

Inflammation Modulation with Methanol *Zea Mays* Cob Husk on an Experimental Model in Albino Rats

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Introduction: The anti-inflammatory effect of *Zea mays* cob husk extract may be attributed to the presence of saponins, tannins and polyphenols.

Objective: to evaluate the modulatory effect on carrageenan induced inflammation of the methanolic extract of *Zea mays* cob husk in Albino rats. **Methods:** The carrageenan-induced paw edema model of acute inflammation was carried out to 30 Albino rats which were divided into five groups, two controls (negative and positive) and three experimental. 9.45% maize cob husks methanol extract was previously obtained by soxhlet extraction and the phytochemical screening was done. Acute toxicity studies were conducted in 12 rats. A single oral methanol plant extract (100mg/Kg, 200mg/Kg or 400mg/Kg) were administered to the experimental groups. Indomethacin 10mg/Kg was used as positive control. The paw volume up to the tribiotal articulation was measured at 0, 1, 3, and 6th hours. Inflammation was expressed as an increase in paw volume due to carrageenan injection and the percentage inhibition produced by the extracts was calculated to assess the anti-inflammatory activity. ANOVA was used to determine the statistical differences between the treatment groups considering a *P* value less than 0.05 significant. The research was conducted in conformance with the Ethical Principles for the use of animals in research with approval by the Ethical Research Committee of the Institution.

Results: saponins, reducing sugars, steroids, tannins and polyphenols were present in the methanol *Zea mays* cob husk extract. Doses below 5000mg/Kg were considered safe. Significant anti-inflammatory activity was shown at 400mg/Kg after the sixth hour.

Conclusions: The anti-inflammatory effect of *Zea mays* cob husk extract may be attributed to the presence of saponins, tannins and polyphenols. Percentage inhibition of inflammation by the

extracts showed dose and time dependence. The anti-inflammatory activity was found significant for safe concentrations of the plant extract.

Key words: Inflammation, methanol zea mays cob husk, experimental model, rats