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UNIVERSITY OF NIGERIA, NSUKKA, ENUGU STATE.**

### **Antioxidant and Anti-inflammatory Properties of *Cucumeropsis mannii* Seed Oil on Cyclophosphamide-induced Hepato-renal Toxicity in Rats**

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#### **ABSTRACT**

This study evaluated the antioxidant and anti-inflammatory properties of *Cucumeropsis mannii* seed oil on cyclophosphamide-induced hepato-renal toxicity in Wistar albino rats. Thirty-six male Wistar albino rats were randomly assigned into six groups (A, B, C, D, E, and F) of 6 rats each. Group A (normal control) received 5 ml/kg b.w. of normal saline for 28 days; Group B (negative control) received 5 ml/kg b.w. of normal saline for 27 days and 100 mg/kg b.w of cyclophosphamide at day 28 only. Group C (standard control) received 300 mg/kg b.w of Omega 3 oil for 27 days and 100 mg/kg b.w of cyclophosphamide on day 28. Group D received 5 ml/kg b.w of *C. mannii* seed oil for 27 days, then 100 mg/kg b.w of cyclophosphamide at day 28. Group E received 2.5 ml/kg b.w of *C. mannii* seed oil for 27 days and 100 mg/kg b.w of cyclophosphamide at day 28. Group F received 1.5 ml/kg b.w of *C. mannii* seed oil for 27 days and 100 mg/kg b.w of cyclophosphamide at day 28. Normal saline, Omega 3 oil and *C. mannii* seed oil were administered via oral intubation while cyclophosphamide was administered via the intraperitoneal route. Body weights of the experimental rats were measured on a weekly basis. On day 29, rats from each group (groups A-F) were sacrificed, and blood was collected for biochemical analysis. Cyclophosphamide-induced toxicity was evidenced by significant ( $p < 0.05$ ) reduction in the activities of SOD, catalase and significant ( $p < 0.05$ ) elevation in the activities of iNOS, and levels of MDA, IL-1 $\beta$ , in relation to the normal control. Administration of CMSO and Omega 3 fatty acid before administration of the cyclophosphamide in rats led to an increase in body weight. However, administration of *Cucumeropsis mannii* seed oil and Omega 3 oil significantly ( $p < 0.05$ ) ameliorated the toxicity caused by cyclophosphamide in a non-dose dependent manner. This study suggests that the antioxidant and anti-inflammatory properties of *Cucumeropsis mannii* seed oil could be of clinical importance in the management of cyclophosphamide-induced hepato-renal toxicity in albino rats.

### **Ameliorative Potentials of *Annona muricata* (Soursop) on Chloramphenicol-Induced Leukemia on Wistar Rats**

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#### **ABSTRACT**

This study investigated the ameliorative potential of *Annona muricata* on chloramphenicol-induced leukemia in Wistar rats. Seventy Wistar rats of both sexes, weighing between 150 and 200 g, were used. They were grouped into ten groups of seven rats each. Group 1 served as normal