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Phytochemical and Pharmacological investigation of an indigenous medicinal plant *Leucas aspera*

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Abstract : *Leucas aspera* commonly known as 'Thumbai' has a wide variety of medical applications. The aqueous extract of *Leucas aspera* (leaf extract) was assessed for its various *in vitro* activities such as anti-inflammatory, anti-helminthic, anti-arthritic, anti-oxidant and anti-bacterial activity. The *in vitro* Anti-inflammatory activity was studied by human red blood cell (HRBC) membrane stabilization method by using various concentration of *L. aspera*. The results showed that the HRBC Membrane stabilization activity of the aqueous leaf extract of *L. aspera* at concentration of 100µg/ml showed 73.25% inhibition of denaturation in hypotonic solution while the standard Diclofenac 100µg/ml showed 79.25% inhibition of denaturation. The crude extracts of the leaves of *Leucas aspera* showed statistically significant anti-inflammatory activity in *in vitro* assay.The crude aqueous leaves extract of *Leucas aspera* also showed that significant anti-helmintic effect causing death of the worm at all the concentrations but the time of death was different in each case. *Invitro* anti-arthritic activity was carried out by bovine serum protein denaturation method and egg albumin denaturation method. The results suggested that the aqueous extract of *L. aspera* showed a very good anti-arthritic activity. Antioxidant and Antibacterial activity was also evaluated. The present study concluded that the plant can be formulated in broad spectrum antibiotics and also confirms the traditional uses in pathogenic disease.

Key words: Anti-inflammatory; Albendazole; Diclofenac; Hydrogen per oxide; Anti-arthritic, *Leucas aspera*.

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