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The effect of methanol extract of *Lippia citrodoria* in the prevention and control of IBD induced by acetic acid in mice

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Abstract

Inflammatory bowel disease (IBD) is a chronic condition of the intestine with unknown etiology involving multiple immune, genetic and environmental factors. We were interested to examine the effect of extract from *Lippia citrodoria*, a medicine plant in prevention and control of experimental mouse IBD. *L.citrodoria* was administered (50, 150.200 mg/kg) through drinking water to IBD mice (induced by intrarectal administration of acid-induced). Prednisolone was used as the standard drug for comparison. Biochemical, macroscopic and microscopic examination of colon were performed. Biochemical evaluation of inflamed colon was done using assay of myeloperoxidase (MPO) activity and thiobarbituric acid reaction substances(TBARS) concentration as indicators of free radical activity and cells lipid peroxidation. Results indicated that the activity of MPO and lipid peroxidation products (TBARS) increased in acetic acid-treated group while recovered by pretreatment of animals with L.citrodoria (50,150,200 mg/kg) and prednisolone. L.citrodoria (50-100mg/kg) and prednisolone. *L.citrodoria* (50-200 mg/kg) and prednisolone-treated groups showed significantly lower score values of macroscopic and microscopic characters when compared to the acetic acid – treated group. The benefical effect of *L.citrodoria* (200mg/kg) was comparable to that of prednisolone.It is concludes that the antioxidant, antimicrobial, and anti-inflammatory potentials of *L.citrodoria* might be the mechanisms by which this extract protects animals against experimentally induced IBD. Proper clinical investigation should be carried out to confirm the activity in human.

Keywords: inflammatory bowel disease, lipid peroxidation, *Lippia citrodoria*, mice.