ANTI-INFLAMMATORY EFFECT OF MORINGAOLEIFERAETHANOLIC EXTRACT AND THE CHELATION ABILITY OF PHRAGMITESAUSTRALISROOTS EXTRACTS

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Abstract - In the present study, firstly, the activity of ethanolic extract (70%) from *Moringaoleifera* leaves were evaluated *in vivo* using xylene induced ear edema by topical application in mice as a model of acute inflammation. The oral administration of this extract at dose of 30 mg/kg or Diclofenac (anti-inflammatory standard) at dose of 50 mg/kg one hour before the induction of inflammation, showed a significant ($p \leq 0,05$) anti-inflammatory effect (86% and 73% respectively) compared to the control group considered as 100% of inflammation. Secondly, the ability of hexane (HRE), chloroform (CRE), ethyl acetate (EARE) and methanol (MRE) of *Phragmitesaustralis*roots extracts to chelate heavy metals, were also evaluated *in vitro* using ferrozine method for iron chelation and murexide method for zinc and copper chelation. The different concentrationsused (25-175µl) showed that the HRE possesses a significant ($p \leq 0.05$) capacity to chelate ferrous ions below the EDTA (standard chelator)which expresses 70% and 97% respectively. For the zinc and copper chelation ability, the results showed also that hexane extract and EDTA havethe best chelation effect towards these metals, with a percent inhibition of 55%, 56% respectively for the zinc and 47%, 88% respectively for the copper compared to the control group considered as 100%of complexation.

Keywords - Inflammation, Ear edema, *Moringaoleifera*, Chelation, *Phragmitesaustralis*, ferrozine, murexide