries in folk medicine for the treatment of various disorders associated with inflammation. Our previous studies have shown that 70 % ethanol extract of *A. pedunculata* leaves (EEAL) has significant acute anti-inflammatory activity on carrageenan induced rat hind paw oedema model. Hence, the present study was focused on investigating the sub chronic anti-inflammatory activity of EEAL and formaldehyde induced rat hind paw oedema model was used. Before 1 hour for the induction of oedema, different doses of EEAL were orally administered to male Wistar rats (n = 6 / group) in comparison with vehicle and indomethacin (5 mg / kg) which served as the negative and positive controls respectively. Oedema was induced by a sub plantar injection of 0.1 mL of 2% v/v formaldehyde and paw volumes were measured daily for 7 consecutive days. The results showed that the treatment with four different doses (100, 200, 300 and 500 mg / kg b.w) of EEAL were significantly ($p < 0.05$) reduced paw oedema when compared to negative control. But, the differences among doses of 200, 300 and 500 mg/kg b.w. were statistically insignificant ($p > 0.05$). Hence, the dose of 200 mg / kg of EEAL was selected as an effective dose. The maximum percentage inhibition of rat paw oedema was found to be 80.6 % for dose of 200 mg / kg b.w. on the 7th day while it was 79.0 % for indomethacin which was the positive control. In conclusion, these preliminary observations provide scientific evidence for the anti-inflammatory properties of *A. pedunculata* and further studies will be undertaken to uncover some of the possible mechanisms of these actions.

Keywords: *Acronychia pedunculata*, Formaldehyde, Sub-chronic inflammation